

School of Business, SUNY - New Paltz

# A Roadmap to a Mission-Driven Program Assessment

Lessons learned from our journey

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Created: January 6, 2010

Last update: April 13, 2010

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## Executive Summary

This report documents the experience learned from a journey in the School of Business to foster a continuous program improvement culture through program assessment. The whole experience can be summarized in three main themes.

- Mission Driven
- Evidence Based
- Communication Oriented

The School of Business currently offers two major programs, the Undergraduate Program leading to BS degrees in six areas and the Master of Business Administration Program, with a general business track and a Certified Public Accountancy track. Because programs are the major building blocks of an academic unit, it is imperative that any program management effort be steered toward achieving the academic unit's mission/vision, which is "to be the regional business resources hub and to develop future business professionals".

The program assessment process focuses on achieving two of the school's strategic priorities, (1) providing quality academic programs, and (2) improving processes related to student selection and support. Any progress toward these two strategic priorities leads the school closer to achieving its mission and vision. As such, the school's effort is driven by two major approaches, (1) designing and revising programs that develop students' critical skills to meet their future career challenges, and (2) selecting academically prepared students to increase the chance of their success.

To ensure that any program related decisions stride toward achieving the school's mission/vision/strategy, we continuously practice the plan-do-check-act cycle advocated by the quality guru, W. Edwards Deming, based on collected evidence, both quantitative and qualitative. It is crucial to gauge the gap between where we are and where we want to be and to detect and correct actions that drift off the course. In our process, we use assessment assignments in all core courses to measure whether students are developing the skills the program is designed to offer or not. We also monitor the trend of overall student academic achievement as we raise the admission standard.

Continuous improvement requires a supportive culture of assessment and evidence-based program/curricular revision. Fostering that culture may not be easy initially and requires painstaking effort in communicating the goals. Mistrust is often a result of misunderstanding about the goals. However, once an assessment culture is in place, faculty and staff members become proactively engaged in the process and supply creative ideas and initiatives through their experiences and group brain storming.

## Chapter 1: Introduction

Although the school's early assessment effort can be dated back to the late 1990s, this document focuses on the renewed assessment (assurance of learning) process made in recent years, starting from 2005, when the school began its pursuit of AACSB (the Association to Advance Collegiate Schools of Business) International Accreditation. A cultural change has occurred as a result of that external pressure, resulted in a continuous program improvement process developed and shared by all faculty and staff. This chapter provides a brief historic view of the process.

### 1.1 Preparation: 2005-2006

During the 2005-2006 academic year, an AACSB steering committee chaired by Chih-Yang Tsai with two other members, Kristin Backhaus and Sally Schultz, completed an AACSB PreAccreditation Eligibility application. During that period, we studied the AACSB Standards, developed the baseline requirement of faculty responsibility and created program goals for the undergraduate and graduate programs. Major achievements during this period include,

1. Revised the school's mission statement and created a vision statement, and a list of strategic priorities after conducted a few surveys on key stakeholders.
2. At the program level, we established program goals for the undergraduate and graduate program to support the school's mission and strategic priorities.

The PreAccreditation Committee of AACSB approved our application in the fall semester of 2006.

### 1.2 Rapid Development: 2006-2007, 2007-2008

In the fall of 2006, Chih-Yang Tsai, assumed the position of Associate Dean of the School of Business, a newly created position, in charge of the accreditation effort. In the following two years (2006-2007, 2007-2008), we spent significant amount of time and effort working on a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis. During that process, a few major steps related to program assessment were taken.

- We first started with reviewing and revising all *course prerequisite* and *course description*. This is a first step toward a more consistent coverage of course materials and the level of rigors across different sections, instructors, and semesters of the same course.
- We also required each course to have a list of *course learning objectives* and established a *course outline template* in which some categories are listed as required while others are optional. Courses with multiple sections taught by several instructors need to share a common set of course learning objectives. Individual instructors can expand the list to include their own learning objectives beyond the shared list.
- The two assessment committees (undergraduate and MBA) created the *assessment rubrics* (operational definitions) for each program goal.
- Assessment exercises were carried out in a few courses.

- Despite repeated effort, we did not observe any significant improvement on student performance. The faculty came to a conclusion that the development of the basic skills specified in the program goals cannot be accomplished through one or few courses. Instead, the skills must be developed and reinforced throughout the entire curriculum. As a result of this revelation, we decided to implement assessment exercise through all core courses from lower division courses to upper division courses.
- To improve the educational experience of the students in the Dual-Degree Turkish program, we revised the program from a summer-only program to a spring-summer program where students have more opportunities to participate in extracurricular activities.
- In addition, we consolidated six MBA majors into two, general MBA and Certified Public Accountancy Tracks. The revised program was approved and implemented in fall 2008.

The assessment effort mentioned above focuses more on the program's efficacy in developing students' general skills related to our program goals, such as critical thinking, communication, teamwork, and ethics. In addition to assessing the general skills, the school also assessed students' content knowledge in major functional areas, Accounting, Finance, Management, Marketing, etc. through *course embedded assessment*. In fall 2007, the MBA program adopted the *ETS MBA Major Field Test* for content knowledge assessment in place of the course embedded test to improve its reliability and validity. This test is implemented through the capstone course, *Cases in Strategic Management*.

During the same period, the school initiated a few changes aiming at selecting students with better academic preparation to the program.

- For our undergraduate program, we gradually increment the admission GPA requirement from 2.50 to 2.75 over a period of five years with an annual increment of 0.05 (2006 to 2010).
- A more specific requirement for GMAT/GRE requirement starting in fall 2008.

This stage is characterized by rapid and frequent revisions of the program, curriculum, and courses. Our goal was to have faculty test their assessment instruments and get a general sense of whether our students possessed the targeted skills and how well the instrument measured students' performance. Due to the refinement of several rubrics, very few longitudinal quantitative results could be utilized to direct our program evaluation, let alone the consideration of reliability and validity issues. However, faculty did produce quite a few ideas for continuous improvement derived from their assessment experience and through group discussions. Although we stumbled through this trial-and-error period, it was a great learning process. Most important, faculty started to realize the value of assessment. We even convinced a non-believer to chair an assessment committee.

### **1.3 Maturity: 2008-2009 till now**

At this stage, the rubrics have been thoroughly tested and very little changes are needed. Through the experience from stages one and two, we realized two important factors.

- The deficiency in many skill areas is a result of the deficiency in critical thinking. A student having difficulty analyzing a situation cannot communicate well, either orally or in writing, on the issue at hand. As a result of this, our ultimate program goal is to develop students into “*Analytical Thinkers*”, who can analyze a problem, participate or lead in a team effort to solve the problem, and communicate the solution to stakeholders.
- Program general skills can only be developed through a series of coordinated effort in courses at different levels. In addition, we need to reinforce the training and development of such skills in a consistent approach guided by the rubrics despite the differences in course contents and types of assignments.

As a result of this finding, the following initiatives are now in place.

- Critical Thinking: We require a few courses to focus on developing the critical thinking skill by giving at least two assignments, in which analytical results need to be summarized using the critical thinking rubrics.
- Written Communication: We create a theme of “*writing across the curriculum*”, where different types of writing assignments (Executive Summary, Reaction paper, Memo, and Data Analysis) are assigned in different courses. Their corresponding rubrics are developed and published on the school’s web site.
- Ethics: We ask faculty to analyze any coverage of ethics related topics using the four item rubric developed for our ethics goal so that students are familiar with the framework of analyzing ethical issues through repeated reinforcement in different courses.

In addition, we found the course embedded *content knowledge* assessment tests we have been using for our undergraduate program is not adequate to evaluate our students’ knowledge in core business functional areas. In spring 2008, Professor Kristin Backhaus adopted a simulation software, CAPSIMn in her Strategic Management course developed by Comp-XM, and in fall 2009, Professor Jun Lin adopted ETS Business Major Field Test in his Strategic Management course. Those two assessment tools have since replaced our course embedded content knowledge assessment developed in-house. We will continue experimenting on the two different approaches until a better one between the two is determined. (MBA content knowledge assessment has been using ETS test since fall 2007.)

The major achievement from this stage includes the following.

1. Although not everyone is a staunch supporter of assessment, there is no single faculty member who is oblivious to the process because everybody participated in the process albeit at different level of intensity.
2. The discussion shifted from “why do we assess?” to “how do we assess?”
3. The assessment outcomes across semesters are more consistent, indicating the maturity of instructors’ rating skill. This allows us to analyze longitudinally the quantitative results which were not possible previously. We also started addressing the inter-rater validity issues.
4. Last but not least, we realized that students’ general skills need to be developed across the curriculum through concerted effort among faculty members. Reinforcement in different courses using different exercises but following consistent rubrics is critical to the success of developing those skills.

## Chapter 2: Mission Driven Program Assessment

Vision, mission, and strategy define where you want to be, who you are, and how you are going to get to where you want to be. They shall be used to guide an organization's decisions to ensure it stays the course. The Balanced Scorecard (Kaplan and Norton 1992a) is a popular tool to direct organizational effort toward achieving its vision, mission, and strategic goals while balancing among competing objectives. The same emphasis can be found in the standards published by a few higher education accreditation agencies. For example, the first standards of Middle State Accreditation and AACSB accreditation (AACSB International 2009) both highlight this emphasis. In the interpretation of the standard or subsequent standards, both accreditation agencies emphasize the importance of decision making driven by the mission.

### 2.1 Vision and Mission

The School of Business has the following vision, mission, and strategic priority statements. They are developed by the faculty with input from major stakeholders, such as faculty, students, alumni, Business Advisory Council members, etc. and are reviewed annually.

#### **Vision**

The school aspires to be the business resource hub of the mid-Hudson Valley region.

#### **Mission**

The School of Business at the State University of New York at New Paltz is committed to educating and developing students to be competent business professionals in a global economy. Teaching is our primary mission, which is complemented by our commitments to acquire and apply knowledge through scholarly and professional activities, and to serve our colleagues in the academic and business communities.

#### **Identity**

As the only residential public university in the mid-Hudson region, we are committed to providing access to a quality education for a diverse student population. The undergraduate programs in business are grounded in a broad-based liberal arts and science education, and serve students drawn primarily from the mid-Hudson region and the greater New York metropolitan area, together with international students representing various countries. Our graduate students, both local and international, seek to advance their professional careers. A diverse group of faculty brings academic qualifications and professional expertise to the classroom. Our scenic Hudson Valley location between Albany and New York City provides students with internship and employment prospects, and gives faculty opportunities for professional development.

## 2.2 Alignment to University Mission

The university’s mission places emphases on the following eight vision points.

1. Continue to raise the academic quality and selectivity of our students.
2. Hire and retain faculty serious about their scholarship and teaching.
3. Teach a curriculum that prepares students for careers and lives.
4. Link student intellectual growth with faculty scholarship.
5. Residential character must reinforce educational goals.
6. Meeting student needs.
7. Address regional economic and schooling needs.
8. Be a cultural and intellectual hub for the mid-Hudson region.

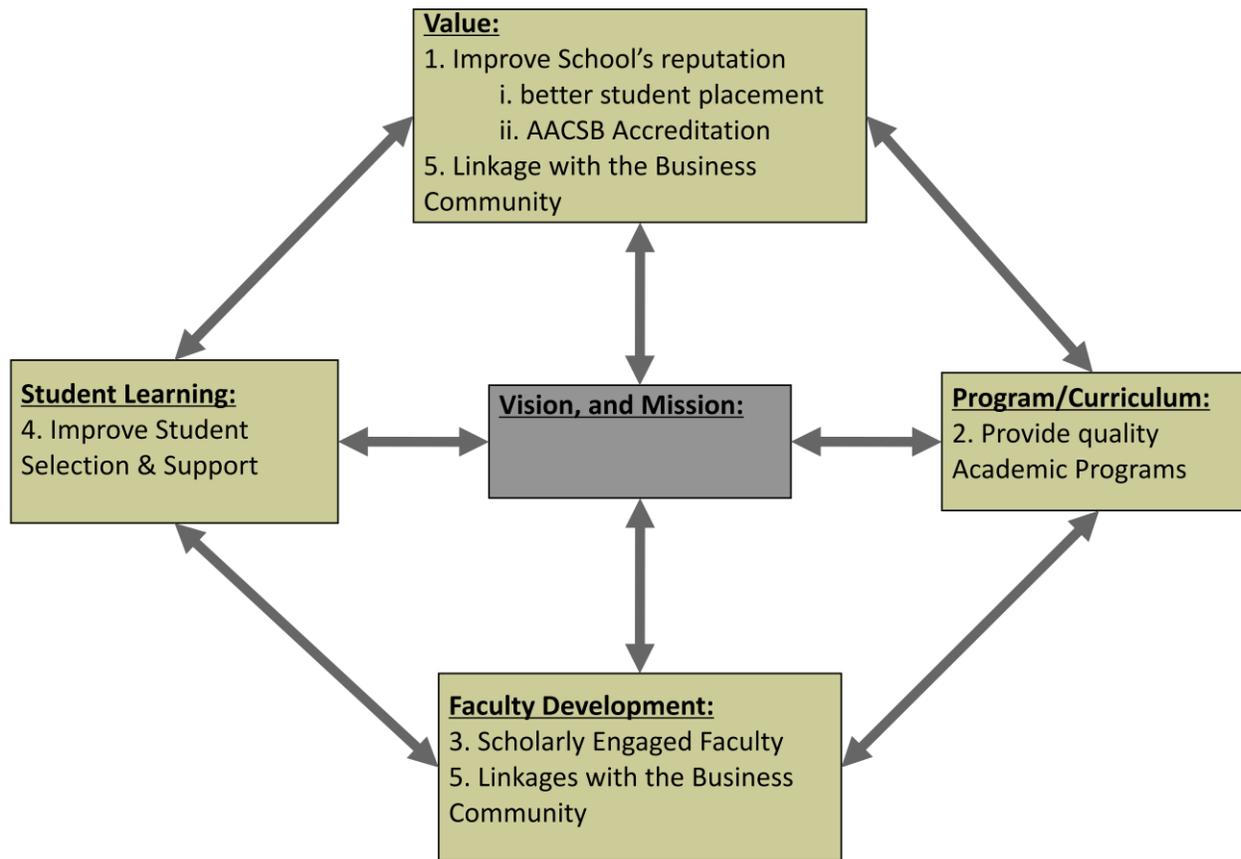
Linkage between the school’s vision/mission and the university’s mission is achieved through the five strategic priorities of the school listed in the table below. Each strategic priority is matched with the university vision points and AACSB standards supported by the priority.

School of Business Strategic Priorities	University Strategic Goals	AACSB Standards
1. Improve the School’s Reputation	3, 7, 8	1, 2, 4, 5
<b>2. Provide Quality Academic Programs</b>	2, 3, 4, 5	4, 5, 9, 12, 13, 15, 16, 17, 18, 20
3. Support the Faculty’s Active Engagement in Scholarship	2, 4	2, 4, 5, 10, 11, 13
<b>4. Improve Processes Related to Student Selection and Support</b>	1, 4, 5, 6	3, 4, 5, 6, 7, 8, 12, 13, 14
5. Foster Linkages with the Business Community	7, 8	1, 4, 5, 15

## 2.3 Strategic Map

How do we ensure that we stay the course? Following the Balanced Scorecard approach by Kaplan and Norton (Kaplan and Norton 1992b), we specify the following four dimensions for our scorecard. Each of the four dimensions is used to support one or more of our strategic priorities as demonstrated in the chart below.

# Balanced Scorecard: School of Business



## 2.4 Program Goals:

Program goals provide the linkage between the school's curriculum and mission.

### 2.4.1 Undergraduate Program Goals

#### Goal 1: Critical Thinking

Identify issues or relevant data

Apply appropriate principles or formulas

Interpret evidence or analyze data

Formulate well-supported conclusions or solutions

Draw implications from the resulting conclusions or solutions

#### Goal 2: Communication Skills: Oral

Identify purpose of communication and understand the nature of target audience

Select appropriate method of communication based on complexity of information, purpose of communication, and target audience

Effectively express ideas or viewpoints to others

Use appropriate nonverbal communication

Interpret nonverbal cues of others

Use media support systems effectively, where appropriate

### **Goal 3: Communication Skills: Written**

Produce written work that is neat and professional in appearance

Employ format appropriate to a given assignment

Produce document free of spelling and grammatical mistakes

Produce document with meaningful sentences compositions and coherent arguments

Incorporate complete and accurate reference citations when directly quoting or paraphrasing another person's work

Meet assignment's goals through proper use of information

### **Goal 4: Teamwork**

Work collaboratively with others to solve problems or accomplish specific tasks

Respect individual differences and consider alternate viewpoints and perspectives

Resolve differences, manage conflict, and establish consensus

### **Goal 5: Ethics**

Identify ethical issues or dilemmas

Identify stakeholders and their conflicting values in the decision

Analyze alternatives and consequences

Select a course of action

## **2.4.2 MBA Program Goals**

The MBA program learning goals state that graduates should be able to:

### **Goal 1: Assess the impact of globalization on business**

- Outline environmental factors that influence global business
- Recognize strategic factors influencing a firm's approach to internationalization

### **Goal 2: Apply analytical skills in business context**

- Identifies key issue(s) or problem(s)
- Determines factor(s) relevant to the issue(s) or problem(s)
- Formulates or evaluates course(s) of action or solution(s)

### **Goal 3: Communicate ideas effectively**

- Articulate ideas clearly and coherently in both oral and written forms
- Deliver effective oral presentations
- Produce professional written work

**Goal 4: Analyze ethical implications of business decisions**

- Outline ethical issues, stakeholders and potential conflicts of interest
- Generate alternative courses of action and evaluate their consequences

**Goal 5: Understand leadership concepts in business contexts**

- Due to the change of the MBA program, operational definitions of this learning goals will be developed when the new program starts in Fall 2008.

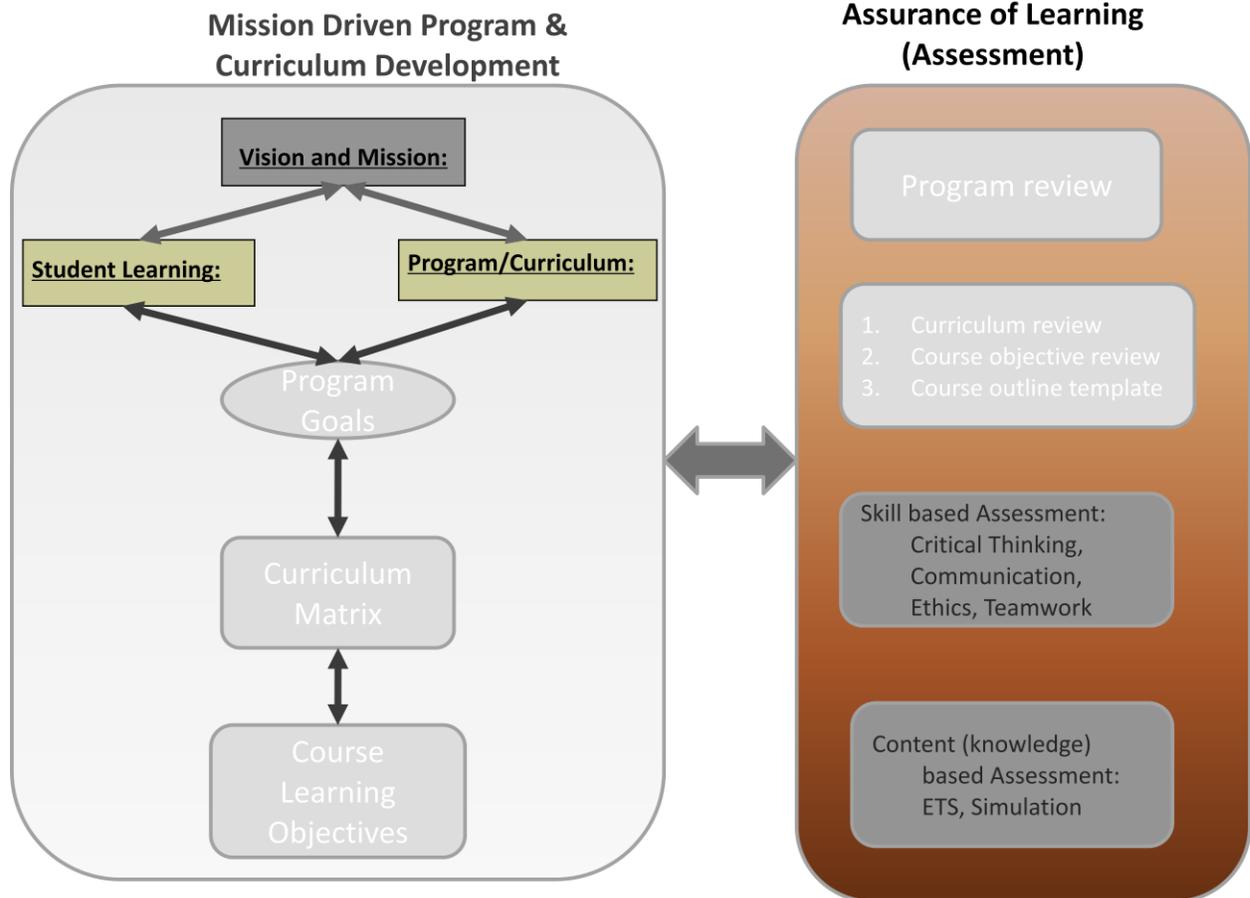
**2.4.3 Curriculum Matrix**

The curriculum matrices to align courses with program goals are presented below.

General Learning Objectives	20201 Financial	20202 Managerial	20215 BDSS	20250 PrinMgt	20271 Legal Env	20309 Stat I
Analytical Thinking	Major	Major	Major		Major	Major
Decision Making	Major	Major	Major			Major
Oral Communication				Major	Major	
Written Communication						
Teamwork				Major	Minor	
Ethics				Minor	Major	

General Learning Objectives	20311 Stat II	20312 Op Mgt	20325 Marketing	20341 Corp Fin	20450 Strat Mgt
Analytical Thinking	Major	Major	Minor	Major	Major
Decision Making	Major	Major	Major	Minor	Major
Oral Communication					Major
Written Communication					Major
Teamwork					Major
Ethics				Minor	Minor

## 2.5 Mission Driven Decision Process



The assessment process focuses on supporting the Program/Curriculum dimension or the 2<sup>nd</sup> strategic priority, “Provide quality academic programs” and the Student learning dimension or the 4<sup>th</sup> strategic priority, “Improve processes related to student selection and support”. To do so, we need a hierarchical structure to ensure that the strategic priorities are trickled down to the course level by

1. Defining program goals that direct the program toward achieving the school’s mission (develop students’ general skills)
2. Creating rubric to assess the achievement of program goals
3. Aligning courses to the program goals through a curriculum matrix
4. Designing course learning objectives supporting the achievement of the designated program goals
5. Coordinating consistent learning objectives among different sections of the same course
6. Implementing assessment exercises to measure students’ performance on the program goals.

## 2.6 References

AACSB International. 2009. *Eligibility Procedures*

and Accreditation Standards  
for Business Accreditation. Available at: <http://www.aacsb.edu/accreditation/BUSINESS-STANDARDS-2009-Final.pdf> [Accessed January 5, 2010].

Kaplan, Robert S., and David P. Norton. 1992a. "The Balanced Scorecard--Measures That Drive Performance." *Harvard Business Review* 70(1): 71-79.

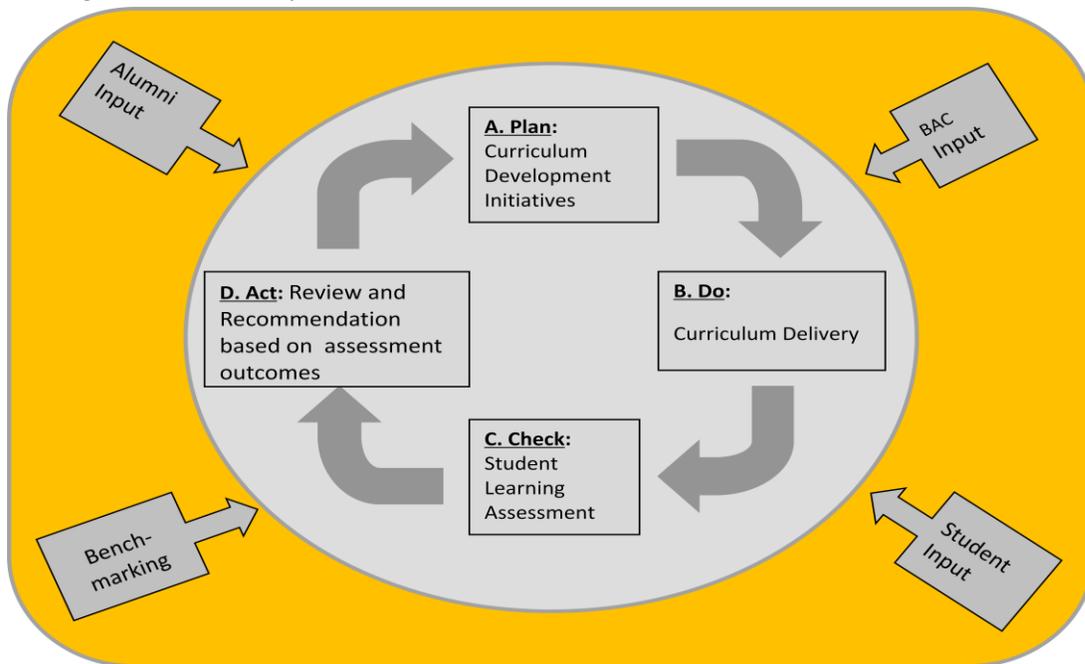
## Chapter 3: Evidence Based Process Improvement

This section provides the process and analysis of an evidence-based continuous improvement process. The goal is to use data collected from the assessment process to steer the curricular effort toward achieving program goals through an evidence-driven Plan-Do-Check-Act cycle.

There are three major sources of data to support the school's curriculum decision making.

- Program Goals Assessment Data: course embedded assessment
- Content Knowledge Assessment Data: ETS and COMPXM simulation
- Indirect Assessment Data: EBI exit surveys, BAC (Business Advisory Council) survey, Alumni survey, etc.

The following chart summarizes the school's continuous improvement process based on W. Edwards Deming's continuous improvement wheel.



The remainder of this section discusses how we use the evidence-based process to support our strategic priorities.

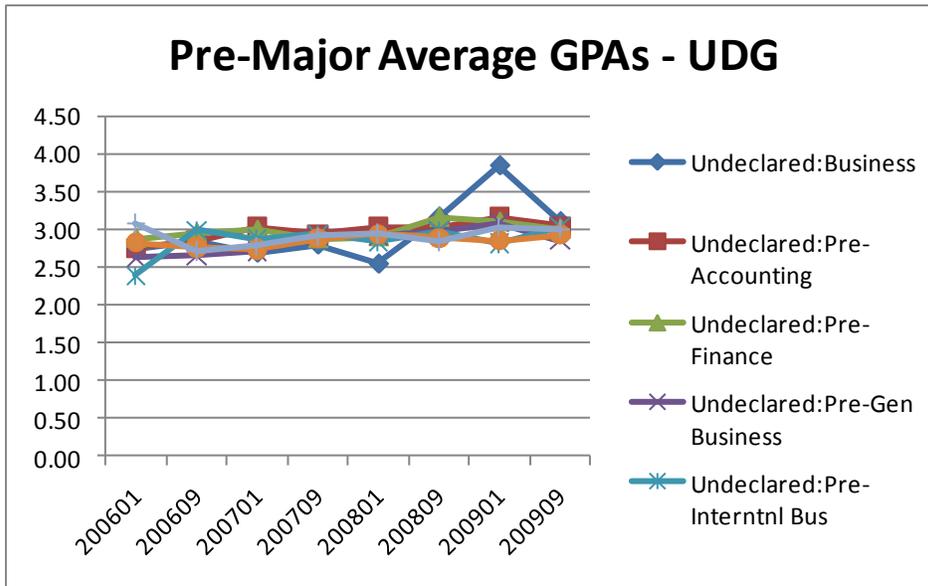
### 3.1 Improve Processes Related to Student Selection and Support

This session provides the result of the continuous improvement effort to support one of the strategic priorities -- Improve Processes Related to Student Selection and Support.

Plan: To improve the academic readiness of the incoming students for the challenges of the business program, the school decided to gradually raise its undergraduate admission GPA requirement from 2.50 to 2.75 through a five year process. This GPA of concern only includes courses taken at New Paltz.

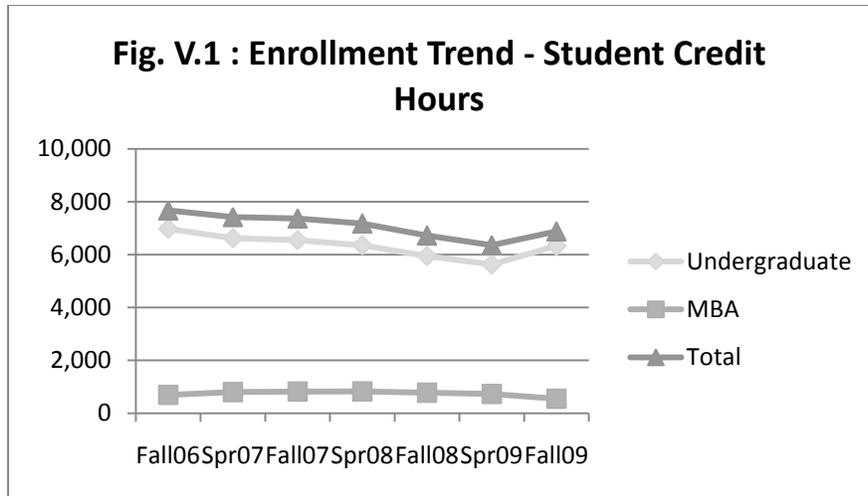
Do: Starting from fall 2006, the school increases the minimum GPA requirement from 2.5 to 2.55 and continues an incremental increase of 0.05 every year until it reaches 2.75 in fall 2010.

Check: The following chart indicates that the average GPA of all pre-majors (students who are interested in becoming a business major but have not been formally admitted to the program yet) has improved over the past eight semesters.



Act: We will continue monitoring the trend. In addition, given that the students are better prepared, we will be considering increase the minimum Math level requirement from Level 4 to Level 5. We are also talking to the Mathematics department to provide a more solid College Algebra course for our students.

As shown in the Chart below, the undergraduate enrollment (student credit hours) reveals a declining pattern since the minimum GPA requirement (SUNY New Paltz GPA before being admitted to the School of Business) started its gradual rise in 2006-2007 until fall 2009. In fall 2009, the enrollment started edging up but it is still well below its historical level.



The result presented in this section demonstrates that the increased selectivity of freshmen and transfer admission in the past few years has resulted in better average GPAs for our pre-majors.

### 3.2 Close-the-Loop Exercise in Stage 2

As mentioned earlier, the continuous improvement effort in stage II relies more on the qualitative results than quantitative. In addition to numerical result from each assessment exercise, faculty members are required to answer the three questions for each assessment exercise.

- A) Provide your evaluation of the strengths and weaknesses of the assessment results. Are you satisfied or dissatisfied with the results? Explain.
- B) Have you assessed this learning goal(s) in previous semester? If so, have you incorporated your planned changes?
- C) What action(s), if any, will you take next time you teach this course to improve any weaknesses you have identified?

The following table highlights the few course level changes as a result of the close-the-loop exercise based assessment results.

Table 16&18.2.A: Undergraduate Curriculum Changes due to Assessment Results

Courses	Program Goal Assessed	When	What Found	Changes Made (or proposed)
Strategic Management BUS450	Critical Thinking	Fall 2006	<b>Weaknesses:</b> Students were weak in “identifying assumptions”, and “distinguishing between fact and opinion and recognizing fact patterns”. (These objectives have been revised in Fall 2007)	1. Increased the use of cases in courses. Specifically, the use of cases in BDSS, Legal Environment and OB. 2. Increased attention to identification of

				assumptions and relevance of fact patterns in Strategic Management.
Strategic Management BUS450	Critical Thinking	Spring 2007	<b>Weaknesses:</b> Although there was some improvement in analysis, continued attention was needed.	<ol style="list-style-type: none"> <li>1. Implemented film analysis in OB,</li> <li>2. Adopted comprehensive integrative exercises in Financial Accounting</li> </ol>
BUS215.1&2 Business Decision Support Systems	Critical thinking	Fall 2007	<p><b>Strength:</b> More than 90% met or exceeded expectations in “formulating well supported solutions” and “drawing implications from the solutions”.</p> <p><b>Weakness:</b> 17% fell below expectations in “identifying issues”, and “interpreting evidence”.</p>	<ol style="list-style-type: none"> <li>1. Inserted a case book as the 2<sup>nd</sup> textbook to improve performance in the two weak areas.</li> <li>2. Made BUS215 (covers MS Excel &amp; Access skills) a prerequisite of several introductory and intermediate level courses.</li> </ol>
Financial Accounting BUS201	Critical Thinking	Fall 2007	<p><b>Strengths:</b> 83% met or exceeded expectations for using data appropriately and drawing sound conclusions.</p> <p><b>Weaknesses:</b> Students were less proficient at performing data analysis.</p>	<ol style="list-style-type: none"> <li>1. Assigned more financial statement analysis problems throughout the course.</li> <li>2. Incorporated Excel projects into course requirements.</li> </ol>
BUS271 Legal Environment,	Oral Communication	Fall 2007	Students in general possessed adequate skills in oral communication. About 10% of students fell below expectations in “Quality of Slides”, “Voice & quality of pace”, and “eye contact”. Similar results	In Spring 2008, class presentations were required and assessed in another lower division course, BUS250, to enhance presentation skills in an earlier stage.

			were found in other courses too.	
BUS450.3 Strategic Management	Written Communication	Spring 2008	<b>Strength:</b> More than 85% exceeded the expectations in "neatness", "formatting", "citations", and "meeting assignment goals". Satisfactory result was found in "spelling/grammar" and "coherent arguments".	<ol style="list-style-type: none"> <li>1. Will increase the number of short writing assignments.</li> <li>2. Will increase the use of writing assistant.</li> <li>3. Will provide information regarding common grammar mistakes.</li> </ol>
BUS250 Principles of Management	Teamwork	Spring 2008	Students participated and resolved differences but were weak in contributing ideas to "solve problems or accomplish specific tasks".	<ol style="list-style-type: none"> <li>1. Will require team meetings in class and require teams to submit meeting minutes.</li> <li>2. Will focus more attention in class about social loafing.</li> <li>3. Will instruct students on how to address interpersonal and team dysfunctions in real time.</li> </ol>
BUS250 Principles of Management	Oral Communication	Spring 2008	Overall acceptable performance.	<ol style="list-style-type: none"> <li>1. Will provide a formal lesson in presentation skills in Fall 2008.</li> <li>2. Will require students to videotape their presentations to review prior to formal presentations.</li> </ol>
BUS450.3	Ethics	Spring 2008	<b>Strength:</b> More than 80% met or exceeded expectations in "identifying ethical dilemmas" and "selecting a course of action". <b>Weakness:</b> 30% of students fell below	Will improve assessment instrument by selecting a case that is more focused. Enron case was so well-known that students could not

			expectations in “identifying stakeholders and their conflicting values”, and “analyzing alternatives and consequences”.	imagine a different solution to it.
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All MBA program goal assessment tests were conducted the first time in Spring 2008. The following table summarizes the result.

Table 16&18.2.B: MBA Curriculum Changes due to Assessment Results

<b>Courses</b>	<b>Program Goal Assessed</b>	<b>When</b>	<b>What Found</b>	<b>Proposed Changes</b>
BUS526: Global Business	Assess the impact of globalization on business	Spring 2008	Students performed better on the macro-level, environmental factors that influence business (only 5% were below expectations) than on the micro-level, strategic factors influencing business (where 45% were below expectations).	Will be clearer on the difference between external, environmental factors and internal, firm-level factors that influence international business.
BUS525 Quant. Mth. For Business Research & BUS536 Corporate Financial Management	Apply analytic skills in Business Context	Spring 2008	83% of the students met or exceeded the expectation in all three objectives. (Students in BUS525 were given an earlier assignment where feedback based on the assessment rubrics was discussed.)	BUS525: Will involve more class discussion on the rubrics using earlier assignments as examples. BUS536: Will revised assessment instrument in BUS536 on more suitable subjects.
BUS525 Quant. Method for Business Research	Communicate ideas effectively	Spring 2008	90% of students met or exceeded the “Articulate ideas” and “Produce profession written work” objectives. 80% of students met or exceeded	Will use multiple assessment assignments in the same course

			the “Deliver effective oral presentations” objective in the final assessment. (Students were given an earlier assignment where feedback based on the assessment rubrics was discussed.)	to provide students useful feedback for improvement.
BUS 526: Global Business	Analyze ethical implications of business decisions	Spring 2008	Students had difficulty identifying different stakeholders and their potential conflicts of interest	Will discuss more in depth a variety of different stakeholders and their potential conflicts of interest in ethical dilemmas

### 3.3 Close-the-Loop Exercise in Stage 3

#### Critical Thinking:

In Stage 3, we have collected enough quantitative results in the area of critical thinking to perform some statistical tests. The following table shows the percentage of students met or exceeded expectation of “critical thinking” rubric in three consecutive semesters.

Percentages of Students Meet or Exceed Expectations

Semester	# of students sampled	1.) Identify Issues or Relevant Data	2.) Apply Appropriate Principles or Formulas	3.) Interpret Evidence or Analyze Data	4.) Formulate Well-Supported Conclusions or Solutions	5.) Draw Implications from the Resulting Conclusions or Solutions
Fall 2008	357	89.15%	86.22%	85.92%	82.11%	84.16%
Spring 2009	296	85.66%	80.07%	78.32%	72.38%	76.22%
Fall 2009	418	83.87%	81.40%	82.92%	73.47%	77.90%

The following table shows that the rise or drop of the percentages of students who met or exceeded the expectations are statistically significant from fall 2008 to spring 2009 in the 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup>

items in the rubric, all indicating a significant drop from the previous semester. From spring 2009 to fall 2009, there is no significant changes in the percentages. We believe that the phenomenon was due to the fact that faculty members were still learning how to evaluate students' answers by the rubric in the early stage including fall 2008. During that early stage, they tended to be more lenient in assessment. This results in a significant drop of students' performance in four out of the five categories when comparing with the result from spring 2009. As the assessment process progressed toward stage 3, there is no significant difference between the result from spring 2009 and fall 2009, indicating the faculty became matured in applying the rubric. The first category "Identify issues or relevant data" does not show any significant difference among the three semesters because it is the easiest category to assess (lower in the Bloom's Taxonomy).

compare two successive semesters	1.) Identify Issues or Relevant Data	2.) Apply Appropriate Principles or Formulas	3.) Interpret Evidence or Analyze Data	4.) Formulate Well-Supported Conclusions or Solutions	5.) Draw Implications from the Resulting Conclusions or Solutions
fall 2008 to spring 2009		sig. down	sig. down	sig. down	sig. down
spring 2009 to fall 2008					

The above analysis is based on the aggregate data combining the results from different courses. It indicates that the students' performance on the categories *higher in Bloom's Taxonomy* is worse than those in the lower levels of the taxonomy. This quantitative result supports our earlier qualitative observation that it is harder to improve students' higher level critical thinking skill in a single course. The stage 3 initiatives mentioned in the Introduction chapter are thus developed to attack this weakness.

#### Oral Communication:

Due to the fact that less number of courses assessed written communication as compared to "Critical thinking", the result is more prone to random variations. We saw overall the result improved from fall 2008 to spring 2009 in several categories but fell significantly from spring 2009 to fall 2009 as shown in the following table.

Semester	# of students sampled	1.) Organization	2.) Content	3.) Subject Knowledge	4.) Ability to answer questions	5.) Quality of slides	6.) Voice quality and pace	7.) Mannerisms	8.) Eye Contact	9.) Attire
Fall 2008	191	95.84%	95.32%	95.83%	84.67%	89.21%	85.79%	78.53%	70.53%	89.16%
Spring 2009	143	97.20%	97.89%	97.90%	96.94%	92.31%	93.01%	91.61%	77.62%	99.16%
Fall 2009	217	94.47%	82.03%	94.01%	93.55%	89.09%	80.65%	81.64%	75.12%	77.42%

compare two successive semesters	1.) Organization	2.) Content	3.) Subject Knowledge	4.) Ability to answer questions	5.) Quality of slides	6.) Voice quality and pace	7.) Mannerisms	8.) Eye Contact	9.) Attire
fall 2008 to spring 2009				sig. up		sig. up	sig. up		sig. up
spring 2009 to fall 2008		sig. down	sig. down			sig down	sig down		sig down

**Written Communication:**

The following four courses are designated to assign the four styles of writing to improve students' exposure to a variety of format and style of writing. These styles have their own their own rubrics different from our regular rubric of evaluating "written communication".

- Strategic Management – Memo
- Operations Management – Data Analysis
- Principles of Management – Reaction Paper
- Managerial Accounting – Executive Summary

**Ethics:**

Progress of expanding ethics coverage will be measured by

- Number of courses cover ethical issues regardless of their depth of coverage
- Number of courses include ethical issues in their program goals (will be reflected in the curriculum matrix)
- Number of courses which can specify the exact ethics contents used in class, a case, a chapter, a test question, etc.
- Number of courses formally assesses ethics program goals.

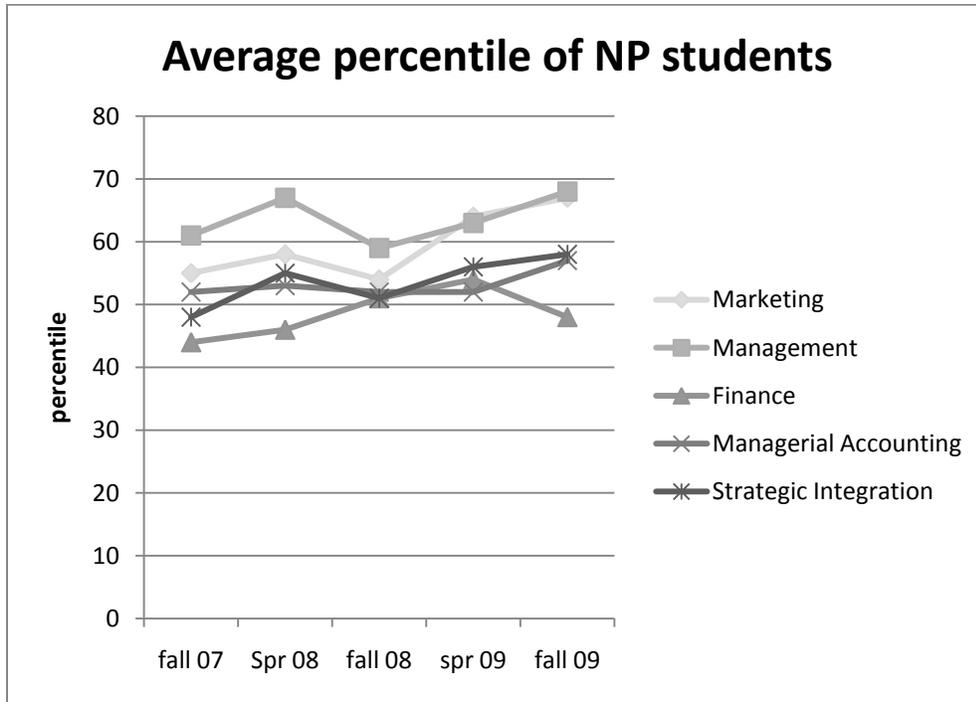
A survey has been developed to collect the data.

**3.4 Content Knowledge Assessment**

Since the undergraduate ETS test was implemented recent, we focus our discussion on the result from the ETS MBA Major Field Test (MFT), which has been conducted for five semesters in a roll. The following table shows a summary from the five semesters.

	fall 07	Spr 08	fall 08	spr 09	fall 09
# of students	15	15	19	21	9
Overall Avg	250	254	251	257	258
Stdev	18	14	15	16	12
highest	93	87	95	90	89

The following chart exhibits students' average percentiles by functional areas and semesters. It is clear that Management area consistently received the highest percentile while Finance and Managerial Accounting obtained the lower percentiles.



A potential explanation is that Finance and Accounting questions require more technical skills, which students had hard time internalize the knowledge learned from earlier courses as compared to management area. A student told us that without an Accounting course in the MBA curriculum, students did not have enough exposure to Accounting knowledge. Based on that feedback, we added a Management Accounting course to the MBA core when we revised the MBA curriculum.

## Chapter 4: Communication

This section recounts the major communication approaches and steps undertaken during the process of fostering a culture for continuous improvement through program assessment. Communication is time consuming but it is the only way to change the culture.

Most of the resistance and reluctance against assessment is due to the misunderstanding of what assessment is really about. There are three major complaints about assessment.

1. It creates extra workload.

2. It is another form of assessing my teaching in addition to Student Evaluation of Instructions (SEI).
3. It is just for impressing external reviewers but cannot actually improve program quality.

The best way to soothe the anxiety derived from the three complaints is to communicate on what assessment is really about. It is also important to have faculty members engage in some primitive forms of assessment in order to generate communication. The process of engaging faculty members in a program assessment process is very similar to the diffusion process of innovation described by Everett Rogers (Rogers 2003). According to Rogers, diffusion is a process where an *innovation* is *communicated* among the *members* of a community through some *channels* over a period of *time*. The progress of diffusion, measured by the percentage of adoption, is characterized by a sigmoid shape function where there are some early adopters followed by a period of rapid increase of adoption, and quiet down at the end to capture the late adopters. We divide our development process roughly into three stages.

#### 4.1 Building some foundation work

As the assessment effort needs to be mission driven, the first stage of assessment exercise focused on aligning our curriculum with our program goals, which in turns support our mission. This process is less intrusive to faculty and less likely to encounter resistance. There are a few things we achieved during this period.

- Reviewed and revised all course prerequisite requirements to ensure that students possess proper knowledge before moving to the next level courses.
- Reviewed and revised all course descriptions to make sure that it is consistent with the course content and all instructors teaching the same course share the same description.

It is very easy to generate conversations and discussions during this process as faculty in general want to see more prerequisites for their courses. Furthermore, a course description are usually concise and very general, which shall not dictate the way faculty teach the course.

The two initial steps setup a pattern of communication drilling deeper into course contents. We then start the process of

- Creating course objectives which support our program goals: Each course has a core set of objectives agreed upon by all instructors teaching the course. Individual instructors can include additional objectives beyond the common objectives.
- Developing a course outline template: The template includes a few required categories, such as 1) course description, 2) course objectives, 3) grading policies, 4) last date of withdrawal, 5) the school's integrity policy, and a few optional items, such as 1) dates of major examinations, 2) classroom conduct requirement.
- Constructing a curriculum matrix: The matrix exhibit the courses that support each program goal. The support could be a major or minor support. This matrix is the basis for assigning assessment tasks.

These three items are more intrusive as they probe into the content of the course. However, the conversation from the first step established a good foundation for discussions leading to the achievement of the following by the end of 2006-2007 academic year.

- Completed a cycle of course and program review and revision, including the revision of the MBA curriculum (consolidating majors)
- Aligned courses with program goals through a curriculum matrix in a participative manner
- Faculty are now familiar with the rubrics adopted to assess students performance on the school's program goals and Bloom's taxonomy through numerous faculty and committee meetings as well as assessment workshops.
- Agreed to expand assessment exercises on all core courses instead of few capstone courses.

All those gave the faculty a good sense of achievement made possible through communication.

## 4.2 Skill Assessment vs. Content Assessment

Although the first stage sets up some groundwork, it does not settle the doubt of some faculty on the usefulness of assessment. A major reason can be attributed to the confusion between skill level assessment and content knowledge assessment. People often asked "Why do I need to conduct separate assessment tests if I already gave numerous examinations?", "How are we sure the test actually reflect students' ability?"

- Content knowledge assessment: Content knowledge assessment is about understanding whether students learned the course content or not. For example, we might assess students in the Fundamental of Corporate Finance to see whether they can find the current value of a cash flow over a period time. We eventually adopted the ETS test to reduce the assessment burden from faculty. ETS Major Field Test is a well developed instrument which allows us to benchmark our students' performance against students from other institutions.
- Genreal-level assessment: The purpose of general-skill assessment is to check whether students developed the skills specified in our program goals, such as critical thinking, oral communication, written communication, understanding of ethical implications, etc, through a series of courses. As a result, the skill assessment result obtained from one course does not necessarily reflect how well the course has developed the student skill. Instead, it is a measure of students' skills at that particular stage in the program. The expectation is that as students move toward later stage of their programs, their skills would be better developed. Courses, despite their different contents, can contribute to and reinforce the development process because the skills are needed regardless of the context.
- Assessment test: Although instructors constantly test students on how much they learned from their courses. Those assessments tend to focus on course content. However, the same test can also be developed usually with minor modifications to assess the performance of general skills. For example, a group of questions can be used to assess student's ability of "formulate well supported conclusions or solutions".

Because our assessment effort focuses more on skill level assessment, instructors soon learned that individual effort in revising content delivery does not achieve immediate improvement because development of general skills takes time, especially for those categories in a higher level of Bloom's Taxonomy.

- Skill assessment is *not* a good indicator of individual instructor's teaching performance. Faculty soon learned from their own initial assessment effort and from other colleagues' frustration that despite repeated effort, student performance does not appear to change.
- Our program assessment effort intends to continuously evolve the curriculum and hope that the improved *program* can better develop students' skills. It is our hope, not guarantee, that an individual student can acquire all necessary skills by the time of graduation because of two main reasons, 1) there are always individual differences and 2) *graduation* is based on the student's content knowledge while program assessment emphasizes students' general skills.

During this stage, we adopted the following approach.

### **Creating a Just-do-it Mentality**

As academicians are trained to conduct research work following a strict scientific approach where the reliability and validity issues need to be carefully addressed, we encourage instructors to just try any assessment instrument even though deemed flawed to jumpstart the process. From the initial result, conversations can be generated. That conversation leads to refinement of the assessment instruments or rubrics. At this point, sound quantitative data may be sporadic and it is hard to aggregate across courses and to compare across semesters. However, faculty members tend to be excited and eager to share their assessment experience. Thus, a great amount of qualitative information will drive the continuous improvement process at this stage.

### **Early Adopters**

There were a few early adopters who fully embraced the process and appreciated the value of the effort. There were followers, who had not quite gotten it but just followed whatever they were assigned to do. The few early adopters became the champions and advocates of the continuous improvement process. Peer pressure was a good driving force for the others to continue doing their parts. However, at the end, the followers came to realize the difference between skill-level assessment and content knowledge assessment. They understood that skills could not be built in one single class. Thus, the assessment process is really designed to assess the efficacy of the program in delivering its goals rather than to evaluate individual faculty's teaching performance. By the end of 2008-2009 year, everybody agreed that skills can only be developed through a concerted effort among all courses in the curriculum.

### **Communication specifics**

During this stage, tremendous amount of conversation was generated especially when discussing assessment results. Because the rubrics and assessment instruments had gone through a few iterations of changes and instructors were still learning about the process, the quantitative results from those assessment exercises usually do not give strong indication of student's level and sometimes the results were conflicting. Despite that, faculty got hands-on experience on conducting assessment exercise and

analysis. They brought a great number of ideas into the discussion from their experience. That is the major achievement when everybody has something to contribute. From this experience, we asked faculty to submit, in addition to the quantitative assessment result, the qualitative results by answering the following three questions.

- Provide your evaluation of the strengths and weaknesses of the assessment results. Are you satisfied or dissatisfied with the results? Explain.
- Have you assessed this learning goal(s) in previous semester? If so, have you incorporated your planned changes?
- What action(s), if any, will you take next time you teach this course to improve any weaknesses you have identified?

Those qualitative results have been proven to be the best sources of driving continuous improvement initiatives.

### 4.3: Close-the-loop of the assessment process

After a few years of effort, 2008-2009 is the year when we finally reached the epiphany of assessment. There were a few major revelations from faculty discussions.

In an MBA Assessment Committee meeting, Paul Girma, who used to be a non-believer of assessment now chairing the committee, pointed out that the weaknesses identified in all program goals came as a result of the weaknesses in students' "analytical" or "critical thinking" skill. And, our overall program goal should target on developing students into *critical thinkers*.

In a summer retreat of 2009, faculty realized that it is hard to train students' "critical thinking" skills especially those in the higher hierarchies of Bloom's taxonomy. In addition, the weaknesses observed in some students' written communication skill is generally a result of their inability to analyze the problem. The whole retreat was then dwelt on ways to address this issue. We broke participants into teams to address three major program goals, critical thinking, written communication, and ethics. The consensus reached from that summer retreat includes,

- Critical Thinking: We ask faculty to give at least two assignments or cases in a few selected courses to reinforce students' critical thinking skill.
- Written Communication: Again, we developed a writing-across-the-curriculum effort. Requiring all courses to give writing assignments. In addition, publish a few sample student writings and rubrics to help students improve their writings.
- Ethics: We decided to publish a few ethics related topics on our web site.

Even at this stage, clear communication of the tasks is still difficult at times. Some faculty still confused between a curriculum improvement effort (assigning particular types of work to students) and an assessment assignment. The effort asked them to assign certain types of homework, which may or may not require a formal or additional evaluation of students' work. For example, an instructor of Statistics may add an additional requirement asking students to write an executive

summary from their statistical analyses. The statistical analysis part has been a regular assignment contributing to students' term grade. However, the executive summary provides students with an additional writing opportunity and exposure to the writing rubric. It is the instructor's choice whether to include the executive summary to students' term grades. And, unless the course is also assigned the responsibility to assess "Written Communication", the instructor may choose not to formally evaluate students' summaries.

From our experience, group discussion often generates the best result in terms of brain storming new ideas. In a group discussion session held in fall 2009, we divided the faculty into two groups to search for better answers to cover the writing and ethics goals.

- Writing group: The writing group identified four types of writing, Executive Summary, Reaction Paper, Memo, and Data Analysis, and assigned a course for each type of writing. [Rubrics](#) of each style were later published on the school's web site.
- Ethics group: For a few years, we have tried to distribute ethics related topics into courses without success. We attempted once to incorporate ethics in the course, Legal Environment, but found it too overwhelming to both the instructor and students. We also looked for an ethics textbook to be shared by several courses, each covering a few chapters, but failed to find one that can be agreed upon by all involved instructors. When the group discussed the common weaknesses from previous assessment results, the idea of sharing the rubric instead of dictating the content emerged. The group suggested an approach which emphasizes a common framework of analyzing ethical issues rather than trying to dictate contents. This approach asks all courses which cover ethics topics to adopt the analytical framework borrowed from the four categories in our undergraduate ethics rubric (Identify ethical issues or dilemmas; Identify stakeholders and their conflicting values in the decision; Analyze alternatives and consequences; Select a course of action). The approach allows instructors to continue using the content of their choice while reinforcing students' analytical skill by repeated exposure to the same analytical tool.

Given that we have fostered a culture of sharing ideas, our next step is to spend some effort on improving inter-rater reliability, which we deliberately left aside earlier. We started from two areas in spring 2010 using previous students' test samples. We asked a group of instructors to rate the same tests and address the rating discrepancies among them.

- Critical Thinking: Professor Heiner provided some of his previous students' tests in Statistics I.
- Ethics: Professor Backhaus supplied her students' samples from her Strategic Management course.