

Analysis of Management Assessment Data

Recap: Last year, our department attempted a “pre-test/post-test” type of study. The “pre” group was comprised of those students enrolled in MGNT 4000. The “post” group was comprised of students enrolled in MGNT 4640.

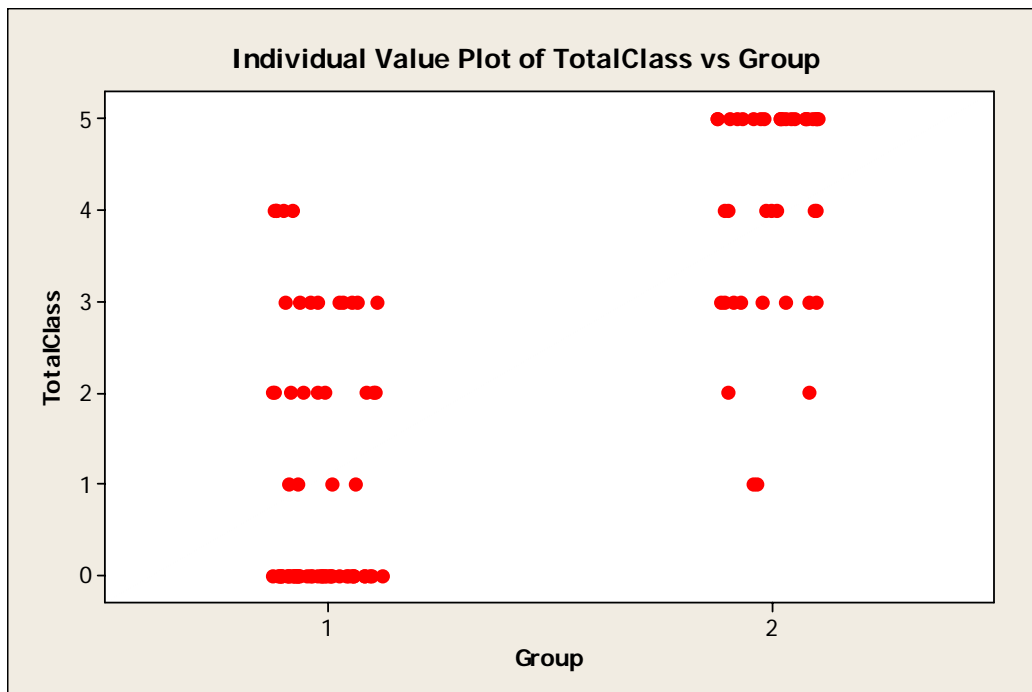
The assessment test contained 25 questions, five each from 3300, 4000, 4640, 4800, and CISM 3450. Each multiple choice question had five answer choices.

In the following printouts, group “1” is the “pre” group and group “2” is the “post” group.

I. Descriptive Statistics: There was a 3-point difference in the mean scores of the two groups and a 3.5-point difference in the median scores of the two groups.

Variable	Group	N	Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Score	1	67	13.791	2.826	7.000	12.000	14.000	16.000	20.000
	2	40	16.700	2.623	10.000	15.000	17.500	19.000	21.000

II. Visual Display of the Data: There was some concern about the validity of using 4000 and 4640 as the two groups for comparison. In the graph below, the Y-axis is the number of courses, out of the five courses listed above, that each student had completed. Clearly, there is substantial “overlap” between the two groups.



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III. Two-Sample T-Test: Comparing the mean scores of the two groups using a t-test reveals a statistically significant difference. The graph plots the individual scores of the two groups.

Notes:

1. One student from the pre-test group scored a zero – this score was considered an outlier and was removed from the analysis.
2. The assumptions of the classical two-sample t-test are not satisfied, limiting the usefulness of the results displayed below.

Two-sample T for Score

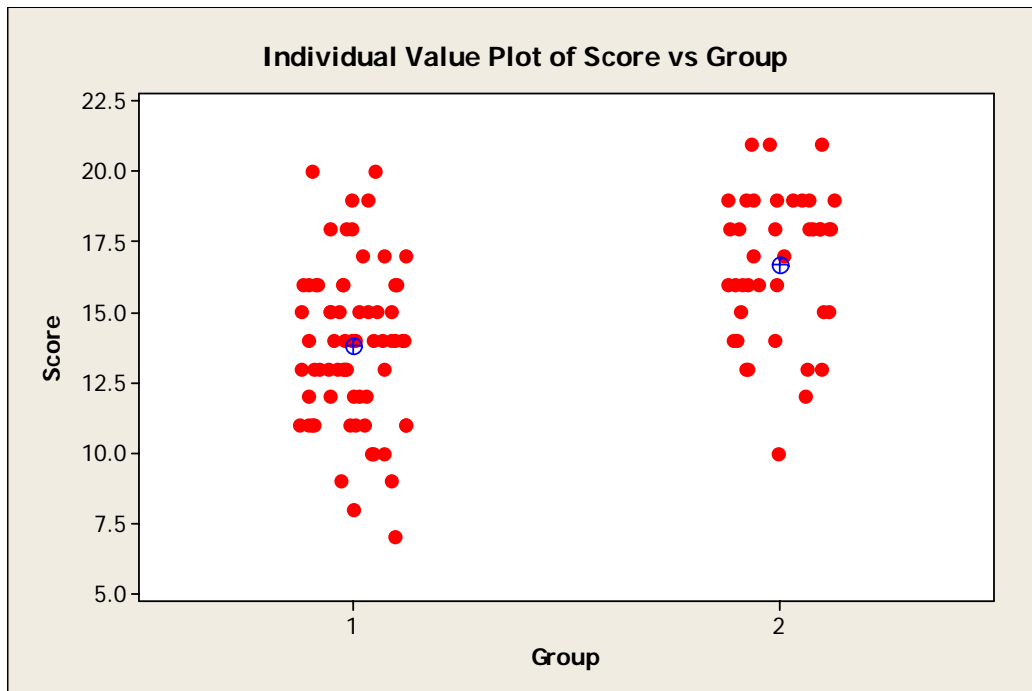
Group	N	Mean	StDev	SE Mean
1	67	13.79	2.83	0.35
2	40	16.70	2.62	0.41

Difference = $\mu(1) - \mu(2)$

Estimate for difference: -2.90896

95% CI for difference: (-3.98161, -1.83630)

T-Test of difference = 0 (vs not =): T-Value = -5.39 P-Value = 0.000 DF = 87



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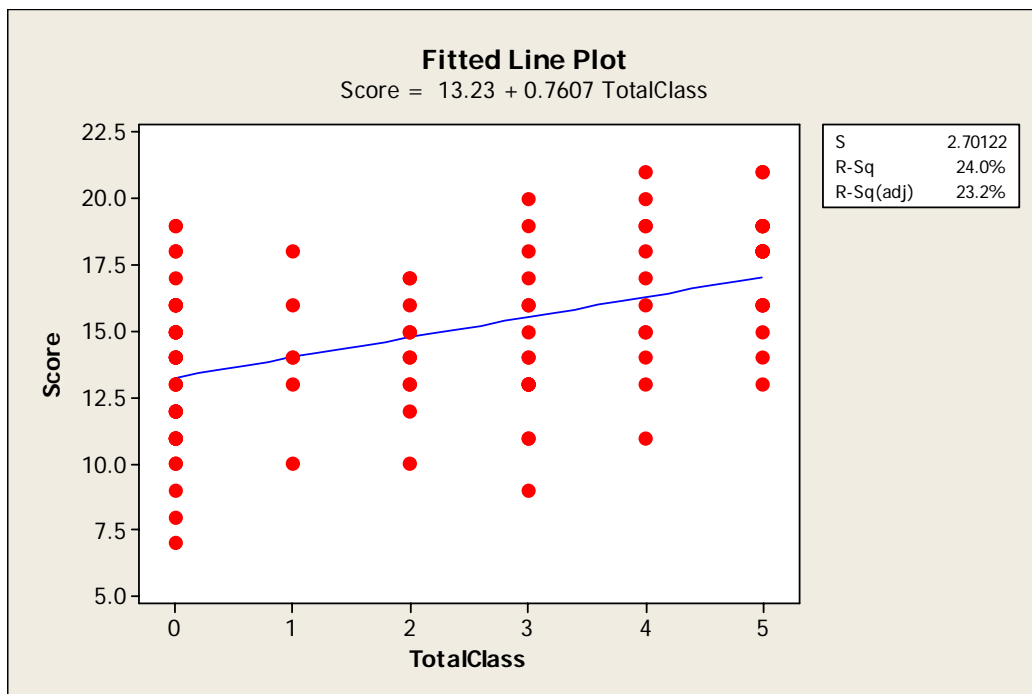
IV. Regression Analysis – Score versus Number of Classes: Since the two group comparison is questionable, an analysis of the relationship between the number of classes the student had completed and their score could be more insightful.

Note: The estimated slope is 0.761. This can be interpreted as the average increase in score for having completed one additional course.

The regression equation is
Score = 13.2 + 0.761 TotalClass

Predictor	Coef	SE Coef	T	P
Constant	13.2292	0.3879	34.11	0.000
TotalClass	0.7607	0.1323	5.75	0.000

S = 2.70122 R-Sq = 24.0% R-Sq(adj) = 23.2%



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V. Regression Analysis – impact of individual courses: Just for fun, the scores were regressed against indicator variables (1=student has had course, 0=student has not had course) for each of the five courses. CISM 3450 had the largest coefficient, 2.5 – this means that students who had taken CISM 3450 scored 2.5 points higher than students who had not taken this course! All other courses had coefficients below 1.0.

The regression equation is

$$\text{Score} = 13.4 + 2.50 \text{ CISM 3450} + 0.683 \text{ MGNT 4000} + 0.269 \text{ MGNT 4640} \\ + 0.404 \text{ MGNT 3300} + 0.296 \text{ MGNT 4800}$$

Predictor	Coef	SE Coef	T	P
Constant	13.4226	0.3992	33.63	0.000
CISM 3450	2.5006	0.7683	3.25	0.002
MGNT 4000	0.6826	0.7959	0.86	0.393
MGNT 4640	0.2689	0.8376	0.32	0.749
MGNT 3300	0.4036	0.7522	0.54	0.593
MGNT 4800	0.2965	0.7037	0.42	0.674

S = 2.68305 R-Sq = 27.8% R-Sq(adj) = 24.3%

Analysis of Variance

Source	DF	SS	MS	F	P
Regression	5	280.344	56.069	7.79	0.000
Residual Error	101	727.076	7.199		
Total	106	1007.421			

VI. Two group comparison, adjusted for number of courses taken: The following printout details the result of an ANCOVA analysis comparing the mean scores of the two groups, treating the number of courses completed by each student as a nuisance variable. The number of courses taken is statistically significant, but the difference in means is not.

The implication is that the two group comparison is relatively useless, considering that we know which courses each student has taken.

Factor	Type	Levels	Values
Group	fixed	2	1, 2

Analysis of Variance for Score, using Adjusted SS for Tests

Source	DF	Seq SS	Adj SS	Adj MS	F	P
TotalClass	1	241.28	49.19	49.19	6.85	0.010
Group	1	19.85	19.85	19.85	2.77	0.099
Error	104	746.29	746.29	7.18		
Total	106	1007.42				

S = 2.67878 R-Sq = 25.92% R-Sq(adj) = 24.50%

Term	Coef	SE Coef	T	P
Constant	13.9284	0.5698	24.44	0.000
TotalClass	0.5160	0.1971	2.62	0.010

Institutional Effectiveness Report

Assessment Summary

Administrative Unit: Management

Contact Person:

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Assessment Cycle (academic or calendar year): Academic year

Mission (related to VSU mission): The management major is designed to give students the basic knowledge, skills and values of management that build on the foundation provided by the University Core Curriculum and that are required for professional careers in management.

Assessment History (discuss here how and when the unit developed its current assessment program, what it used prior to starting that program to assess its effectiveness, etc.):

All members of the Management faculty participate in the Langdale College Assurance of Learning (AoL) program. This program assesses Langdale College students' achievement of the Undergraduate Program Objectives, evaluating the assessment results, and recommending curriculum improvements when appropriate. The AoL Oversight Committee supervises a regular schedule of assessments which include case study, computer software usage, projects, and embedded test questions. Results and recommendations are located Langdale College Dean's Office. In addition, the Department conducted the Program Review that is periodically mandated by the Board of Regents in 2006.

The current assessment system for the department replaced a system that was put in place in 2004. Because the major is designed to allow students to sequence courses for scheduling convenience, several methods have been used to attempt to capture the "graduating senior." The previous system used projects from 400 level courses to assess learning. For AY 05-06 and AY 06-07, an assessment committee analyzed a collection of work from required courses and made recommendations based on their analysis. In AY 07-08, a pre-test, post-test design was used with a multiple choice test composed of questions from each of the required management course. The pre-test was administered on the first day of Fall semester of a class that is generally taken very early in the student's career and the post-test was administered in the last week Spring semester of a class that is often postponed until the end of the student's academic career. Reports are located in Department Head's office.

Goals for Unit:

Management Majors can

1. Demonstrate knowledge of management concepts and processes and their applications in organizations.
2. Plan, organize, lead, and control in a variety of organizations and cultures.

3. Recognize and resolve managerial issues using quantitative and behavioral methods and interpersonal skills.

Assessments (include when and to whom these are administered, and align goals with specific assessments):

Projects from senior required and elective courses (Goals 1, 2, 3) collected in Fall semester

Pre-test/Post-test (Goal 1) administered early in Fall semester (pre-test) and at the end of Spring semester (post-test)

2005-2006

- Assessment Results (submit an electronic file of the data collected): Management majors demonstrated in their projects the ability to
 - Create a job description form field data
 - Analyze reward-performance link
 - Identify examples of leadership style in practice in actual organizations
 - Use quality management techniques

The previous relate to Goal 1. For Goal 2, the “Plan, Do, Check, Act” cycle was applied in a hospital.

Relating to Goal 3, students demonstrated the ability to

- Recognize efficiency issues and recommend solutions
 - Conduct interviews in actual organizations
 - Identify organization problems in a case, define the causes, and recommend solutions
 - Recommend solutions based on analysis of situation using quality management techniques
 - Interact with hospital personnel.
- Discussion/Dissemination of Results: Department/Dean The Assessment Committee expressed concern about the second objective and the ability to demonstrate skills in a class. The Committee saw this as being feasible mainly when students were actively involved in off-campus projects.
 - Modifications Made: A service learning component was added to MGNT 4200 and recommended for other classes.

2006-2007

- Assessment Results (submit an electronic file of the data collected): Management majors demonstrated their ability to
 - do linear programming, forecasting, time series analysis, and decision-making (Goal 1)
 - use quantitative methods for problem solving (Goal 3)
 - use Hofstede’s Model of Cultural Differences to describe a country (Goal 1) and
 - identify cultural goals in other countries (Goal 2).
- Discussion/Dissemination of Results: Department/Dean The committee found that knowledge objectives were better addressed this year than leadership and problem solving objectives. The issue of depth of the management curriculum received the most attention from the committee and a recommendation was made to create a specialization that would allow management majors to explore one aspect of management in greater depth. As a part of that specialization, a management internship option was also recommended.

- Modifications Made: The Certificate in Human Resources was developed and submitted to the Academic Committee for approval in Fall, 2007. As part of that certificate program, a Management Internship course was developed.

2007-2008

- Assessment Results (submit an electronic file of the data collected): The knowledge assessment yielded only one significant change between post-test and pre-test performance. Students who had taken CISM 3540 performed significantly better on the post-test questions than the pre-test questions.
- Discussion/Dissemination of Results: Department/Dean The departmental discussion of the results focused on shortcomings with the test.
- Modifications Made: Test questions will be further evaluated to determine which ones should be replaced. Test will be administered again to match specific students on pre-and post-test rather than groups of students.

____ Phyllis Holland 10/29/08 _____
Unit Director **Date**

President/VP for Unit **Date**

Adapted from: University of Alabama SACS site (<http://sacs.ua.edu/degreeInfo2.cfm?college=2&dept=50>) and

University of Western Kentucky SACS Accreditation Review Process (<http://www.wku.edu/sacs/assessmentmanual.htm>)