Performance Assessment And Comparison Of Learning In International Education: American Versus Jamaican Students' Learning Outcomes

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ABSTRACT

The purposes of the study were to assess and compare learning gained in a masters of science in human resources course entitled Management Communication and to measure performance through an objective pre-test and post-test examination with students pursuing their degree at a cluster site in Kingston, Jamaica, away from the main campus with those at the campus (Fort Lauderdale, Florida). These students were completing this graduate course in the summer term of 2005 and received traditional, face-to-face instruction in a classroom setting, with classes delivered in a weekend format during the term. Two different instructors taught the class using the same performance measure for comparison purposes. Student performance for the purpose of this study was defined as the score on the pre-test and on the final examination (post-test).

Findings revealed that there was a statistically significant difference ($\alpha = .05$) in the pre-test and post-test scores of students enrolled at the Kingston of Jamaica cluster and those at the Main Campus. Both groups had significant gains in the pre- and post-test examinations. Furthermore, the overall performance of students in Jamaica seems to be equivalent to the performance of students at the Main Campus when the classes are taught by two different faculty members who used the same final exam questions.

MEASURING EFFECTIVENESS AND LEARNING EQUIVALENCY IN DISTANCE EDUCATION

The concept of accountability and institutional effectiveness studies have been integrated into both the expectation and requirements of accrediting bodies. The accrediting bodies have called for accountability through assessment of multiple direct and indirect output measures that demonstrate documented learning. Such measures can include but are not necessarily limited to learning achievement in course competencies, skill building in each program, graduation rates, program completion years, scores on achievement tests, licensure examination passage rates, retention rates, employment placement rates, etc. Overall, assessment, documentation of consistently achieving learning outcomes, and continuous improvement are a necessity for educational institutions today if they are to remain successful, competitive and accredited. This document uses the pre-and post-test strategy to assess learning gained as a result of students attending class and completing their assignments. Of-course, the results can and should be compared across the various sites to see how they vary when different instructors teach the same course in diverse teaching modalities and in international sites.

Distance education has been the reality of life for many institutions and adult learners in the past few decades and, with the availability of internet technology, it is becoming more widespread. Changes in how education is delivered to students through distance education modalities have increased concerns pertaining to institutional effectiveness. Much attention has been directed at the number of distance education offerings and delivery mechanisms among institutions, and to questions of equivalency between such offerings and courses offered through

traditional, face-to-face means where faculty members and administrators can visit with students and respond to their needs on a regular basis. Questions of equivalency can range from the resources provided to students in all modalities and the outcomes of student learning. As distance education both nationally and internationally increases in importance, continuous and documented evaluation will continue to be a critical component of process improvement. Also, it is commonly agreed that schools offering distance education programs should be accountable for achieving the same level of effectiveness as alternative approaches that are available for students. Such accountability requires that institutions understand their stakeholders and their needs on a proactive basis in order to deliver superior value to them in today's new and demanding economy. In today's market-based environment, institutions that do not continuously deliver value-added products and services will soon find their competitors on their doorsteps pushing them out of the industry. A major element of delivering value for educational institutions is to assess the achievement of learning outcomes among their students and to use such results for continuous improvement.

Most modern administrators encourage and empower faculty members to measure the level of learning in their courses through various direct and indirect measurements for continuous personal and institutional improvement purposes. Aligned with organizational behavior principles, it is believed that the best way to improve institutional performance of the school is to improve the performance of each individual faculty in each course. Assessing learning outcomes for personal improvement and accountability purposes tend to be a characteristic of extraordinary faculty members as they attempt to continuously achieve extraordinary results. It also enables professors to share strategies and methods that achieve good results with other faculty members resulting in an increase in the organization's overall effectiveness. Various reports from the accrediting agencies have proposed assessment as a productive mechanism for responding to the concerns of students, parents, accrediting bodies, and government agencies. Assessment of higher education has been embraced at the state governmental levels as well as various educational foundations and organizations that are expressing concern and lobbying for responsiveness and continuous improvement.

In terms of responsiveness and accountability for institutional effectiveness, the focus should be on the academic achievement of students and the improvement of such achievements over the years using new technology and new methodologies. Assessment should be based on a consistent study using standardized Key Performance Indicators (KPI) that are deeply entrenched within higher education. Standardized KPIs are becoming an integral part of how to manage higher education, with indicators serving as signals or guides for making comparisons in educational quality, effectiveness, and efficiency. Furthermore, another advantage of standardized KPIs is their usefulness as points of reference for comparing performance with peers over time, and achievement against desired objectives within the same institution.

ASSESSMENT OF STUDENT LEARNING OUTCOMES

The H. Wayne Huizenga School of Business and Entrepreneurship (Huizenga School) of Nova Southeastern University (NSU) has been offering undergraduate and graduate programs in the fields of business administration through various distance delivery modes for the past thirty years. In the summer term of 2005, there were around 1,920 graduate students enrolled in over 170 masters of business courses at various sites and modalities. The clusters are usually located in the following sites besides the Main Campus which is in Fort Lauderdale: Kendall, Boca Raton, Cedar Rapids, Iowa, onsite at North Broward Hospital District, Orlando, Royal Caribbean Cruise Lines in Miami, Tampa, West Palm Beach, Huntsville, Alabama, Bahamas, and Jamaica. The Main Campus of NSU is located in Fort Lauderdale, Florida, and they are currently serving over 25,000 students in the fields of education, medicine, business, dentistry, optometry, pharmacology, law, computer sciences, psychology, and many others.

There were several sections of GMP5320 offered in the summer term 2005; one of these sections was at the Kingston, Jamaica, site and one was at the Main Campus (Fort Lauderdale, Florida). The education delivery method for these working adult students was face-to-face instructor/student interaction in a classroom setting on weekends for one regular quarter (semester). The delivery method was supported with electronic communication between faculty and students.

During the past decade, many schools, organizations, and other stakeholders in the community have been concerned about the quality of education and overall comprehension of students using distinctively different

modalities. As such, Huizenga School has been testing each of its program's achievements to ensure all national and international students demonstrate educational outcomes that are comparable to those traditional campus-based courses in Fort Lauderdale. Of-course, there are challenges when it comes to the assessment process because often times there are significant differences in the characteristics of different instructors as well as different timely and relevant cases, assignments, and examinations. In many occasions, administrators have successfully measured outcomes for students enrolled in different modalities and clusters.

Demographics Of Students And The Class

During the April-June 2005 semester, like most other terms, the Masters Program offered "*GMP5320–Management Communication*" course through traditional, face-to-face instruction at the Main Campus for full-time as well as part-time students; at off-campus locations on alternating weekends for working students; and, through online formats. The one section of the course under study was offered in the Kingston, Jamaica site through the on-ground format and the second section was offered at the main campus in Fort Lauderdale. Both sections were taught by two experienced instructors who have been regularly teaching at various formats. The faculty members, authors of this document, used the same pre-test to assess everyone's current knowledge during the first session of the class and eventually used the same questions on the final exam to see how much improvement can be seen as a result of the learning activities during the semester. The main campus class met on Friday evenings from 6:00-8:00 p.m. for two hours and then on Saturdays from 8:00a.m.-12:00 noon for four hours each of the five weekends for a total of 30 face-to-face contact hours. The Jamaican students met for four hours on Saturdays and four hours on Sundays for the designated weekends during the term for a total of 32 face-to-face contact hours. Students and their teams met many other times at various locations or online to complete their group activities before and after each session. The average time spent face-to-face outside of class contact hours for group activities was reported to be about eight hours. Some groups may have met more often while others were able to use internet technology and teleconferencing to their advantage whenever possible in order to reduce face-to-face time.

There were a total of 14 students enrolled in "*GMP5320–Management Communication*" class in Jamaica to obtain a master of sciences degree in human resources. The main campus course had a total of 11 students attempting to obtain the same degree in human resources. The average age, based on faculty observation and estimation, was about 29 years for these groups. All of the students were working adults. The groups, as observed by each faculty, showed great interest in the topics of management communication and human resources. They understood that as an HR professional business communication and human management skills will allow them to be better equipped to manage change and gain the respect of other business leaders; that better leadership, presentation, planning, problem solving, analytical, and interpersonal skills will make them more effective in an environment where it is crucial to respond quickly and decisively in today's ever changing competitive global environment of business.

Course Description And Learning Objectives

It has been said that about 70% of a manager's time is spent communicating. This course explored the all important field of communication as it relates to the organizational environment. The foundation for understanding was built by looking at interpersonal and group communications. These principles then were applied to organizational settings in an attempt to identify and correct problems in management communications. Students participated in numerous learner-centered activities to increase their communication skills. This involved various experiential exercises to not only enhance their knowledge and application of the material but to expand their higher order thinking skills including analysis, synthesis and evaluation. These strategies in unison with the structure of the class and the enthusiasm of each instructor also increased students' self-motivation and learning. Overall, this course introduced a broad range of management communication concepts, theories and applications for managers and subordinates in modern organizations, focusing on managing and developing effective organizational communication.

As stated in the course syllabus, students were expected to meet the required learning objectives (exist competencies) at the end of the course based on the completion of the required readings and activities as determined by the Chairs and lead faculty members. Upon completion of this course, students were expected to have a working knowledge of and an increased capacity for:

- Explain how people send, receive, and interpret messages, including nonverbal,
- Recognize and overcome barriers to communication,
- Effectively use both formal and informal communication channels in an organization,
- Facilitate group communication activities and avoid common pitfalls'
- Apply effective listening techniques and open communication strategies for morale maintenance and to motivate employees,
- Conduct effective disciplinary, termination, and performance appraisals using problem-solving communication strategies, and
- Perform a communication audit using participant observation, sociogram analysis, and surveys.

The textbook used for the classes was titled "*Managerial Communication: Building Theory and Practice*," written by Charles E. Beck (1999) and published through Prentice Hall. Additional material was also distributed in class by each faculty member. To keep up with current event topics related to the class, students were encouraged to review relevant newspaper and journal articles to see how firms are managing communication issues.

Course Activities To Achieve The Learning Outcomes

The students were required to read the textbook, current event articles brought to the class by the faculty or students, and to conduct research for their individual and team projects. Oral parts of assignments required students to prepare a detailed presentation for the class. This was purposely designed as such so their colleagues can benefit from their thoughts and individual research. As an example, Table 1 presents a summary of the activities required for this course with the Jamaican group that met on four different weekends (each weekend being eight hours of face-to-face contact time). Table 2 reflects the activities the main campus group had to accommodate the needs of the group for five weekends (each weekend having six hours of contact time).

Table 1: Course Assignments For Submission – Jamaica Class

Chapter Reading	Assignments Topics	Points	Delivery Method	Due Date
1-4, 7	Participation & Attendance -Exercises, homework, cases, discussion, etc.	10%	Varies!	All Sessions
8-12	Chapter Summary - Individual / Team- <i>Email few days before due date.</i>	10%	Written	Weekend I
	Article Summary - <i>Email few days before due date.</i>	10%	Written (Oral 2-4 min.)	Weekend II
13-17	Term Project: Management Communication topic -Team- (12-16 Pages) - <i>Email few days before due date.</i>	30%	Written & Oral (5-10 min., be ready to discuss your findings)	Weekend III
18-19	"The Way We See Me" Questionnaire -	20%	Written & Oral (5-10 min.)	Weekend IV
	Final Exam – <i>comprehensive</i>	20%	Essay, M/C, and/or T/F	Last Session
	Total	100%		

The assignments were distributed evenly throughout the term so the learning outcomes of the course could be achieved progressively and reinforced many times over the semester for long-term retention. Even the final exam was used to reinforce learning one last time. Students were required to complete their final exam by marking the right choices and recording their answers on separate answer sheets. They were required to write their names on both the exam and the answer sheet. Once students completed their final exam and recorded all of their answers on the answer sheet, the answer sheets were collected for confidential grading by the faculty. Then, students and the faculty member

as a class went over the questions and answers so students could clarify their understanding if they did not get the answers right; thus, hopefully, leading to better learning and long-term retention as a result of the reinforcement. In the mean time, students could actually see their own exam results right after its completion. The actual final exams were also collected from students in order to protect the questions from falling in the hands of prospective students taking the class.

Table 2: Course Assignments For Submission- Ft. Lauderdale Class

Chapter Reading	Assignments Topics	Delivery Method	Due Date
1-4, 17	*Participation & Attendance all 5 weekends (10%) *Exercises, homework, cases, discussion, etc.	Oral, Written	Weekend I
5-8	*Deliver persuasive speeches (15%) *Case analysis *Email: Logistics Coordinator will submit a Word document on behalf of the team that contains a one-page summary for team project. *Case analysis- class activity and email discussion	Oral, Written	Weekend II
9-14	*Article Review, Critique and Lead Class Discussion (15%) *Case Analysis- class activity *Midterm- Essay (10%)	Oral, Written	Weekend III
15-16, 18	*Whistle-Blowing Debate *Diversity sensitivity, discrimination exercises	Oral, Written	Weekend IV
	*Final Exam – comprehensive (10%) *Group Project - student communication, leadership, analysis, synthesis skills (10%) Final Research Paper (20%)	Oral, Written	Weekend V- Last Weekend

METHODOLOGY AND RESULTS

The purpose of this study was to document learning among groups of students across two different North American countries and to determine the significance of the results for objective pre-test and post-test exams when the group received traditional, face-to-face instruction in a classroom setting, with classes delivered in a weekend format away from the main campus, and to compare the results with students at the main campus. Another intention for the study was to expand the body of knowledge regarding pre- and post-test examinations on student performance specifically with the course titled “*Management Communication*.” The faculty members used a pre-test to assess everyone’s current knowledge during the first session of the class and eventually used the same questions on the final exam to see how much improvement can be seen as a result of the activities taken place during the semester.

The instrument used to measure student performance was an examination consisting of a combination of standardized “multiple-choice” as well as true and false type questions for which a total of 100 points were available. It was assumed that the questions were equal in their level of difficulty and designated points. Also, students were allotted one hour to complete their exams and they were not able to use notes or textbooks. It was a closed book exam. Students were encouraged to review the designated textbook readings for reinforcement of learning prior to the final exam week. The authors acknowledge that objective tests are not necessarily the best measures of learning with adults and that the final exam was one of many assessment methodologies available to measure learning. However, the objective form of examination was selected for this study because of its convenience, consistency, validity, and the reliability it offers for future comparison purposes with different groups at different sites.

Research Questions: Hypothesis

The research question for this study was as follows: Is there a statistically significant difference in the performance of Jamaican and the main campus students in the pre-test and post-test examination in the course titled “GMP5320–Management Communication”?

- *Null Hypothesis One (Ho)*: Pre-test and post-test (final) exam scores for Jamaican and Main Campus students in GMP5320 will be similar.
  - *Alternate Hypothesis One (H1)*: Pre-test and post-test (final) exam scores for Jamaican and Main Campus students in GMP5320 will be significantly different from each other.
- *Null Hypothesis Two (Ho)*: Final exam scores for Jamaican and Main Campus students in GMP5320 will be similar.
  - *Alternate Hypothesis Two (H1)*: Final exam scores for Jamaican and Main Campus students in GMP5320 will be significantly different from each other.

Results And Statistical Comparisons

One purpose of a pre-assessment is to determine the current level of knowledge with students in the class and then adjust the lecture and teaching activities accordingly. Such adjustments can hopefully create a healthy learning environment for all students based on the current level of experience and knowledge about the relevant topics. Teaching and facilitating appropriately based on assessment results can also eliminate student boredom and increase their interest as well as participation in the class. This was certainly the case with the faculty members teaching this course in Jamaica and the Main Campus.

Table 2: Main Campus Student Statistics

Pretest – Main Campus (Florida)	
Sample Size	11
Sample Mean	80
Sample Standard Deviation	3.26
Post-Test (Final Exam)	
Sample Size	11
Sample Mean	90
Sample Standard Deviation	6.09
<i>t</i> -Test Statistic	-4.80137573
Two-Tailed Test	
Lower Critical Value	-2.085963441
Upper Critical Value	2.085963441
<i>p</i> -Value	0.00010866
Reject the null hypothesis	

The pre-test was administered on the first session of the class and students were told that they can earn up to five bonus points on this pre-assessment test for a perfect score of 100, four bonus points if they get a score of 90 or above, three bonus points for a score of 80 or above, two bonus points for a score of 70 or above, and one bonus point for a score of 60 or more. The bonus points encouraged students to take the pre-assessment examination seriously and they were able to complete it in about 30 minutes. Several students earned bonus points for having a minimum score of 60% or more on the pre-test exam. The bonus points were used as part of their final course grade. If a student had a total average of 88% (B plus) by the end of the semester and had earned two bonus points on the pre-test, then this student's final course grade would be an “A minus” according to the scale provided on the syllabus.

The questions selected for the examination are considered to be moderately challenging for new students, and even more challenging if they have been away from school and the field of management communication for a while. One purpose of an examination is to reinforce the learning objectives of the course and this was the case with the administered exams for these groups. The gain from pre-test to post-test score according to the analysis of paired t-test is statistically significant. The statistics for the Main Campus students in Fort Lauderdale are provided in Table 2.

Using a 0.05 level of significance, the null hypothesis (H_0) is rejected because $t = -4.80$ is smaller than the critical value of -2.086 . Also, because the p-value is less than alpha (α) = 0.05, there is sufficient evidence to reject the null hypothesis. One can conclude that the post-test exam (final) scores are different from the pre-test scores for students who completed this course at the Main Campus (Fort Lauderdale, Florida). Based on these results, the pre-test exam scores appear to be significantly lower than the post-test (final) exam scores.

Table 3: Kingston of Jamaica Student Statistics

Pre-Test – Kingston, Jamaica	
Sample Size	14
Sample Mean	64
Sample Standard Deviation	8.44
Post-Test (Final Exam)	
Sample Size	14
Sample Mean	86
Sample Standard Deviation	6.76
t-Test Statistic	-7.612398155
Two-Tailed Test	
Lower Critical Value	-2.055529418
Upper Critical Value	2.055529418
p-Value	4.43122E-08
Reject the null hypothesis	

The statistics for the Kingston, Jamaica students are provided in Table 3. Using a 0.05 level of significance, the null hypothesis (H_0) is rejected because $t = -7.61$ is smaller than the critical value of -2.055 . Also, because the p-value is less than alpha (α) = 0.05, there is sufficient evidence to reject the null hypothesis. One can conclude that the post-test exam (final) scores are different from the pre-test scores for students who completed this course at the Kingston (Jamaica) cluster. Based on these results, the pre-test exam scores appear to be significantly lower than the post-test (final) exam scores.

The final exam statistics for both the Main Campus (MC) and Kingston students are provided in Table 4. Using a 0.05 level of significance, the null hypothesis two (H_0) cannot be rejected because $t = 1.5327$ falls within the critical values of -2.069 and 2.069 . Also, because the p-value of 0.139 is greater than alpha (α) = 0.05, the null hypothesis cannot be rejected. One can conclude that the final exam scores of students at the Main Campus are not significantly different than the final exam scores of students who completed this class in the Kingston cluster of Jamaica. So, it can be summarized that the final exam scores for Jamaican and Main Campus students in GMP5320 are similar.

There are many other helpful implications that can be drawn from such a study. For example, one implication for the faculty members is to continue facilitating similar activities and exercises as they do seem to lead to a significant gain in learning the course objectives as measured by the pre- and post-test examination. Both group of students (Jamaicans and Main Campus students) seem to have had a statically significant gain in their pre- and post-test examinations. From the second hypothesis, one can conclude that the performance (or learning gains) of Jamaican students are just as good as the performance of students as the Main Campus when the classes are taught by two different faculty members.

Table 4: Final Exam Statistics For MC Versus Kingston Students

Final Exam- Main Campus	
Sample Size	11
Sample Mean	90
Sample Standard Deviation	6.09
Final Exam- Jamaica	
Sample Size	14
Sample Mean	86
Sample Standard Deviation	6.76
<i>t</i> -Test Statistic	1.532716756
Two-Tailed Test	
Lower Critical Value	-2.068657599
Upper Critical Value	2.068657599
<i>p</i> -Value	0.138986614
Do not reject the null hypothesis	

Like many other studies, this research also has limitations and assumptions that were taken into consideration. It was assumed that the examination accurately measured material related to course's learning outcomes. Another assumption has been that the final exam is a valid and reliable instrument to measure the stated course learning objectives as it was designed to test knowledge relevant to exit competencies required for the course and to serve as a reinforcement of the course material. In addition, the assumptions were made that the instrument was valid and that there were no significant, systematic differences between the two tests' results (other than actual increased learning as a result of completing the activities and assignments during the term) to which study results may be attributed. The authors understand that objective tests are not necessarily the best measures of learning at the graduate level and as such the results drawn may be limited. It is also understood that the final exam was one of many assessment methodologies available and it may not be effectively measuring the stated course learning outcomes due to its obvious limitations such as time, student anxiety to do well, "cramming sessions" on the last few days, memorization patterns, etc. Despite the acknowledged limitations, the objective form of examination was selected for this study because of convenience, consistency, validity, and the reliability it offers over time with different groups. It is acknowledged that the chosen method of measurement and the small sample size are possible limitations impacting inferences that may be drawn from results of the study. Nonetheless, the authors understand that the conclusions drawn from this study may be limited to improvement and future assessment opportunities for sections taught by these faculty members.

SUMMARY

The increasing number of distance education offerings in higher education requires that institutions do more to measure their institutional effectiveness for equivalency between delivery modes in demonstrated performance. Pre- and post-test examination as well as the comparison of final exam scores, used in this study, is one mechanism for testing learning achievement using standardized instruments. In addition, gathering feedback from assessments and sharing these results with other faculty members can help educational institutions develop a learning culture. A culture where individuals are encouraged to take risks and to learn from themselves and others' past experiences will help develop the organization's capacity for growth and change (Senge, 1990).

In the study herein, it is concluded that students enrolled in the masters course GMP5320 offered at the Kingston cluster and those students enrolled in the same course at the Main Campus did show significant progress in performance, as measured by scores on the pre-test and post-test examination for the course. Also, Jamaican and Main Campus students performed equally well as no statistically significant differences were found when their final exam scores were compared.

Huizenga School continues to expand its distance education offerings, in particular, those that are offered through face-to-face format at offsite locations. It is recommended that Huizenga School build on the results of this study by pursuing additional studies to assess comparative student performance under circumstances in which courses are offered through different sites and delivery modes. Furthermore, best practices can be used for faculty development sessions and such results can be documented for relevant agencies that need to see demonstrated results of learning for each distant site at the institution.

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