

Direct & Indirect Measurements

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Overview

- We have learning goals – now what?
- Measurements: Direct vs. Indirect
 - Indirect Examples
 - Direct Measurements – “basic”
 - Direct Measurements – “difficult”
- The value in both
- Matching the process to your resources & needs

Assessment Process

- Definition of student learning goals/objectives
- Ensure alignment of curriculum with goals
- **Identification of assessment instruments and measures**
- Collection, analyzing, and dissemination of assessment information
- Incorporation of results into feedback loop

Identifying Measurements

- We develop graduates competent in a general management perspective; including understanding the global nature of business, taking into account relevant risks and constraints, and devising strategies which address ethical concerns
- We develop graduates with strong communication skills
- We develop graduates who view business problems through a cross-functional lens
- We develop graduates with a basic understanding of technology and its application in solving management problems

Identifying Measurements - General

- We develop graduates competent in a general management perspective; including understanding the global nature of business, taking into account relevant risks and constraints, and devising strategies which address ethical concerns
- We develop graduates with strong communication skills
 - Each student can disseminate, to diverse audiences, the results of analysis in cogent and concise **written** format.
 - Each student can disseminate, to diverse audiences, the results of analysis in cogent and concise **oral presentation**.
- We develop graduates who view business problems through a cross-functional lens
- We develop graduates with a basic understanding of technology and its application in solving management problems

Identifying Measurements - General

- Simmons graduates can communicate effectively and professionally, choosing appropriately from a portfolio of written, oral and visual techniques and styles to best convey a desired message to a selected audience (communication).
 - Demonstrate effective oral communication skills
 - Demonstrate professional written communications skills
 - Develop visual aids that support written communication and oral presentations.

Identifying Measurements:

Mission Specific

- We develop graduates competent in a general management perspective; including understanding the global nature of business, taking into account relevant risks and constraints, and devising strategies which address ethical concerns
- We develop graduates with strong communication skills
- We develop graduates who view business problems through a cross-functional lens
 - Each student can develop solutions to functionally-based problems which consider the effects on other functions
- We develop graduates with a basic understanding of technology and its application in solving management problems

Identifying Measurements:

Mission Specific

- Simmons graduates identify and appraise the strategic and behavioral roles of gender and cultural diversity in organizations and are prepared to effectively manage their careers in that context (gender and diversity).
 - Identify and analyze the role of diversity and its impact on personal and organizational effectiveness
 - Develop personal career strategies to respond to a complex work environment

Identifying Measurements:

Mission Specific

- Simmons graduates are prepared to provide strategic and principled leadership at the individual, team and organizational levels bringing integrity and ethics to managerial decision making (principled leadership).
 - Analyze and articulate the ethical implications of managerial decisions
 - Reflect on the on the role and impact of personal and managerial social responsibility in communities and organizations.

Measurements Types

- **Indirect:** “Perceptual” measurements; can include surveys of alumni, employers, graduates; some outcomes measures/ placement rates
- **Direct:** “Actual” observed measurements; can utilize existing course embedded measures, grades, stand-alone testing/projects/deliverables; portfolios
- **Pre-Selection:** competency measure through admissions selection process

Indirect Measurement - SMG

- SMG was seeking a baseline understanding of:
 - If identified program learning goals resonated with students – a “check”
 - If there existed programmatic strengths or weaknesses not captured by learning goals
 - Initial understanding of student performance
- Survey was developed with two primary goals:
 - Inform the faculty about the extent to which young alumni perceived the preparation provided by SMG
 - Provide indirect assessments of student learning relative to program learning goals

Indirect Measurement - SMG

Open ended questions on program strengths/weaknesses

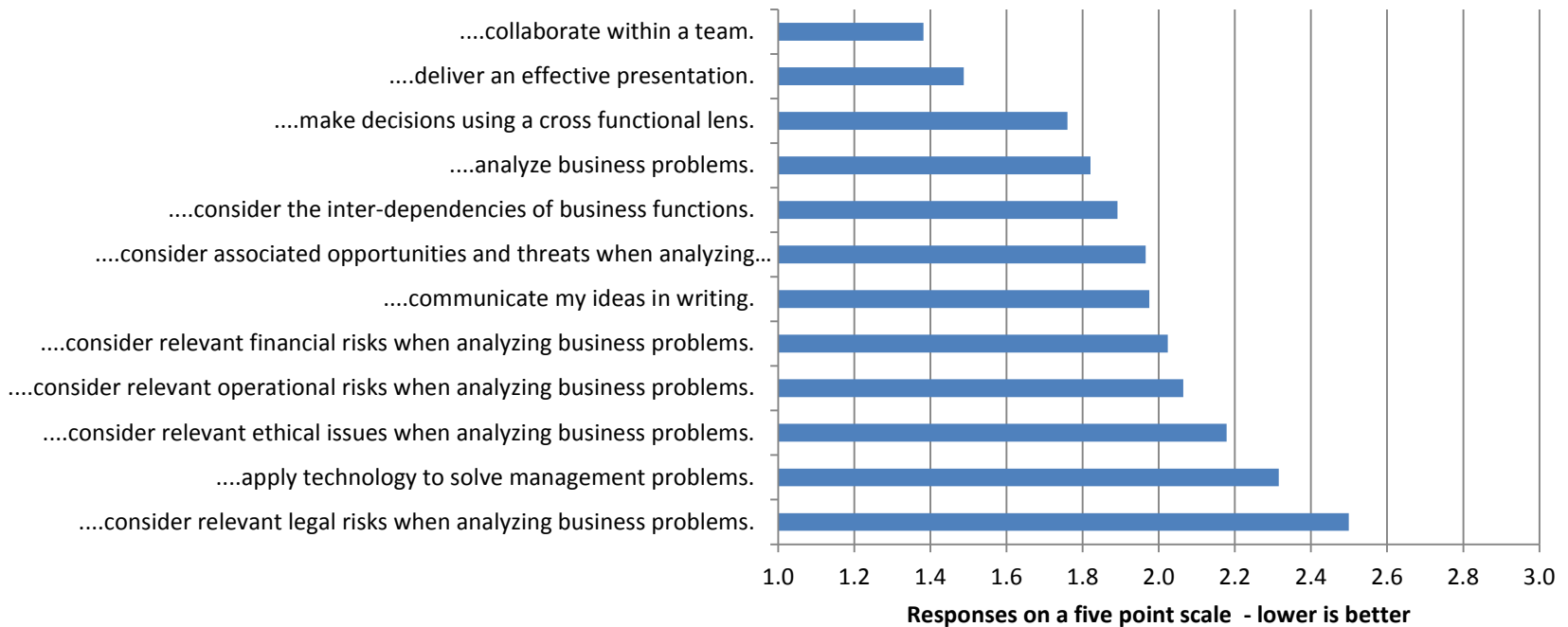
Targeted questions on learning goals

In comparison to my professional peers who did not attend BU SMG, the undergraduate education I received at the School of Management prepared me to effectively: (Five Point Scale)

-consider relevant legal risks when analyzing business problems.
-apply technology to solve management problems.
-consider relevant ethical issues when analyzing business problems.
-consider relevant operational risks when analyzing business problems.
-consider relevant financial risks when analyzing business problems.
-communicate my ideas in writing.
-consider associated opportunities and threats when analyzing business problems.
-consider the inter-dependencies of business functions.
-analyze business problems.
-make decisions using a cross functional lens.
-deliver an effective presentation.
-collaborate within a team

Indirect Measurement - SMG

Competencies Relative to Professional Peers



“Basic” Direct Measurement – SMG

Learning Goal: Functional Competence: *Each student has a basic knowledge of accounting, economics, and business, operations and technology management, finance, organizational behavior, and quantitative analysis.*

Direct embedded measurements, in the form of identified exam questions, were used across 12 core courses to assess fundamental course principals as defined by course faculty. Each course is followed by the identified core concepts and summary of student performance in terms of percent of students correct on the questions related to each concept.

MK 323:

Fall 2008 midterm Concepts

Topic	Overall % correct		Q1	Q2	Q3
Brand & Product	73.84%		83.57%	62.32%	-
Consumer Behavior	72.62%		81.16%	47.34%	89.37%
Market Research	71.74%		85.27%	93.00%	36.96%
New Product Development	76.45%		65.70%	87.20%	-
Segmentation	93.48%		94.69%	92.27%	-
Strategy	88.29%		85.75%	90.82%	-

“Basic” Direct Measurement – Simmons

- “Knowledge of the Disciplines” program goal measured through performance on selected questions on multiple choice final exams for core courses

Example: Introduction to Marketing final, 17 MC questions

Exemplary: (% scoring 90-100)	4% to 23%
Sufficient: (% scoring 80-89)	74% to 70%
Deficient: (% scoring below 80)	22% to 8%

“Difficult” Measurements

- Not as objective: “inherently more subjective”
- Higher level learning goals may include: communication skills, critical thinking, cross-functional thinking
- Faculty were engaged to create new instruments, such as rubrics
- Rubrics can be applied to existing deliverables
- Why Rubrics?
 - Help to describe evaluation criteria; adds clarification
 - Can be used as a student learning tool
 - Improves feedback to students
 - Informs faculty of student performance

“Difficult” Direct Measurement – SMG

RUBRIC FOR THE EVALUATION OF ANALYTICAL AND CRITICAL THINKING IN CASE ANALYSES

I. FORMULATION: IDENTIFYING AND STRUCTURING THE PROBLEM

	Flawed		Acceptable		Exemplary	
	1	2	3	4	5	6
1. Identifies and summarizes key problem(s)	Fails to identify key problem or to describe it clearly		Identifies key and secondary problems but does not adequately discuss their relative importance or priority		Clearly distinguishes key and secondary problems along with their relative importance or priority	
	Flawed		Acceptable		Exemplary	
	1	2	3	4	5	6
2. Identifies courses of action (i.e., alternatives)	Fails to identify key alternatives and/or proposes non-actionable alternatives		Identifies most of the main alternatives and discusses how they can be put into action		Identifies all main actionable alternatives and is creative in proposing less obvious courses of action	
	Flawed		Acceptable		Exemplary	
	1	2	3	4	5	6
3. Given the alternatives identified, discusses constraints	Fails to recognize some of the important constraints		Recognizes most of the important constraints		Recognizes the important constraints and also that some constraints can be relaxed or worked around	

“Difficult” Direct Measurement – SMG

		n=55		Flawed		Acceptable		Exemplary																																	
Group Mean:		Item Mean	Cumulative Score (330 max)	Count of (1)	Count of (2)	Count of (3)	Count of (4)	Count of (5)	Count of (6)																																
I. Formulation:																																									
3.05	1. Identify Problem	3.89	214	2.00	9.00	16.00	7.00	8.00	13.00																																
	2. Identify courses of action	2.62	144	9.00	20.00	14.00	7.00	5.00	0.00																																
	3. Given identified courses of action, discusses constraints	2.87	158	7.00	21.00	9.00	10.00	6.00	2.00																																
	4. Given identified courses of action, discusses selection criteria	2.82	155	11.00	19.00	8.00	7.00	6.00	4.00																																
II - Analysis																																									
3.95	1. Structures analysis using appropriate frameworks	4.40	242	1.00	5.00	7.00	14.00	14.00	14.00																																
	2. Uses appropriate analytical tools	4.13	227	1.00	9.00	4.00	15.00	20.00	6.00																																
	3. Evidence - Qualitative	4.40	242	0.00	3.00	8.00	21.00	10.00	13.00																																
	4. Evidence - Quantitative	2.87	158	15.00	12.00	5.00	14.00	6.00	3.00																																
III - Decisions & Actions																																									
4.72	1. Decides on a course of action	4.72	255	0.00	1.00	8.00	13.00	15.00	17.00																																
Section 1: Formulation																																									
<p>Cumulative Score Distribution: Section 1</p>				<table border="1"> <thead> <tr> <th>Score (max 24)</th> <th># with Score</th> </tr> </thead> <tbody> <tr><td>4</td><td>1</td></tr> <tr><td>5</td><td>2</td></tr> <tr><td>6</td><td>3</td></tr> <tr><td>7</td><td>3</td></tr> <tr><td>8</td><td>6</td></tr> <tr><td>9</td><td>6</td></tr> <tr><td>10</td><td>5</td></tr> <tr><td>12</td><td>4</td></tr> <tr><td>13</td><td>5</td></tr> <tr><td>15</td><td>4</td></tr> <tr><td>16</td><td>5</td></tr> <tr><td>17</td><td>1</td></tr> <tr><td>18</td><td>1</td></tr> <tr><td>19</td><td>3</td></tr> <tr><td>20</td><td>5</td></tr> <tr><td>21</td><td>1</td></tr> </tbody> </table>		Score (max 24)	# with Score	4	1	5	2	6	3	7	3	8	6	9	6	10	5	12	4	13	5	15	4	16	5	17	1	18	1	19	3	20	5	21	1	<p>Approx 50%</p>	
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“Difficult” Direct Measurement – Simmons

UG Program Goal #3 - PROBLEM SOLVING & ANALYTIC THINKING: Simmons graduates can analyze, think critically, and reason quantitatively in response to complex professional issues in global and technologically sophisticated environments.

Assessment Instruments

MGMT340: Written case analysis

Learning Objectives

- Use analytical skills to identify and diagnose specific organizational problem(s) and/or opportunities.
- Generate and evaluate alternative solutions
- Make actionable recommendations and associate them with actionable implementation recommendations

Trait	Exemplary (3 points)	Sufficient (2 points)	Deficient (1 point)	SCORE
Chooses appropriate analytical techniques	Uses suitable analytic technique and comes to appropriate conclusion	Uses suitable analytic technique, but does not draw conclusion, or draws inappropriate conclusion	Does not apply the appropriate analytical technique	
Performs data analysis	Analyzes data and comes to two or more appropriate conclusions	Analyzes data and comes to one appropriate conclusion	Weak or no data analysis	
Identifies or diagnoses organizational problem(s) and opportunities	Identifies more than one organizational problem or opportunity and discusses linkages between them	Identifies one organizational problem or opportunity	Does not identify organizational problem or opportunity	
Generates appropriate and creative solution(s)	Generates two or more creative and appropriate solutions	Generates one creative and appropriate solution	Does not generate creative or appropriate solutions	
Makes actionable recommendations	Generates and supports more than one actionable recommendation	Generates and supports one actionable recommendation.	Weak or no actionable recommendations	
Generates implementation recommendations	Attaches multiple recommended implementable actions to recommendations	Attaches one recommended implementable action to the recommendation	No implementation plan	
TOTAL				

Which do I use?

- A comprehensive approach to assessment can involve both **direct & indirect** measurements
- Direct:
 - Exam questions, deliverables, thesis, portfolio, etc.
 - Quickly identify curricular needs
 - Opportunity for exit assessment, pre-post test, etc.
- Indirect:
 - Current student surveys and focus groups
 - Surveys of alumni
 - Employer/recruiter feedback

Your process should match your needs and resources

- BU SMG:
 - 149 FT Faculty
 - BSBA Program; MBA Programs; Mathematical Finance; PhD
 - 2,400 UG students; 1,200 Graduate students
 - Assessment driven through existing Degree Committees
 - Target faculty support through use of deliverables & instrument design
 - Dean's office support – leadership & logistics

Your process should match your needs and resources

- Simmons College:
 - 26 FT faculty
 - MBA Program, UG Program
 - 400 Students
 - Dedicated all-faculty “Assessment Days” to review student work
 - Fosters cross-faculty collaboration & curricular understanding
 - Enhances engagement & ownership

Closing the Loop - Simmons

- Assessment sessions and discussion
- AoL reports to Curriculum Committee
 - Percent in each category for each trait
 - Conclusions of faculty discussion
 - Implications for assessment process
 - Implications for curriculum
 - Discussions with departments, program leaders
- CC reports back to AoL committee
- Assessment sessions and discussion

Lessons Learned

- Not assessing a faculty member or student – focus on the program & averages
- Validity & Sampling – can be imperfect, but justifiable
- Pre & Post test; standardized tests; teaching to the test
- Rubrics – grading vs. assessing; distribution to students
- Closing the loop – keep measurements close to the curriculum; carefully consider new addition of new assessment “structures”