

Assurance of Learning Report

A Supplement to the School of Business Continuous Improvement of
Accreditation Report

2014-2019



University of Southern Maine
School of Business
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Association to Advance Collegiate Schools of Business (AACSB-International)

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USM School of Business

2019 Assurance of Learning Report

Executive Summary

After an exhaustive review of data from recent assessments, in 2018 the Assurance of Learning (AoL) Committee concluded that the faculty could take action on several findings. The Committee's members strongly urged the faculty *not* to engage in further extensive discussion or dialogue on the nature of the AoL system in the School of Business. Rather, it concluded that enough information existed for the faculty to "close the loop," mostly with pedagogical changes but perhaps with some modest curricular changes, on many of its learning goals. The one exception to this was that various disciplines concluded that some questions on the Capstone Examination needed revision. However, a significant upcoming change in the School's undergraduate curriculum will require some adjustment to the AoL system.

Development of the Assessment of Learning and Continuous Curriculum Processes

The Beginning of the AoL Process

The School began development of its Assurance of Learning (AoL) processes during the 2004-2005 academic year. Its faculty adopted a set of learning goals for each of its programs, mapped these goals to the curriculum, and began pilot assessments. During this preliminary and experimentation phase, the faculty embedded the assessments into courses, and they were not standardized. The programs gathered data and continued to experiment with assessment methods in that year and throughout the 2006-2007 academic year. These ad hoc assessments led to three major changes. First, the School's faculty simplified its two-degree undergraduate curriculum so that a set of core courses required of all undergraduate students could function as assessment points. Second, since students were struggling most with the critical thinking goal, the faculty redesigned its quantitative offerings. Third, the faculty moved its assessment process from the experimentation phase to standardization.

During the spring semester of 2007, the faculty formed an AoL steering committee; compensation for the committee chair was a course release each semester. The committee wrote and the faculty subsequently adopted a formal assessment plan. This plan required that the faculty assess each learning goal in at least two core courses using faculty-endorsed rubrics. They would collect data at the end of the semester, and the AoL committee would compile and summarize it. At the beginning of the following semester, the committee would provide the completed report to the faculty; the faculty would widely discuss the report in faculty brown bags and at the School's curriculum conference and end-of-year retreat. The School put the first plan into effect in the fall semester of 2007. The AoL process at the School has been fundamentally unchanged since this period down to the present day, although the School's faculty has adjusted it from time to time.

Between the Fall of 2007 and the Spring of 2010, the School refined and implemented an AoL plan each semester. Some of the refinements included

- Administering a standardized program review “capstone examination” at the undergraduate level (spring 2008),
- Administering the standardized ETS MBA Field Test for the MBA program assessment (fall 2008),
- Standardizing not only the rubrics but the assessment method within courses (fall 2008),
- Reducing frequency of assessment for some objectives (fall 2009), and
- Moving to mostly fall-only data gathering and spring-only data analysis (2012).

Between 2006 and 2009, the faculty reviewed AoL data and made a number of implementation accomplishments and curricular improvements related to each learning goal. We reported these in a document accompanying our Continuous Improvement Review in 2009.

Post 2009

The University of Southern Maine underwent numerous structural changes as well as personnel and budget cuts between 2009 and 2014. Among these changes was the elimination of support for the AoL Steering Committee Chair, who previously had received a course release per semester to guide the school’s AoL efforts. The committee chair had been responsible for engaging faculty in AoL data collection, compiling the data collected each semester, providing a summary report each year to the faculty, and guiding the discussion on curriculum changes that would lead to continuous improvement.

While the School saw its AoL plan in 2009 as a high point by the AACSB review team, the post-2009 climate forced the School of Business faculty to spread the work among more faculty, with the chair of the AoL committee receiving a course release only during the two years prior to an accreditation visit. While the implementation of our plan has changed over the past ten years, our approach to AoL as an example of single-loop and double-loop organizational learning has not wavered. The single loop is application of the process of data collection used to drive and improve curriculum, pedagogy and student learning, while double loop learning examines the process itself with consideration of AACSB standards.

AoL Plan Through 2019

The University of Maine System will soon suspend the School’s MBA program, so we will discontinue AoL of that program. However, we will continue to measure learning in our undergraduate program, except that (as the reader will see in a later section) we will discontinue measurement of our Leadership learning goal. Appendix 1 shows the AoL Plan through 2020. In Fall 2020, our curriculum will change and so will our AoL system and plan. Appendix 2 shows the Curriculum Map for the School’s AoL system.

Major AoL Review in 2018

During the Spring 2018 semester, as part of the single loop process, the Assurance of Learning (AoL) Committee examined results from 2015 through 2017. Because the University of Maine System has decided to suspend the MBA program and begin offering a University of Maine MBA in Portland, the University of Maine’s AoL system will cover that program. We therefore examined only the USM School of Business Bachelor of Science program. In the sections that follow, we summarize the results and offer recommendations for change as appropriate.

We organize our report using the Undergraduate Learning Goals:

- Our students will be effective team members who know how to exercise **shared leadership**.
- Our students will be **effective communicators** in a professional setting (oral and written).
- Our students will exercise **ethical understanding and reasoning** in an organizational context.
- Our students will be **reflective, analytical thinkers** (quantitative and discipline-specific).
- Our students will demonstrate **business disciplinary competence**.

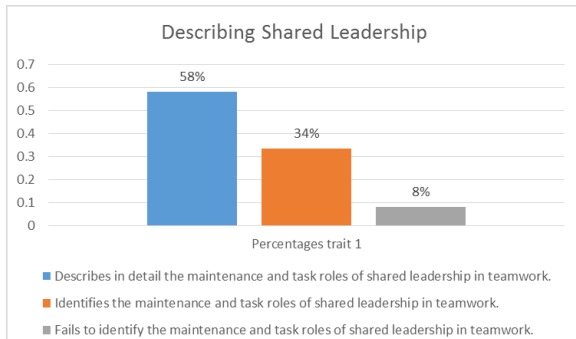


Figure 1 Results of Describing Share Leadership Assessment

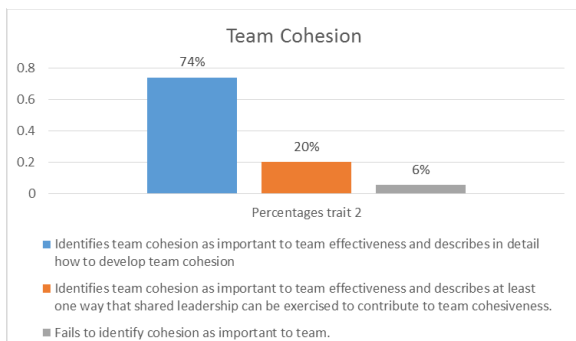


Figure 2 Results of Team Cohesion Assessment

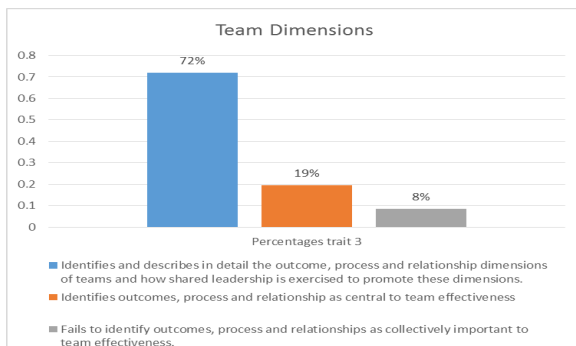


Figure 3 Results of Team Dimensions Assessment

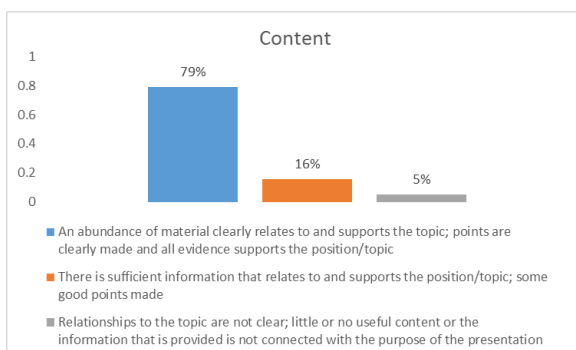


Figure 4 Oral Communication: Content

Shared Leadership

We measured this learning goal in two ways:

1. **Describing Leadership.** We set a target of 75% assessed as excellent or adequate.
2. **Demonstrating Leadership.** We set a target of 90% assessed as excellent or adequate.

Figure 1 shows that our assessments revealed that 92% of students were excellent to adequate on the Describing Leadership learning goal, exceeding the target of 75%.

Recommendation: No changes in pedagogy or curriculum for this learning goal.

Figures 2 and 3 show results of two measurements related to the Demonstrating Leadership learning goal: Team Dimensions (Figure 2) and Team Cohesion (Figure 3). The figures show that no fewer than 92% of students were excellent to adequate on these two measurements, exceeding the goal of 90%.

Recommendation: No changes in pedagogy or curriculum for this learning goal.

Effective Communication: Oral

We assessed oral communications skills along four dimensions:

1. Content
2. Coherence and Organization
3. Speaking Skills
4. Audience Response

The overall target for this learning goal was to have 75-95% score Adequate/ Excellent with 50-80% scoring Excellent.

As Figures 4 through 7 show, we met these targets for three of the four measured traits. The exception was Speaking Skills, which did not meet the target of at least 50% excellent (see Figure 6).

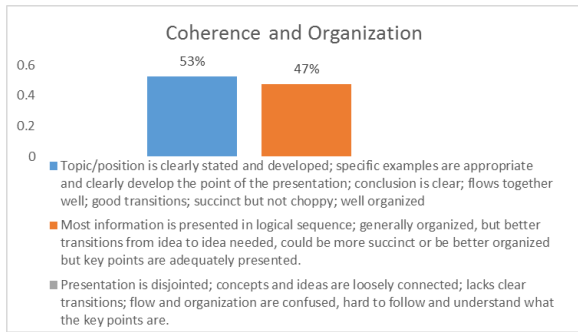


Figure 5 Oral Communication: Coherence and Organization

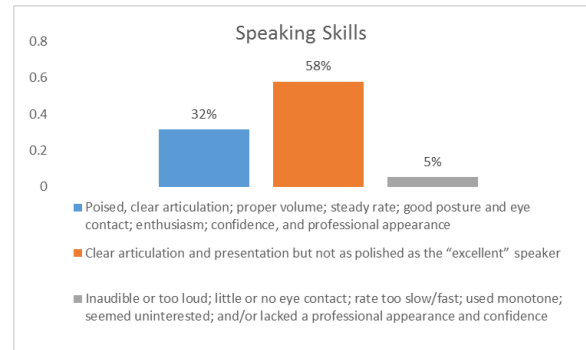


Figure 6 Oral Communication: Speaking Skills

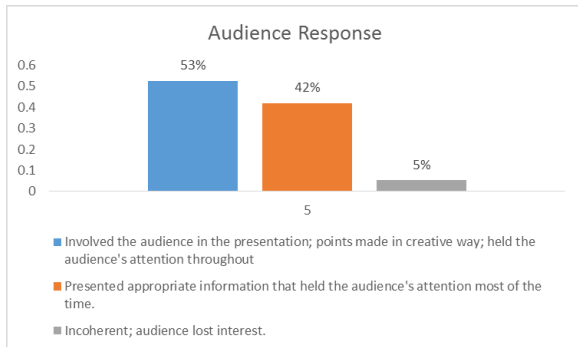


Figure 7 Oral Communication: Audience Response

Recommendation: Make a slight change in pedagogy or curriculum for this learning goal, namely, have professors mention the need to *project* and to *be fully prepared* when speaking, to *make eye contact with the audience*, *speak at a steady rate*, make an effort to show enthusiasm, and so forth.

Effective Communication: Written

The faculty assessed Written Communication along four dimensions:

- Organization & Logic:** The student's writing is well organized and flows smoothly from topic to topic. The action/decision recommendation is clear.
- Writing Style:** The student's writing is concise and direct. The writing is presented in a professional, business style.
- Grammar, Language, and Spelling:** The writing demonstrates mastery of grammatically correct structure, vocabulary, word-usage & spelling.
- Development of Ideas:** The writing explores ideas vigorously, fully-supports major points, and appropriately uses objective/ subjective evidence.

The overall target for this learning goal was to have 70% score Adequate/ Excellent. Figures 8 through 11 show partial success at hitting this target.

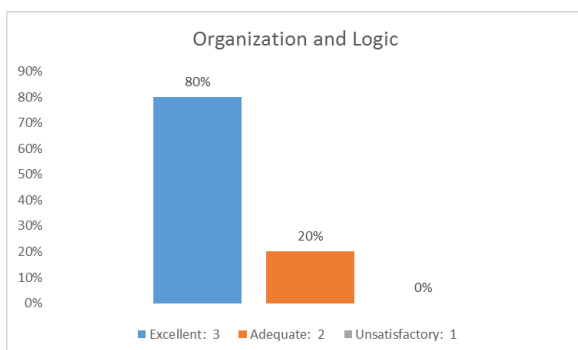


Figure 8 Written Communication: Organization and Logic

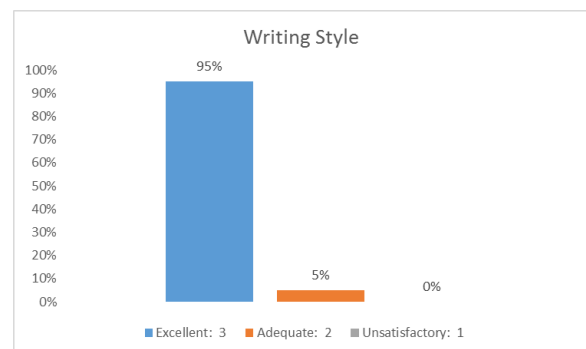


Figure 9 Written Communication: Writing Style

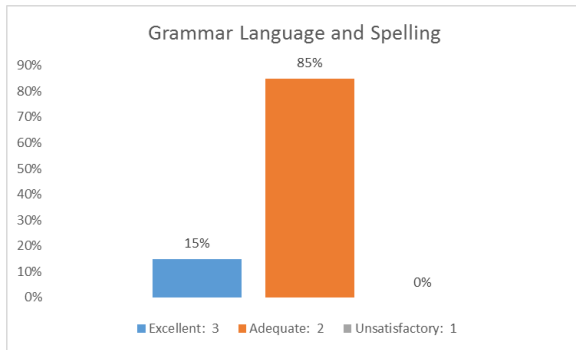


Figure 10 Written Communication: Grammar, Language and Spelling

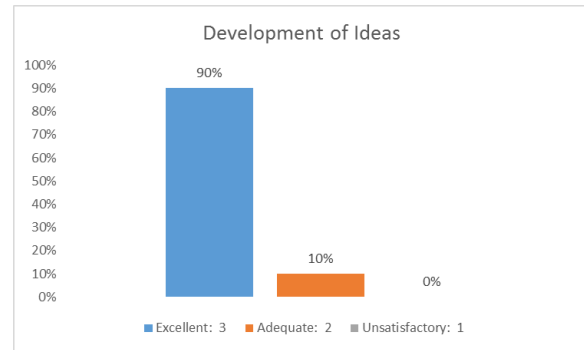


Figure 11 Written Communication: Development of Ideas

Figure 10 shows the problem area for this assessment: Grammar, Language and Spelling.

Recommendation: Work with the Department of English or the Learning Commons at both the Portland and Gorham USM Libraries on a “refresher” course on grammar, language and spelling. In addition, SB faculty should remember to give students feedback on grammar, language and spelling when evaluating their written work.

Ethics

The faculty assessed Ethics along four dimensions:

1. Identification of alternative courses of action
2. Identification of stakeholders
3. Evaluation of the ethics of each alternative using ethical principles. Undergraduates will apply ethical principles arising out of moral rights, justice and utilitarianism.
4. Selection of an appropriate course of action

The overall target for this assessment was to have 75-90% of students score Adequate to Excellent with at least 25% scoring Excellent. Figures 12 through 15 show that the students met this target.

Recommendation: Faculty assessing ethics should emphasize the nature of the three ethical frameworks and should explain how to implement courses of action.

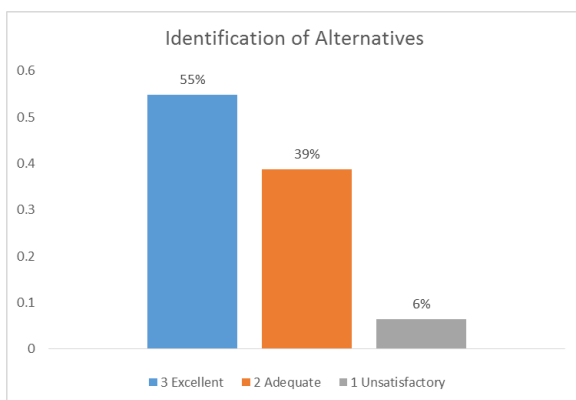


Figure 12 Ethics: Identification of Alternatives

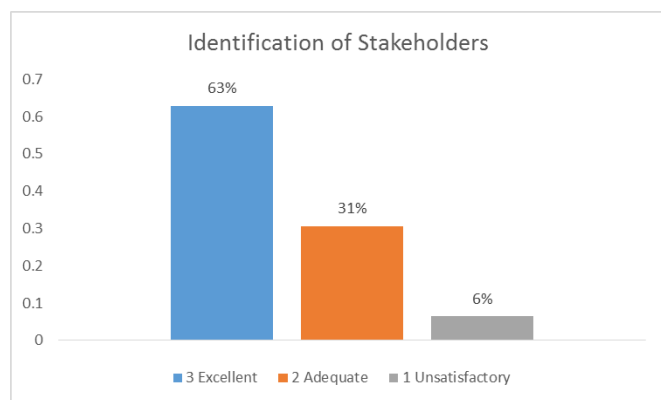


Figure 13 Ethics: Identification of Stakeholders

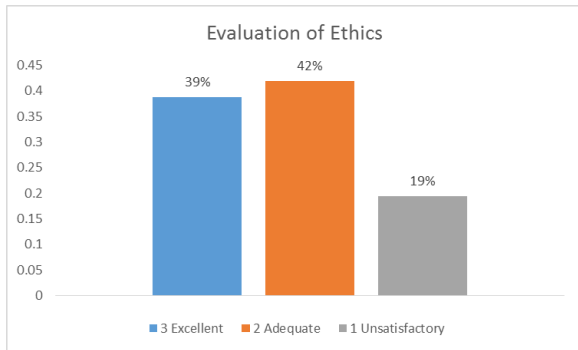


Figure 14 Ethics: Evaluation of Ethics

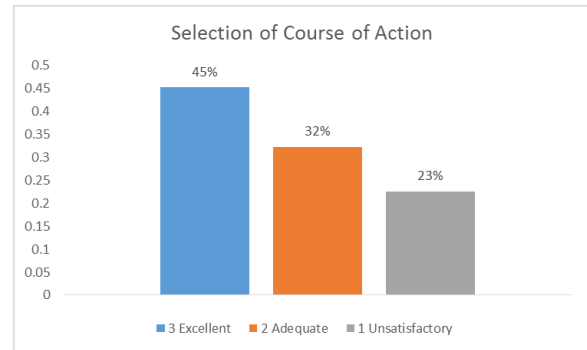


Figure 15 Ethics: Selection of Course of Action

Quantitative Analysis

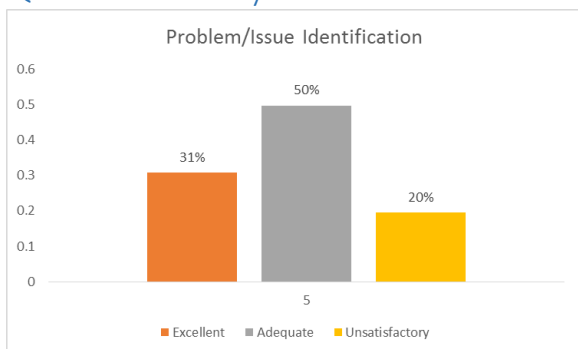


Figure 16 Quantitative Analysis: Problem/Issue Identification

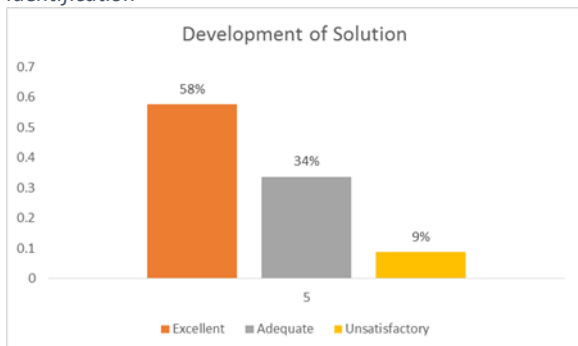


Figure 17 Quantitative Analysis: Development of Solution

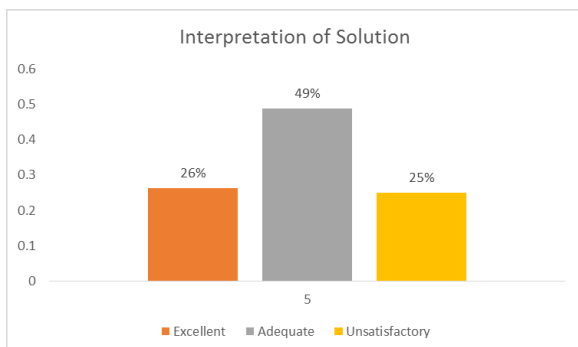


Figure 18 Quantitative Analysis: Interpretation of Solution for this learning goal, by putting greater

The faculty assessed Quantitative Analysis along four dimensions:

1. Problem / Issue Identification
2. Development of Solution
3. Interpretation of Solution
4. Sensitivity Analysis

The overall target for this assessment was to have 75% or more of the students score Adequate to Excellent. Figures 16 through 19 show that the students met this target for three of the four dimensions, with Sensitivity Analysis falling short by a significant margin (see Figure 19). The histograms

in Figures 16 and 18 show that the percentage of our students achieving excellence in Problem/Issue Identification and Interpretation of Solution is relatively low, while the ratio of our students having unsatisfactory performance in the two categories of quantitative skills is relatively high.

Recommendation: Make a slight change in pedagogy

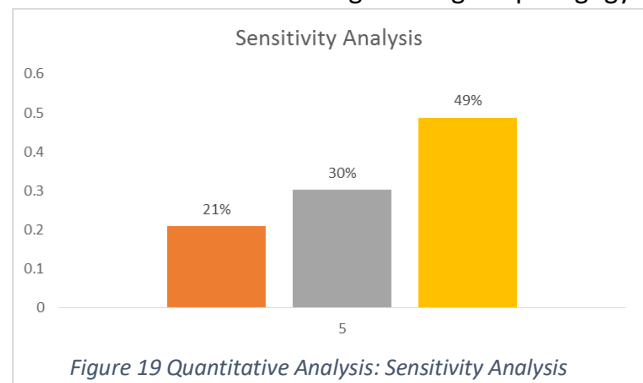


Figure 19 Quantitative Analysis: Sensitivity Analysis

emphasis on sensitivity analysis. Make changes in pedagogy by emphasizing basic analytical and reporting skills.

Discipline-Specific Problem Solving

The faculty assessed Discipline-Specific Problem Solving along three dimensions:

1. Selection of Relevant Information
2. Application of Analysis Framework
3. Interpretation of Solution

The overall target for this assessment was to have 75% or more of the students score Adequate to Excellent. Figures 20 through 22 show that the

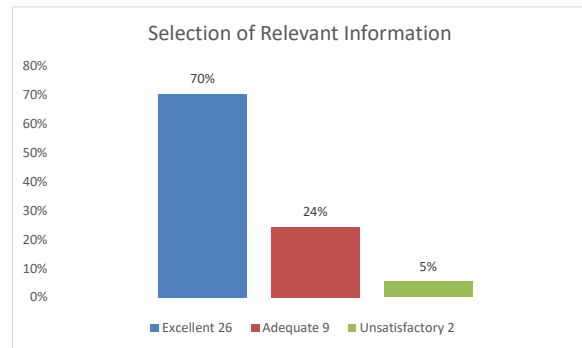


Figure 20 Discipline-Specific Problem Solving: Selection of Relevant Information

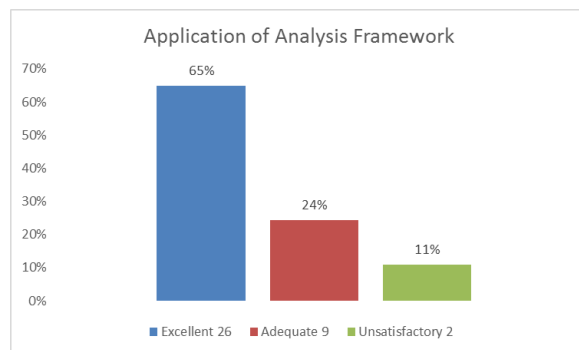


Figure 21 Discipline-Specific Problem Solving: Application of Analysis Framework

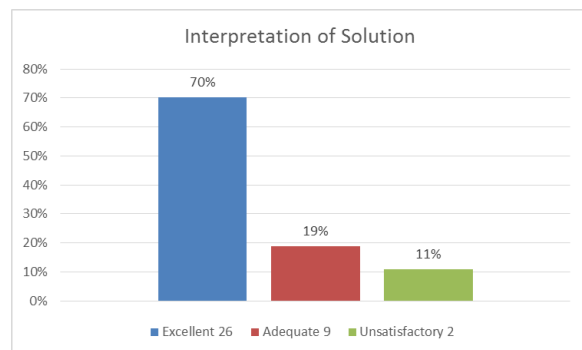


Figure 22 Discipline-Specific Problem Solving: Interpretation of Solution

students met this target for all three dimensions.

Recommendation: No pedagogical or curricular changes.

Disciplinary Competence

The faculty assessed Disciplinary Competence using the Capstone Exam, and 80-question multiple-choice examination administered in the senior Business Policy and Strategy course. It asks ten questions in each of eight disciplinary areas:

1. Accounting
2. Ethics
3. Finance
4. International Business
5. Management
6. Management Information Systems
7. Marketing
8. Operations Management

The faculty set a target of 75% correct in each disciplinary area. As Figure 23 shows, we failed to meet this target in seven out of eight areas. Only Marketing, with an average score of 78%, met the target. Ethics and Management were close, at 70% and 69% respectively, but did not meet the target.

Appendix 3 gives more detail about Capstone Examination aggregate scores for the most recent five cohorts of students who took it. Appendix 4 contains figures showing a summary of aggregated capstone examination data by subfields and cohorts.

Table 1 shows, for the most recent six cohorts who took the exam, the three questions in each discipline on which students performed the worst.

The committee recommended that discipline groups meet to go over the three questions on which students performed worst and either (1) change the question if it is outdated or otherwise flawed or (2) consider pedagogical or curricular changes to remedy poor student performance on those questions. All of the eight discipline groups met, and six of them revised fifteen questions across the disciplines.

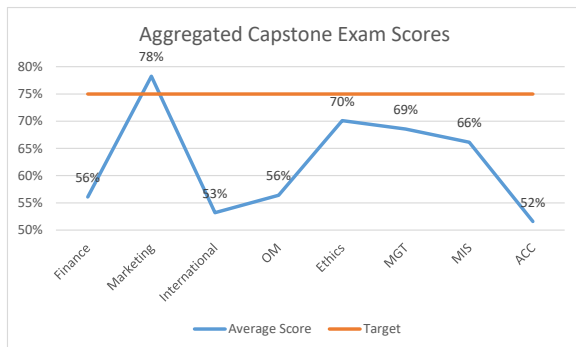


Figure 23 Disciplinary Competence: Aggregated Capstone Exam Scores (Scores aggregated 2015-2017)

Table 2 shows the results of the revisions in the Capstone Exam. Twelve of the fifteen revised questions resulted in better scores. Of the three questions with worse scores, one, International, is virtually the same and two, both in MIS, showed significantly worse scores. Clearly, the faculty members in MIS will have to revisit their changed questions or alter how they teach the topics assessed in those questions.

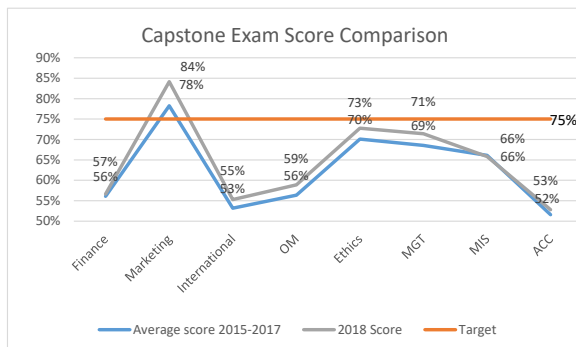


Figure 24 Disciplinary Competence: Revised Capstone Exam Scores Fall 2018

However, Figure 24 shows that, overall, results on the revised capstone exam, except for MIS (which was unchanged), improved compared to the 2015-2017 period.

Table 1. Three Worst-Performing Questions by Discipline and Cohort

Cohorts	Question rank	FIN	Mktg	Int'l	OM	Ethics	MGT	MIS	ACC
M 2015	1	4	14	30	36	50	59	61	79
	2	10	18	23	38	49	57	63	75
	3	6	11	22	40	41	51	66	74
E 2015	1	4	14	22	35	44	57	61	74
	2	10	15	23	40	43	56	63	79
	3	6	18	30	38	45	51	66	75
M 2016	1	4	14	30	35	44	57	61	74
	2	10	18	23	40	43	59	63	79
	3	6	12	21	33	50	56	62	80
E 2016	1	4	14	30	40	47	57	61	74
	2	10	18	23	37	49	59	63	75
	3	6	13	22	38	46	56	66	79
M 2017	1	4	14	30	36	50	59	61	79
	2	10	18	23	38	49	57	63	75
	3	6	11	22	40	41	51	66	74
E 2017	1	4	14	22	37	44	57	61	74
	2	10	18	23	36	43	59	63	77
	3	6	15	21	35	45	53	62	75

Table 2. Comparison of Old and Revised Capstone Exam Questions

	Finance		Marketing		International	Management		
Question	4	10	14	18	23	56	57	59
Old	13%	41%	40%	54%	25%	56%	46%	49%
Revised	<u>47%</u>	<u>69%</u>	<u>78%</u>	<u>92%</u>	<u>23%</u>	<u>72%</u>	<u>69%</u>	<u>61%</u>
Change	34%	28%	38%	38%	-2%	16%	23%	12%
	MIS			Accounting				
Question	61	63	66	68	71	74	75	
Old	22%	32%	56%	75%	67%	13%	29%	
Revised	<u>53%</u>	<u>83%</u>	<u>17%</u>	<u>33%</u>	<u>89%</u>	<u>14%</u>	<u>33%</u>	
Change	31%	51%	-39%	-42%	22%	1%	4%	

Comparisons are from Fall 2017 ("old") and Fall 2018 ("revised")

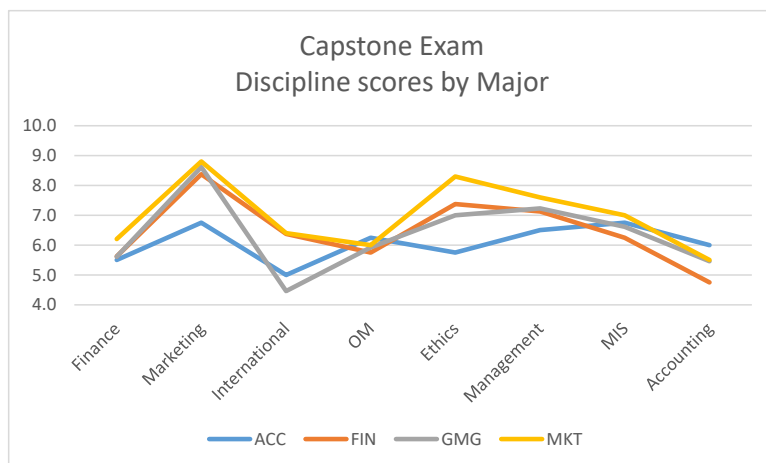


Figure 25 Capstone Exam Scores by Discipline and Major, Fall 2018

To gauge the effect of major on discipline scores on the Capstone Exam, the committee analyzed the results of its most recent administration, Fall 2018. The committee hypothesized that Accounting majors would score higher in Accounting, Finance majors higher in Finance, and so forth. Figure 25 and Table 3 show the results of the analysis, which only partially supported these hypotheses.

Accounting majors *did* score higher on Accounting questions than other majors did, but all majors scored poorly on those questions. Accounting majors also scored the highest (barely) on Operations Management, but lowest on Ethics. Oddly, Finance majors scored worst on Accounting questions and Accounting majors scored worst on Finance questions. It is interesting to note that Marketing majors outscored other majors on the six remaining disciplines' questions (including, of course, Marketing).

Table 3. Capstone Exam Scores by Discipline and Major, Fall 2018

	Finance	Marketing	International	OM	Ethics	Management	MIS	Accounting
ACC	5.5	6.8	5.0	6.3	5.8	6.5	6.8	6.0
FIN	5.6	8.4	6.4	5.8	7.4	7.1	6.3	4.8
GMG	5.6	8.6	4.5	5.9	7.0	7.2	6.6	5.5
MKT	6.2	8.8	6.4	6.0	8.3	7.6	7.0	5.5

Statement on Capstone Exam and USM School of Business Student Body

Despite all the information in the previous section of this report, the AoL committee has concerns about the current process for administering the Capstone Exam. One major problem with the current model is that approximately half the students in upper-level courses in the School are transfer students. Most of them have not taken the relevant material at the School. This typically includes both required Accounting courses, the introductory Marketing course, the introductory Legal Environment of Business course (which introduces Ethics), and two foundation courses in algebra and statistics. This means that approximately half the questions on the Capstone Exam cover material that about half the students did not take at the School.

Furthermore, unlike the regular learning objectives, where the curriculum introduces, reinforces and then assesses the relevant subject matters, the disciplinary areas get uneven treatment:

- The curriculum covers Accounting in two courses that non-Accounting majors take early in their careers, with no subsequent reinforcement. As mentioned earlier, *about half the students taking the Exam did not take those courses at USM*. Furthermore, even among students who took the courses here, only accounting majors get any reinforcement; for most students, the

two accounting courses are at least two years in the past, and for our numerous non-traditional students, even further in the past. These things may account for the low scores in Accounting.

- In the School's core curriculum, students take courses in several disciplines during their third or fourth years at the School:
 - In Ethics, they have only some reinforcement (two class sessions of case discussion, lecture and written refresher materials) in the Business Policy and Strategy course.
 - In Management, they take two courses: Organization Behavior (usually third year) and Business Policy and Strategy (usually fourth year). The second course only minimally reinforces the first.
 - In MIS, they take one course, with no further reinforcement.
 - In Finance, they take one course, with no further reinforcement.
 - In International, they select one course from a list of possibilities, with little to no reinforcement.
 - In Operations Management, they take two courses, although some of the students may take the second course *after* taking the course in which they sit for the Capstone Exam.
 - Students take no additional courses in Marketing, but a very large number of students either are Marketing majors or Business Management majors who take several Marketing courses as part of the major's distribution requirement.

This pattern of taking of courses may explain why Capstone Exam scores in Marketing and Ethics (reinforced) and Management (taken somewhat recently) are relatively high, while scores in Accounting, Finance, International, MIS and Operations Management (all five areas are either distant in time, not reinforced, or both) are relatively low. However, as mentioned earlier, even Accounting majors scored relatively low on Accounting.

The AoL committee discussed possibilities for remedying these issues:

1. Ask the Capstone Exam questions for Accounting in the final week of the second Accounting course.
2. Ask the Capstone Exam questions for Operations Management in the final week of the Production and Operations Management course (which is the second OM course).
3. Ask the Capstone Exam questions for Finance, International, and MIS in the final week of their respective core courses.
4. Ask the Capstone Exam questions for Ethics, Management and Marketing at the end of the capstone strategy course.
5. Adopt the ETS Field Test in Business as the Capstone Exam.

Items 1-4, which would correct for memory issues, are not mutually exclusive with item 5. The ETS Field Test in Business would mitigate at least two problems with the School's current Capstone Exam:

1. Currently, we can only "norm" against previous test-takers. The ETS Field Test would norm against the international universe of those who take the test in a given year. (The one time the School did this, as an experiment, it found that its students scored above the 90th percentile on all areas measured.) The point is that our old and revised Exam shows that our students have hit a ceiling that is short of our arbitrary target of seventy-five percent correct, when they may actually be achieving at a high level relative to students elsewhere.

2. Since the ETS Field Test in Business is not dependent on the specifics of what any given program covered, it would measure how well our final-year students know business subject matter, regardless of whether they took it at the School or transferred it in.

Conclusion and Summary of Recommendations

After an exhaustive review of data from recent assessments, the Assurance of Learning (AoL) Committee made some findings and concluded that the faculty can take action on several of those findings. The Committee's members strongly urge the faculty *not* to engage in further extensive discussion or dialogue on the nature of the AoL system in the School of Business, with three exceptions:

1. Dropping the Leadership assessment.
2. Revising the AoL system after the implementation of the new curriculum.
3. Considering changes to how it administers the Capstone Exam, and considering the use of the ETS Field Test in Business as an alternative or a supplement.

Rather, enough information exists for the faculty to “close the loop,” mostly with pedagogical changes, on many of its learning goals.

Summary of Findings

The faculty has **met its AoL targets** for the following learning goals:

- Describing Leadership
- Demonstrating Leadership
- Oral Communication—three of the four dimensions.
- Written Communications—three of the four dimensions.
- Ethics
- Quantitative Analysis—three of the four dimensions.
- Discipline-Specific Problem Solving
- Disciplinary Competence in Marketing

The faculty has **not** met its AoL targets for the following learning goals:

- Oral Communication—Speaking Skills
- Written Communication—Grammar, Language and Spelling
- Quantitative Analysis—Sensitivity Analysis
- Disciplinary Competence in Accounting
- Disciplinary Competence in Ethics
- Disciplinary Competence in Finance
- Disciplinary Competence in International Business
- Disciplinary Competence in Management
- Disciplinary Competence in Management Information Systems
- Disciplinary Competence in Operations Management

Summary of Recommendations

- We recommend deleting the Leadership learning goal, as it no longer is part of the School's mission.
- Make a slight change in pedagogy or curriculum for the Oral Communication learning goal, namely, to make eye contact with the audience, speak at a steady rate, make an effort to show enthusiasm, and so forth.
- Work with the Department of English or the Learning Commons at both the Portland and Gorham USM Libraries on a "refresher" course on grammar, language and spelling to improve the weak area of the Written Communication learning goals. In addition, SB faculty should remember to give students feedback on grammar, language and spelling when evaluating their written work.
- Faculty assessing Ethics should emphasize the nature of the three ethical frameworks and the implementation of courses of action.
- Make a slight change in pedagogy for the Quantitative Analysis learning goal, by putting greater emphasis on sensitivity analysis. Make changes in pedagogy by emphasizing basic analytical and reporting skills.
- Make no pedagogical or curricular changes for the Discipline-Specific Problem Solving learning goal.
- Implement the following approach to the Capstone Exam:
 - Ask the Capstone Exam questions for Accounting in the final week of the second Accounting course.
 - Ask the Capstone Exam questions for Operations Management in the final week of the Production and Operations Management course (which is the second OM course).
 - Ask the Capstone Exam questions for Finance, International, and MIS in the final week of their respective core courses.
 - Ask the Capstone Exam questions for Ethics, Management and Marketing at the end of the capstone strategy course.
 - Adopt the ETS Field Test in Business as the Capstone Exam.

The Future of AoL at the USM School of Business

Three major developments affect the future of the AoL system at the School:

1. The adoption of a new mission statement.
2. The suspension of the MBA program and the launch in Portland of the "OneMBA" by the University of Maine's Maine Business School.
3. The adoption of a new undergraduate curriculum.

Implications of New Mission Statement

The new mission statement no longer includes mention of leadership as a key element of the school's efforts. Therefore, the committee strongly recommends dropping it from the School's AoL assessment plan, effective Fall 2019.

Implications of MBA Program Transition

Since management of the new “OneMBA” will be the responsibility of the Maine Business School at the University of Maine, and since School consequently will suspend its MBA, the committee strongly recommends that the School discontinue all AoL assessments in the MBA program.

Implications of the New Undergraduate Curriculum

As of this writing, the School plans to introduce a new undergraduate curriculum in Fall 2020. This has three implications:

1. The School should follow through with its 2014-2020 AoL plan, assessing the following learning goals in the following courses:
 - a. Ethical Implications: BUS 280, BUS 450
 - b. Quantitative Analysis: BUS 301, BUS 375
 - c. Discipline Specific Problem Solving: ACC 211
 - d. Disciplinary Competence: BUS 450 (Capstone Exam)
 - e. Oral Communications: **not scheduled in 2014-2020 plan**
 - f. Written Communications: **not scheduled in 2014-2020 plan**

Since these areas are consistent with the new mission statement, the School should plan to continue assessing these learning goals on a bi-yearly basis.

2. The School should revise its learning goals to include two areas central to its new mission, and should begin assessing them in Fall 2021:
 - a. Entrepreneurship
 - b. Business technologies

APPENDIX 1: 2020 USM School of Business 2014-2020 Assessment of Learning Plan

Please note that this plan reflects the suspension of the MBA program at USM. The University of Maine will deliver new program in Portland and will assume responsibility for its AoL.

Undergraduate Learning Goals

1. Our students will be effective team members who know how to exercise shared leadership.
2. Our students will be effective communicators in a professional setting.
3. Our students will exercise ethical understanding and reasoning in an organizational context.
4. Our students will be reflective, analytical thinkers.
5. Our students will demonstrate business disciplinary competence.

Assessment/AOL Tools

The USM School of Business uses two direct measures to assess our program and student learning. We discuss these measures below.

Direct Measures

1. *Student Data Collection*—Specific embedded course assignments are collected and scored using standardized rubrics. Allows for the longitudinal measurement of our goals/objectives and the evaluation/effectiveness of curricular and pedagogical changes.
2. *Capstone Exam*--An 80-item test covering all discipline areas, which is administered to all students nearing graduation each calendar year. The Exam allows for discipline-specific evaluation.

Undergraduate Assessment Schedule

Goal/Objective	Assess	Implement Improvements	Courses	Tool	Target
1.1 Describe Leadership Note: deleted by faculty vote May 17, 2019	2015, 2018	2016-2017, 2019-2020	BUS 340	Multiple Choice Assessment Form/ Describe Leadership Rubric	75% \geq Adequate/ Excellent
1.2 Demonstrate Leadership Note: deleted by faculty vote May 17, 2019	2015, 2018	2016-2017, 2019-2020	BUS 340	Demonstrate Leadership Rubric	90% \geq Adequate/ Excellent

2.1 Oral Communication	2015, 2018	2016- 2017, 2019-2020	BUS 345	Presentation/ Oral Communication Rubric	75-95% \geq Adequate/ Excellent; 50-80% \geq Excellent
2.2 Written Communication	2015, 2018	2016- 2017, 2019-2020	BUS 450	Written Communication Rubric	70% \geq Adequate/ Excellent
3.1 Ethical Implications	2016, 2019	2015-2017, 2018-2020	BUS 280, BUS 450	Ethics Rubric	75-90% \geq Adequate/ Excellent; 0-25% \geq Excellent
4.1 Quantitative Analysis	2016, 2019	2015-2017, 2018-2020	BUS 370, BUS 375	Exam/ Quantitative Analysis Rubric	75% \geq Adequate/ Excellent
4.2 Discipline Specific Problem Solving	2016, 2019	2015-2017, 2018-2020	ACC 211	Discipline Specific Analysis Rubric	75% \geq Adequate/ Excellent
5.1 Disciplinary Competence	2015, 2017, 2019	2016, 2018, 2020	BUS 450	Capstone Exam	75% accuracy in each discipline

APPENDIX 2. Curriculum Map

	English	Macroeconomics	Microeconomics	College Algebra	Business Algebra	Public Speaking	Managerial Accounting	Financial Accounting	Applied Bus. Analysis	Marketing	International Finance	Business Law	International Finance	International Bus.	Information Tech/MIS	Org. Behavior	Business Analytics	Management Science	Production/Operations Mgmt.	International Bus. Law	Bus. Policy/Strategy	Intro to Organizational Change	Management Accounting	Ethical an
	ENG 100	ABU 190	ECO 101	ECO 102	MAT 108	MAT 210	THE 170	ACC 110	ACC 211	BUS 260	BUS 275	BUS 280	FIN 320	*FIN 330	*BUS 335	BUS 340	BUS 345	*BUS 361	BUS 301	BUS 375	BUS 382	BUS 450		
B.S. BA Non-Business Core & Business Core Map																								
I=Introduced; R=Reinforced; E=Emphasized																								
Undergraduate Goals & Objective																								
Goal #1 Our students will be effective team members who know how to exercise shared leadership																								
<i>Obj 1.1 Describe Leadership:</i> Students will describe how shared leadership is exercised in teamwork.																I								R
<i>Obj 1.2 Demonstrate Leadership:</i> Students will demonstrate shared leadership in teamwork.																I								R
Goal #2 Our students will be effective communicators in a professional setting																								
<i>Obj 2.1 Oral Communication:</i> Students will give a formal oral presentation in front of a class of their peers that is poised, confident, and factual. This presentation should have an impact on their course grade.							I						R	R			R	R					R	R
<i>Obj 2.2 Written Communication:</i> Students will write text that explains business issues in well organized, concise, grammatically correct language that is understandable by a reasonable informed audience	I																							
Goal #3 Our students will exercise understanding and reasoning in an organizational context																								
<i>Obj 3.1 Ethical Implications:</i> Students will analyze the ethical implications of business decisions by identifying alternative courses of action and by evaluating the merits of each alternative using ethical principles in ways that consider stakeholder interests.												I												R
Goal #4 Our students will be reflective, analytical thinkers																								
<i>Obj 4.1 Quantitative Analysis:</i> Students will analyze a business problem using at least one quantitative tool.					I	I					R									R	R			
<i>Obj 4.2 Discipline-Specific Problem Solving:</i> Students will identify alternative solutions to problems, evaluate the alternatives and select the best solutions citing or applying appropriate professional and/or conceptual principles to support their recommendations.								I	R	R				R							R			
Goal #5 Our students will demonstrate business disciplinary competence.																								

APPENDIX 3: Summary of the aggregated data - average performance on all questions by cohort

The data sets provide each student’s performance (i.e., the proportion of questions a student answered correctly) and the descriptive statistics of each cohort. To explore further the trend of performance by cohort, we provide the following tables and graphs using descriptive statistics and visualizations. (Please note that we will make the test questions themselves available in a separate document, for security purposes.)

We created the following tables to illustrate the longitudinal trend of student performance in different cohorts ((M – morning, E – evening, D – Day): UGM 2015, UGE 2015, UGD 2016, UGE2016, UGM2017, and UGE2017)). For instance, in 2015, the mean value for the Undergraduate Major in Management is 0.65, which suggests that students from the morning session who take the capstone class got an average of 65% for all 80 questions.

The mean values indicate that except some minor fluctuations, we have seen the majority of students to be achieving our academic goals.

We also built some charts to reveal the proportion of students above or below the average. Diverging bar charts are used for this purpose. The divergences are used to identify if the values are moving to the same side or direction, that is, above or below the average, which is a strong indication of identify or non-identity. The values align to each other above or below a zero line. That being said, all of the below-average values or the standardized negative values are stacked in reverse order below the chart's zero line or the axis baseline, vice versa.

The Histograms with Normal Curves are usually recognized as a quality control or assurance tool. The graphs for each cohort are presented to show how we are doing in terms of quality control or assurance (i.e., the distribution and variation of each cohort). In all, we found that the performance follows a normal distribution curve. It seemed that for 2016 and 2017, there is a greater dispersion of the data around the mean.

UGM 2015

n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
30	0.65	0.1	0.65	0.66	0.08	0.38	0.82	0.45	-0.53	0.47	0.02

UGE 2015

n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
34	0.65	0.1	0.66	0.65	0.11	0.4	0.86	0.46	-0.19	-0.15	0.02

UGD 2016

n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
34	0.62	0.16	0.66	0.64	0.15	0.28	0.84	0.56	-0.72	-0.54	0.03

UGE2016

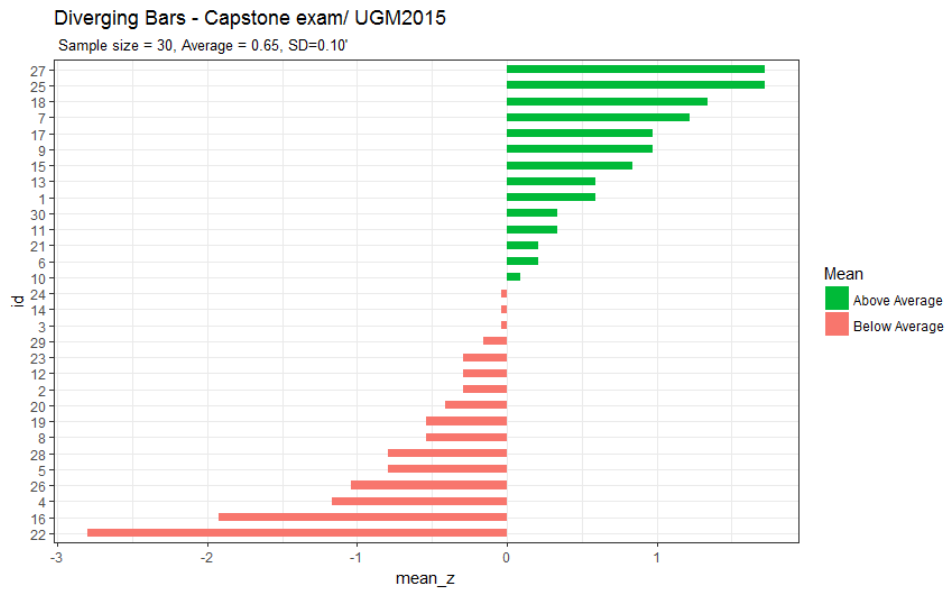
n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
31	0.62	0.17	0.62	0.63	0.19	0.24	0.89	0.65	-0.48	-0.61	0.03

UGM2017

n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
28	0.58	0.15	0.61	0.58	0.11	0.26	0.86	0.6	-0.51	-0.24	0.03

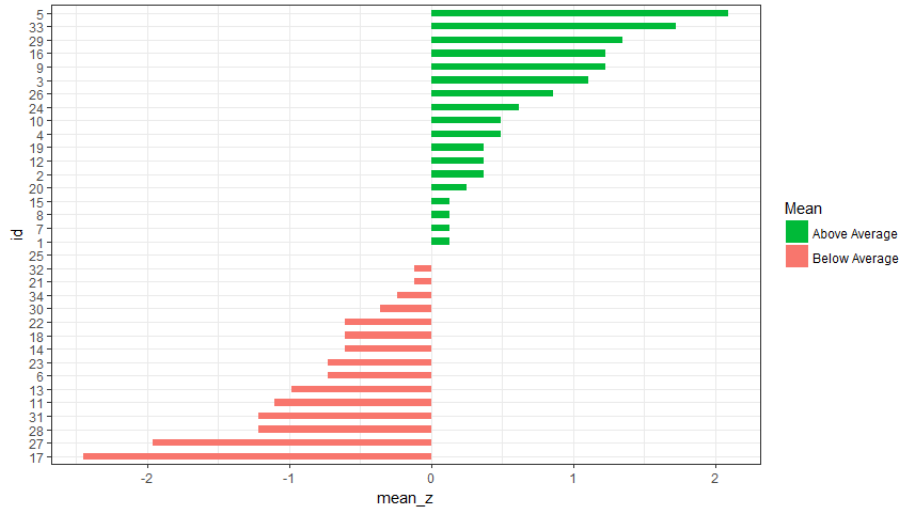
UGE2017

n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
35	0.61	0.16	0.61	0.61	0.13	0.2	0.92	0.73	-0.16	-0.05	0.03



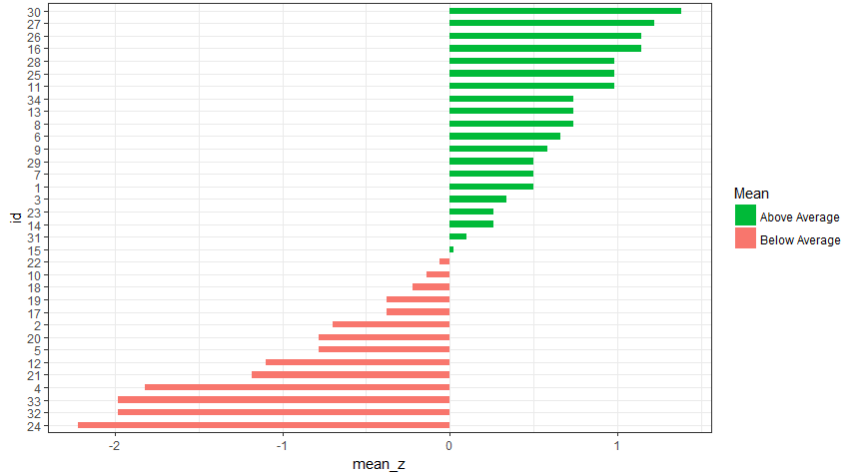
Diverging Bars - Capstone exam/ UGE2015

Sample size = 34, Average = 0.65, SD=0.1'



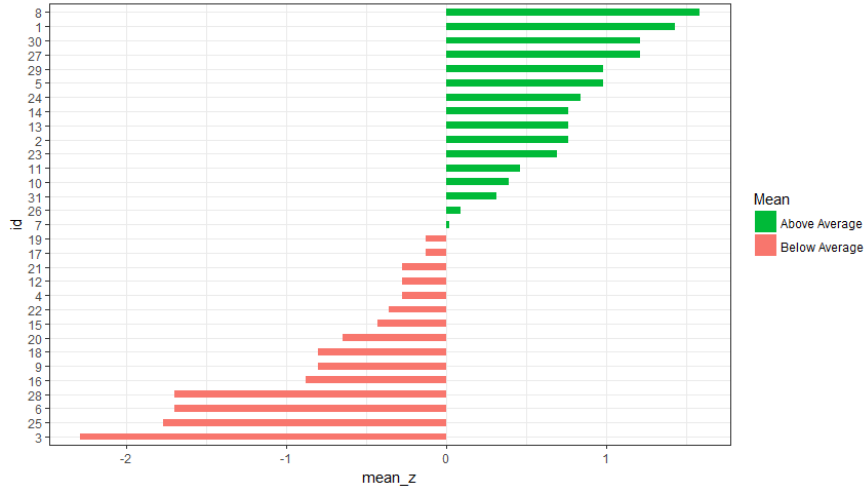
Diverging Bars - Capstone exam/ UGD2016

Sample size = 34, Average = 0.62, SD=0.16'



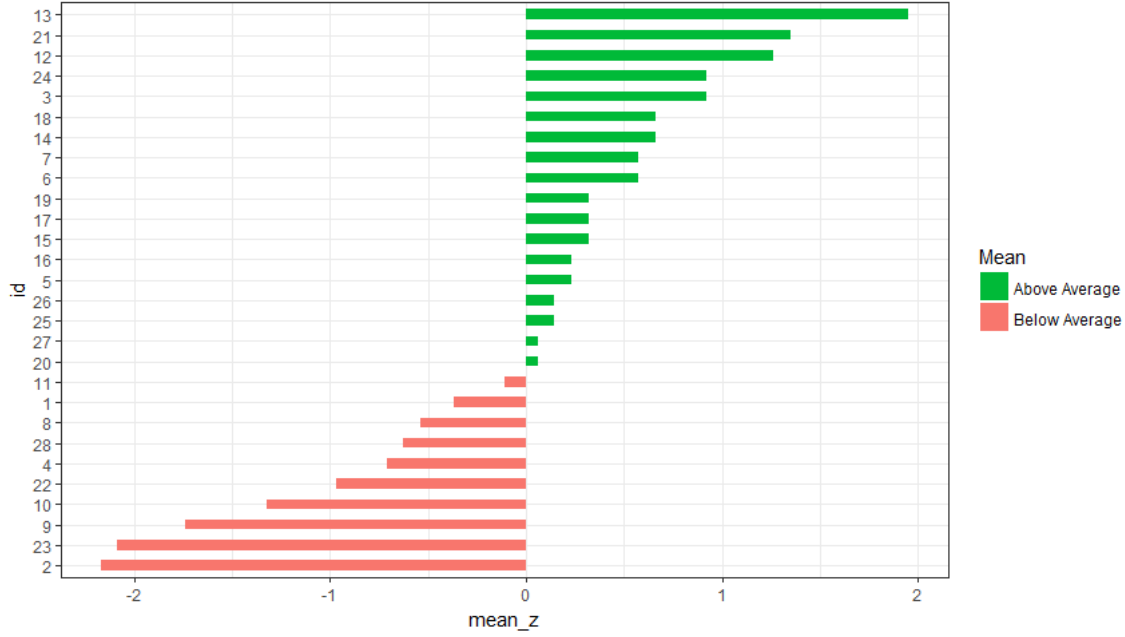
Diverging Bars - Capstone exam/ UGE2016

Sample size = 31, Average = 0.62, SD=0.17'



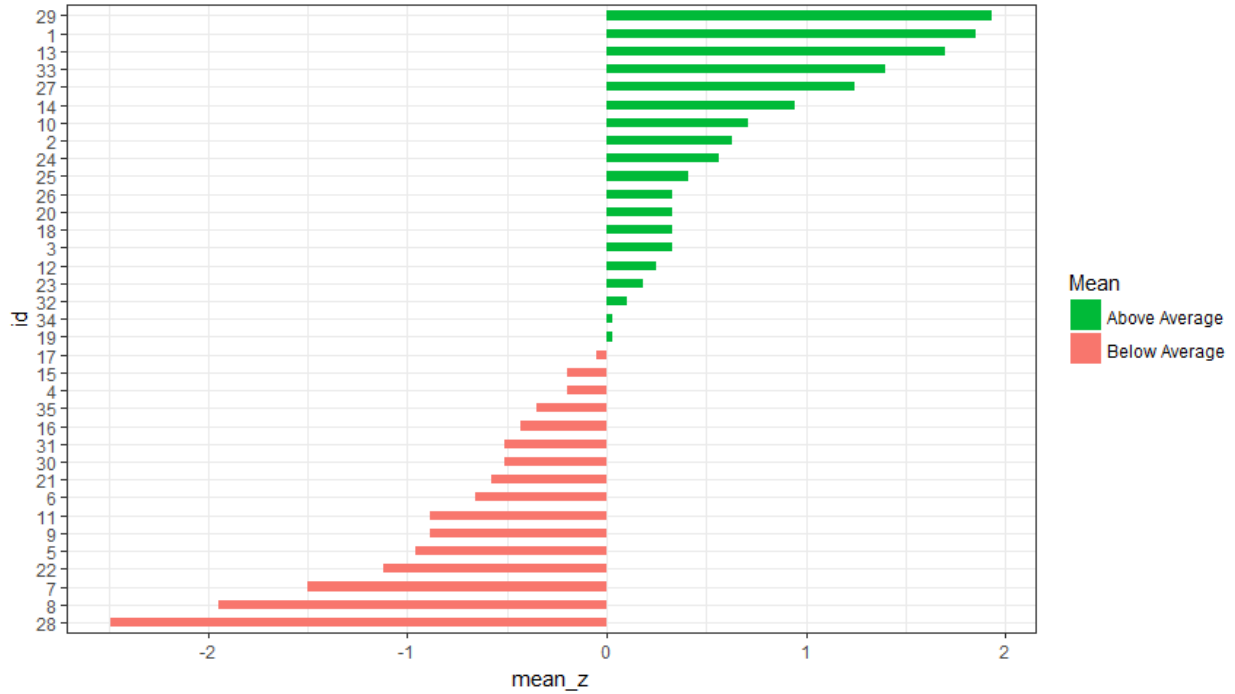
Diverging Bars - Capstone exam/ UGM2017

Sample size = 28, Average = 0.58, SD=0.15'

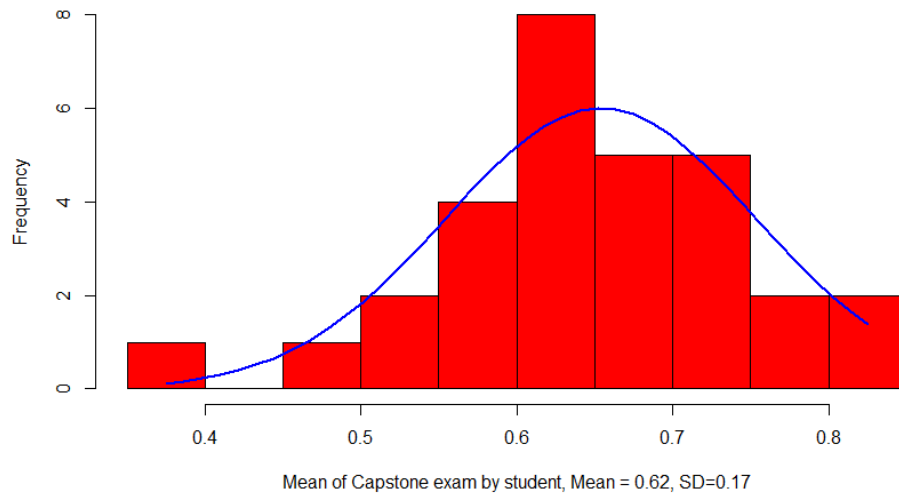


Diverging Bars - Capstone exam/ UGE2017

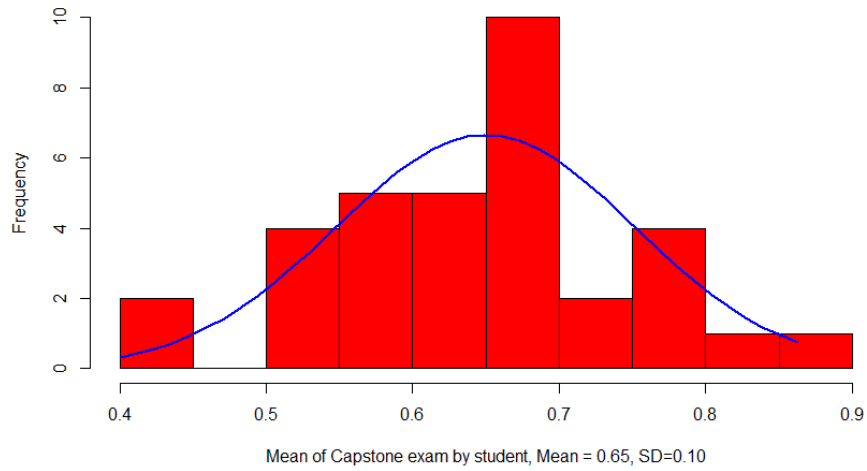
Sample size = 35, Average = 0.61, SD=0.16'



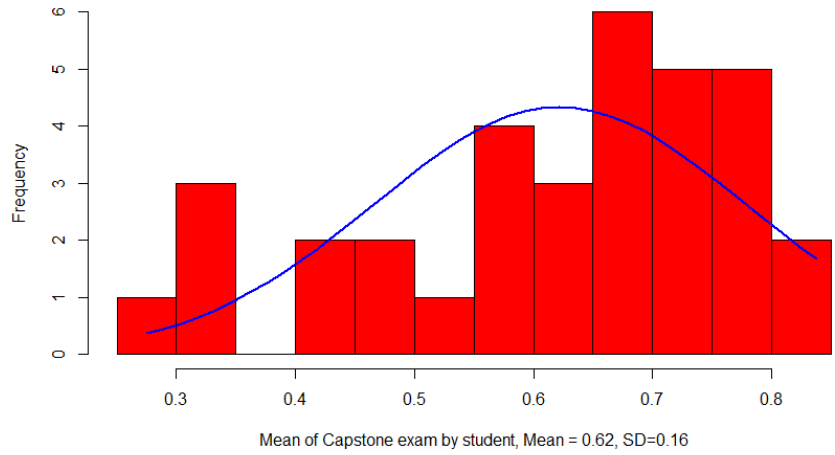
Histogram with Normal Curve-Capstone exam/ UGM2015, Sample Size = 30



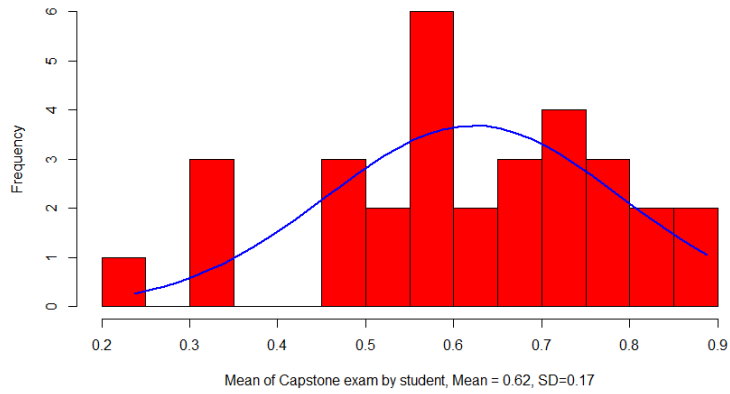
Histogram with Normal Curve-Capstone exam/ UGE2015, Sample Size = 34



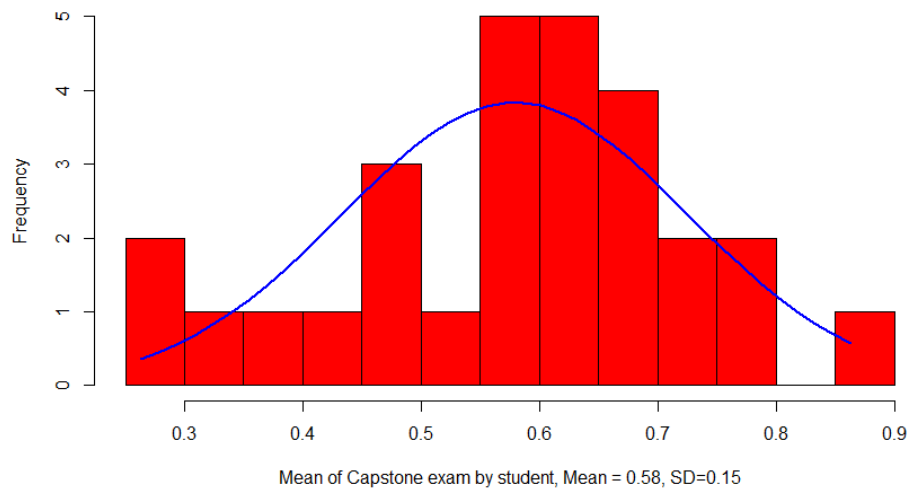
Histogram with Normal Curve-Capstone exam/ UGD2016, Sample Size = 34



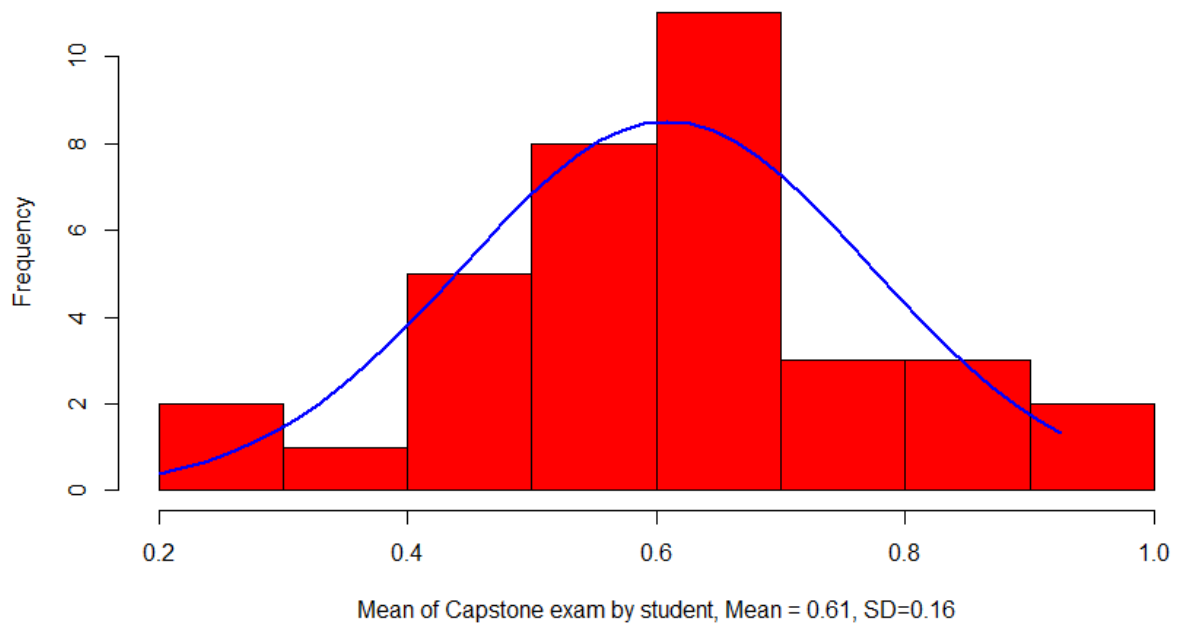
Histogram with Normal Curve-Capstone exam/ UGE2016, Sample Size = 31



Histogram with Normal Curve-Capstone exam/ UGM2017, Sample Size = 28



Histogram with Normal Curve-Capstone exam/ UGE2017, Sample Size = 35



APPENDIX 4: Summary of Aggregated Capstone Examination Data by Subfields and Cohorts

The following three graphs show the aggregated performance in different subfields over time. For instance, the first 10 questions is the block for the finance subfield.

The following line charts were created to illustrate the longitudinal trend of student performance for different cohorts in different subfields. The horizontal axes represent the cohorts represented in the sample. The vertical axes represent the average student performance in different subfields.

For instance, in the first picture, the line chart shows how the performance in different subfields changes over time. In general, the trend was downwards before 2016. However, after 2016, there was a general upward trend in the data.

Similarly, the second picture shows the trends in the areas that require reasoning skills that, while the third picture shows the trends in the areas that require more quantitative skills.

