

IMPROVING ASSESSMENTS OF STUDENT LEARNING OUTCOMES (SLO) OVER TIME

Martin J. Hornyak
University of West Florida
mhornyak@uwf.edu

Blaine Lawlor
University of West Florida
blawlor@uwf.edu

Stephen Snyder
University of West Florida
ssnyder@uwf.edu

ABSTRACT

Looking back at your college's previous collected yearly assessments provides interesting perspectives on the stability within your accreditation efforts. Being educators in higher learning institutions, we are all concerned about the educational standards and outcomes being demonstrated by our graduates. Over five years ago, our State legislature directed all universities and colleges to develop key Student Learning Objectives (SLO) to meet established Academic Learning Compacts (ALC) in our curriculums. Each course is mandated to have SLO and ALC to meet the following domains: 1) Content, 2) Critical Thinking, 3) Communication/Literacy, 4) Integrity/Values, and 5) Project Management. We decided to relook and investigate how the first three required ALC & SLO have been collected over time.

INTRODUCTION

All academic institutions should be evaluating and assessing the level of student academic engagement as a top learning priority. Being driven by this charge, we performed successfully in the Association to Advance Collegiate Schools of Business (AACSB) and Southern Association of Colleges and Schools (SACS) accreditation processes with several university- and college-level directives being officially established concerning student academic engagement. The directives have led our State's universities and colleges to mandate a series of five ALC that all graduating students must be able to demonstrate before graduating. These ALC are measured by our assessment rubrics.

The goal of this paper includes analyzing whether

ALC' like material content, critical thinking, and communication can be consistently measured within soon-to-be graduating students. These three ALC are being assessed using course experiential exercises, such as a business simulation and individually written case analyses. We plan on accomplishing this goal in four ways: 1) explaining how the content, critical thinking, and communication ALC were established, 2) summarizing the course, simulation and Fall 2010 rubrics used to assess the three ALC, 3) discussing the approaches used by three different instructors, and 4) offering some ways to offer stability to an assessment process.

HISTORY OF ACADEMIC LEARNING COMPACTS (ALC)

We have been doing the job of assessing our ALC for over five years now and we need to go back and see where we started. Back in summer of 2004, our State Board of Governors adopted policy resolutions requiring State universities to implement Academic Learning Compacts (ALC) for baccalaureate and graduate degree programs. Per these resolutions, an ALC identifies the expected core SLO that graduating students must be able demonstrate with their learned content/discipline knowledge and skills, critical thinking abilities, and communication skills. These resolutions additionally required that assessments or rubrics be developed that determine how well student learning matches the articulated expectations of the State (State Board of Trustees – Academic & Student Services Committee Meeting, August, 2004).

At our College of Business, both the baccalaureate and graduate degree programs are expected to present program-

level ALC and core course SLO for the following domains: 1) Content* – concepts, theories, and frameworks of the discipline, 2) Critical Thinking* - information management, higher-level cognitive skills, problem solving, and creativity, 3) Communication*/Literacy – written (reading and written), spoken (listening and speaking), quantitative, technological, and other communication skills as appropriate to the discipline, 4) Integrity/Values – decision making, academic integrity, professional standards for discipline integrity, and 5) Project Management – project planning and execution pertinent to the discipline. Degree programs can also present SLO representing discipline specific skills or special outcomes that distinguish program graduates not identified within the five domains listed above. The above areas having asterisks (*) represent domains being required by our school’s new Board of Governor’s policy (Quality Enhancement Plan, January 2005).

THE COURSE, BEING WORK FORCE READY, & MEETING ALC

The Course. MAN4720 is our COB’s capstone course. It’s curriculum placement lists it as the last course COB students complete before graduation providing an ideal position to assess the student’s mastery designated ALC (On-line Course Catalog, 2009). This capstone policy course covers basic strategic management theory evaluated through exams & quizzes, case discussion using 8-12 business cases and experiential learning with a business simulation. Within this framework, our college directed the ALC learning domains of content, critical thinking, and communications be assessed by each instructor when evaluating the student’s individually written case analysis. The course’s simulation is organized and completed by groups of 3-4 team-selected or instructor-selected members. Simulation teams have total control in developing and submitting their simulation decisions. The key simulation due dates are communicated in the semester syllabus keeping the whole process on schedule. MAN 4720’s Total Enterprise Simulation is called the Capstone Business Simulation (Capsim) produced by Management Simulation, Inc. This simulation provides a real-life experience helping our COB assess if its students are graduating “workforce ready.”

Work Force Ready. Having students ready and able to work is an articulated standard in our COB. This means students have to be able to analyze business situations and be able to communicate their positions to an interested audience. The simulation prepares students to become work force ready by having student teams make all research and development, production, marketing and financial decisions for a firm. Each teams is ranked based on their combined performances on return on equity, cumulative profit, market share, and market capitalization variables over the final eight decision periods. This is not unlike how actual business firms get evaluated. Each student team individually

elects their strategy, tactics, and approaches to secure marketplace success (Fritzsche & Cotter, 1990). Along with the gained academic business knowledge, students have to be able to communicate their position in a written and documented case analysis showing they are work force ready.

Using a simulation and case analysis to capture SLO in a strategic management course has been articulated previously in simulation and experiential learning literature. Peach (1996) uses Wellington & Faria’s (1995) research findings to show that a positive relationship exists between simulations and strategic management. Basic tenets of strategic management are seen when simulations are used and the participating teams develop clear goals, perform external and internal environmental analysis, introduce clear strategies, monitor performance, and take corrective action (Peach, 1996). Simulations can represent teams managing a firm in a competitive environment. Competitive environments require students to exercise basic critical thinking and communication skills to ensure all case analysis elements are accomplished in an effective and timely manner.

Critical Thinking and Communication SLO. The content, critical thinking, and communications SLO are key learning outcomes as directed by our State Board of Governors. To measure these SOL, corresponding assessments or rubrics have been constructed and are under continual re-assessment to measure how well student learning matches the curriculum’s expectations. Every instructor in MAN4720 course assigns the same case study for each individual student to complete making the case study standardized across all course sections. The case study is then analyzed using standard rubrics developed the instructors (see Figure 1). To capture the learning goals of students’ demonstrating an ability to think critically and be effective in communications, two distinct aspects of critical thinking and one for communications is measured. First, assessing critical thinking begins by examining our objective one (1) where the evaluation centers on the student’s ability to identify problems, select and apply appropriate problem-solving techniques, and make appropriate recommendations. A second critical thinking objective (2) is assessed by capturing the student’s ability to integrate knowledge across multiple business disciplines where the student demonstrates knowledge of learned strategic management concepts, models, and theories. The assessment of the communications objective is done by evaluating a student’s ability to make an effective written presentation by looking at grammar, organization, typographical errors, and professionalism areas. This same assessments approach has been followed in MAN 4720 for over five years (Peach, Mukherjee, & Hornyak, 2007).

When developing assessments for learning objectives like critical thinking and communication, the faculty must agree to and assign definitions to them. To date, there have been many attempts by researchers to define variables like critical thinking and communication. Unfortunately no generally accepted instruments exist for variables like criti-

cal thinking so it is up to faculty to develop the instruments on their own (Wolcott, 2005). Faculty, administrators, and other members of the business college decided on the developed learning outcomes comprising and measured for critical thinking and communications.

ASSESSING RUBRIC RESULTS

SLO 1/Objective 1 - Assessing the first objective with-in critical thinking requires students to demonstrate an ability to think critically when identifying problems, selecting and apply appropriate problem-solving techniques when analyzing, and make appropriate recommendations. Previous assessment administrations have shown that instructors need to do two things at the beginning of the semester: 1) continue a financial analyses review to refresh student memories about the importance of having and using such skills, and 2) providing more emphasis on the importance of correctly identifying the true issues facing the firm.

SLO 1/Objective 1 Results - Around 83% were found to be Exemplary or Acceptable on this SLO. However, around 17% were found to be unacceptable in Spring 2011 comparing to 14% unacceptable in Spring 2010, and 17% unacceptable in Spring 2009. The data seems to suggest a continued need for emphasis on financial analysis in pre-requisite ACG/FIN courses as well as the capstone course

early in the semester. The following two recommendations remain in force for MAN4720 until research findings provide guidance about changing them. The instructors recommend continued emphasis on financial analysis in the core finance course. Instructors continue to be concerned about the impact of elimination of ACG 3311 from the core and the implementation of safeguards promised to be instituted that help ensure adequate coverage of financial skills in FIN 3403. Also student recommendations in the case analysis still often lack any substance, such as “company must have good financial strength” or “adopt best practices” with no action detailed to support statements like these. Providing realistic examples of what good recommendations look like specific company situations will be further emphasized by the course instructors.

SLO 1/Objective 2 - Assessing the second objective of student’s demonstrating knowledge with ability to think critically by showing abilities to integrate knowledge across business disciplines. Previous assessments showed, MAN4720 policy instructors continue to discuss problem areas of student performance with student’s ability to integration of business knowledge across functional areas. Some students appear to be not allocating sufficient time to integrate the business disciplines to case study subject areas. Instructors continue to allocate more to case study analysis prior to the students preparing the individual case.

SLO 1/Objective 2/Results - Instructors of four sections of MAN 4720 (Business Policy) assigned an individual

Figure 1
Critical Thinking and Communication Rubrics

A) CRITICAL THINKING RUBRICS:

Objective 1: Identify problems, select and apply appropriate problem solving techniques, and make appropriate recommendations

Well Exceeds Expectations (5)	Exceeds Expectations (4)	Meets Expectations (3)	Below Expectations (2)	Unacceptable (1)
Correctly analyzed the situation and extracted relevant information; identified major issues confronting the organization; Developed alternative responses to issues; developed appropriate strategies; developed appropriate implementation plan.	Correctly analyzed the situation and extracted most of the relevant information; identified major issues confronting the organization; Developed alternative responses to most of the issues; developed appropriate strategies; implementation plan has minor gaps.	Situation analysis had some gaps in relevant information; Identified most of the major issues; Some key issues had no alternatives and strategies; Implementation plan has some gaps.	Situation analysis had significant gaps in relevant information; Some key issues were not Identified; Key issues had no alternatives and strategies; Implementation plan has significant gaps.	Insufficient identification of relevant environmental data; Partial identification of major issues confronting organization; Inadequate development of alternatives; Incomplete implementation plan.

case study for student completion. The case study was standardized across all sections. The case study was analyzed using a standard rubric developed by the instructors (see Figure 1). An aggregation spread sheet and copies of the individual instructor reports is in Figure 2.

A summary report on student performance, observations, and actions recommended identifies around 90% of students were found to be Exemplary or Acceptable on this goal. However, around 10% were found to be unacceptable in Spring 2011 compared to 13 % unacceptable in Spring 2010 and 11% unacceptable in Spring 2009. Some undergraduate students continue to struggle to see “the big picture”. For example, students continue to have difficulty distinguishing generic strategies from operational issues and tactics. Instructors will continue to adjust pedagogical approaches to help students try to overcome this problem. Instructors plan to include requiring students to develop examples from business press articles to support their ideas.

A second continuing issue is that students view the world from a disciplinary position, which compartmentalizes analysis rather than seeing it as a holistic analysis. Instructors continue to make it a primary pedagogical goal to help students overcome this problem by focusing them toward taking a top management view of issues and situations. However, lack of appropriate business experiences

also acts as a hindrance in achieving an integrated outlook so discussions of internship opportunities are being gone over in class. Instructors believe that life experiences and/or a series of courses are required to fully address these issues.

SLO 2 - As a learning objective, to demonstrate effective communications skills is captured by each instructor reading and grading each student’s written case analysis. This is a tremendous task for each instructor to read and assess since each student’s case that averages about 18-20 pages plus appendices. The student is placed in a situation as being hired by the case organization’s CEO to develop an appropriate strategic response to enact. The communication objective is assessed on the what, how, and why a student develops and implements the new strategic plan. Students are assessed on the professional delivery of the case: 1) stage setting on responding to the CEO, 2) proper use of grammar, 3) number of typographical errors and 4) organizational style and methods used to present the case.

Previous semesters saw capstone instructors encourage students to make better use of the writing lab and its facilities. In addition greater emphasis is being placed on grammar in Professional Writing (ENC 3250) and Writing for Business (GEB 3213) courses. To focus student’s attention on communication, instructors emphasize the heavy grad-

Figure 2 SOL Results: Critical Thinking & Communication

Figure 2a: Critical Thinking; Objective 1 Results

Rating	Unacceptable	Acceptable	Exemplary	Total
Number	20	59	39	118
%	17%	50%	33%	100%

Note: A rating of 5 on the rubric was treated as *Exemplary* performance; Ratings of 4 or 3 were considered *Acceptable* performance; Ratings of 2 or 1 were considered to be *Unacceptable* performance.

Figure 2b: Critical Thinking; Objective 2 Results

Rating	Unacceptable	Acceptable	Exemplary	Total
Number	12	61	45	118
%	10%	52%	38%	100%

Note: A rating of 5 on the rubric was treated as *Exemplary* performance; Ratings of 4 or 3 were considered *Acceptable* performance; Ratings of 2 or 1 were considered to be *Unacceptable* performance.

Figure 2c: Communication Ability Results

Rating	Unacceptable	Acceptable	Exemplary	Total
Number	25	50	43	118
%	21%	42%	37%	100%

Note: A rating of 5 on the rubric was treated as *Exemplary* performance; Ratings of 4 or 3 were considered *Acceptable* performance; Ratings of 2 or 1 were considered to be *Unacceptable* performance.

Figure 3a
Assessment Results Spring 2011
Critical Thinking SLO 1/Objective 1

Instructors	Unacceptable	Acceptable	Exemplary	Total
A -MW: 4:00-5:15	6	17	11	34
B -M: 5:30-8:25	3	24	6	33
C -W: 5:30-8:25	4	3	9	16
C -TR: 1:00-2:15	7	15	13	35
Total	20	59	39	118
%	17%	50%	33%	100%
A #&%	6 – 18%	17 - 50%	11 – 32%	34 – 100%
B: #&%	3 – 9%	24 - 73%	6 – 18%	33 – 100%
C: #&%	4 – 25%	3 – 19%	9 - 56%	16 – 100%
C: #&%	7 – 20%	15 – 49%	13 - 37%	35 – 100%

Figure 3b
Assessment Results Spring 2011
Critical Thinking SLO 1/Objective 2

Instructors	Unacceptable	Acceptable	Exemplary	Total
A –MW: 4:00-5:15	4	17	13	34
B -M: 5:30-8:25	2	23	8	33
C -W: 5:30-8:25	4	6	6	16
C -TR: 1:00-2:15	2	15	18	35
Total	12	61	45	118
%	10%	52%	38%	100%
A #&%	4 – 12%	17 – 50%	13 – 38%	34 – 100%
B: #&%	2 – 6%	23 -70%	8 – 24%	33 – 100%
C: #&%	4 – 25%	6 – 37%	6 – 38%	16 – 100%
C: #&%	2 – 6%	15 – 43%	18 – 51%	35 – 100%

ing penalties applied for grammar and syntax errors within any assignment throughout the course.

SLO 2 Results. Again, four sections of MAN 4720 (Business Policy) were assigned a standardized individual case study for student completion. The case study was analyzed for professional communication abilities using a standard rubric developed by the instructors (see Figure 1). Copies of individual instructor reports along with an aggregation sheet are shown in Figure 2.

A summary communication report on student performance, observations, and actions recommended shows around 79% were found to be Exemplary or Acceptable on this goal. However, around 21% were found to be unacceptable on this goal compared to 25% unacceptable in Spring 2010, 9% unacceptable in Spring 2009, and 22% unacceptable in Spring 2008. It appears now that the 9% unacceptable in Spring 2009 was probably an aberration and should not be considered a representative measure of student performance on this goal.

Currently College of Business students are permitted to take ENC 3250 or GEB 3213 as a required writing course. ENC 3250 has been taught for many years only in an online format by the English Department. GEB 3213, on the other hand, is taught only in a face-to-face format and may be more appropriate for COB majors. Hence, the College has submitted a CCR to require all business majors to take the face-to-face GEB 3213 course. Policy instructors support this move and believe that this change can lead to better writing skills in the years ahead. Instructors continue to encourage students to use the facilities of the writing lab before turning in their efforts. However, this step only leads to fixing the specific written product and not the

students' writing skills per se. Instructors are redoubling efforts to remind students about the heavy penalties associated with mistakes in grammar and syntax and using early assignments to demonstrate the grading standards.

Instructors & Rubric Performance on Critical Thinking and Communication.

Assessment results per instructor are found in Figure 3 (a,b,c). This critical thinking and communication assessment rubric has been used every semester for over five years. This begs the question; over time are individual instructor assessments consistent measures for the SLO? Figure 3 indicates that rating differences do exist in our 2011 assessment.

This may be due to instructors over time adjusting their methods and approaches when completing the difficult task of grading over 30 twenty-five-page case studies per semester. As we discovered, instructors are now using different methods for assessment evaluation. Instructors A and C evaluate and grade student case analyses following the analysis method prescribed in the MAN4720 syllabi. Sixteen questions are offered for students to answer that parallel the strategic models discussed in the course and throughout their course case analyses. The questions are weighted, evaluated, and scored in an Excel spreadsheet to calculate the case analysis grades and for this assessment. The other instructor, rather than grading and weighting each of the syllabus questions, bases his assessment on how the rubrics are constructed and defined. Much of this instructors' assessment is based on how the set of strategic issues are developed by the student. Looking at the two

Figure 3c
Assessment Results Spring 2011
Communication SLO 2

Instructors	Unacceptable	Acceptable	Exemplary	Total
A -MW: 4:00-5:15	6	17	11	34
B -M: 5:30-8:25	1	17	15	33
C -W: 5:30-8:25	3	6	7	16
C -TR: 1:00-2:15	15	10	10	35
Total	25	50	43	118
%	21%	42%	36%	100%
A #&%	6 – 18%	17 - 50%	11 – 32%	34 – 100%
B: #&%	1 – 3%	17 - 52%	15 – 45%	33 – 100%
C: #&%	3 – 19%	6 – 37%	7 – 44%	16 – 100%
C: #&%	15 – 42%	10 – 29%	10 - 29%	35 – 100%

approaches, one can ask if the rubric assessment results used, one based objective and the other subjective ratings, affect the whole process? It appears that using an objective type evaluation leads to greater rating breaks in the assessments.

CLOSING THOUGHTS

This paper is written to try and answer questions that bring some stability to a continuing and evolving assessment process. We found that our approach continues to offer questions on how we are conducting this assessment process. Our investigation needs to expand to include ideas like concept drift or memory drift to help explain changes happening to an established rubric (Kolter & Maloof, 2007). Concept drift is a concept referring to a “quantity one is looking to predict” but the context of the target variable changes over time in unforeseen ways. We also need to structure the writing up of assessments that measure the same SLO but use varying styles when measuring. The experiences gained continue to offer thoughts on the importance and application of using rubrics when measuring State-directed learning outcomes like critical thinking and communication.

Case studies provide an experiential learning exercise that embeds strategic management theories and frameworks that students use when making strategic decisions and preparing business reports. Thus, a good case analysis offers students the chance to operate in a realistic competitive situation where discipline specific skills and knowledge learned in a business curriculum is required. Good rubrics to measure the critical thinking and communication SLO to help designate if graduating students are “work-ready” are a must. This paper supports using case studies written by students as a great way to assess the development of student critical thinking and communication skills and supports continued assessment research to continue.

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