

***A Comparative Analysis of Program-level  
Assessment Results for Mongolian Business  
School Programs, December 2011-July 2013***

Prepared By:

**Peregrine Academic Services US (PAS) and  
Peregrine Academic Services Mongolia (PASM)**

For:

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## **Abstract**

Peregrine Academic Services (PAS) along with its partner company in Ulaanbaatar Mongolia, Peregrine Academic Services Mongolia (PASM) provides online exams used for program-level assessment. During the 2011-2012 and 2012-2013 academic years, some 2,943 Bachelor's academic degree level assessment exams, including 1,419 Inbound and 1,522 Outbound exams, were administered to 15 client institutions of higher education in Mongolia. Another 146 Inbound and 122 Outbound exams were delivered to Master's academic degree level students associated with six client institutions of higher education in Mongolia. Results show measurable change in student knowledge as a direct measure of the academic experience. Mongolian student results are comparable with counterparts at institutions of higher education located within the US and outside of the US, indicating a strong competitiveness of Mongolian students for work within the business industry.

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### **Authors:**

Olin O. Oedekoven, Ph.D., President & CEO, Peregrine Academic Services

Alimaa Jamiyansuren, M.A., Director of International Operations, Peregrine Academic Services

## **Table of Contents**

Abstract.....	02
List of Tables.....	04
List of Figures.....	05
INTRODUCTION.....	08
THE ACCREDITATION RELATIONSHIP.....	09
METHODS.....	10
RESULTS.....	13
Bachelor’s Program Assessment Results.....	13
Master’s Program Assessment Results.....	34
FUTURE ACTIONS.....	57
GLOSSARY OF TERMS.....	58

**List of Tables**

Table 1. Inbound Exam results for Mongolian, Outside US, and US Bachelor’s level students..... 14  
..... 14

Table 2. Outbound Exam results for Mongolian, Outside US, and US Bachelor’s level students... 15  
..... 15

Table 3. Inbound Exam results for Mongolian, Outside US, and US Master’s level students..... 36  
..... 36

Table 4. Outbound Exam results for Mongolian, Outside US, and US Master’s level students..... 37  
..... 37

## **List of Figures**

Figure 1. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>TOTAL SCORE</b> .....	16
Figure 2. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>ACCOUNTING</b> .....	17
Figure 3. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>BUSINESS ETHICS</b> .....	18
Figure 4. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>BUSINESS FINANCE</b> .....	19
Figure 5. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>BUSINESS INTEGRATION AND STRATEGIC MANAGEMENT</b> .....	20
Figure 6. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>BUSINESS LEADERSHIP</b> .....	21
Figure 7. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>ECONOMICS</b> .....	22
Figure 8. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>MACROECONOMICS</b> .....	23
Figure 9. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>MICROECONOMICS</b> .....	24
Figure 10. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>GLOBAL DIMENSIONS OF BUSINESS</b> .....	25
Figure 11. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>INFORMATION MANAGEMENT SYSTEMS</b> .....	26
Figure 12. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>LEGAL ENVIRONMENT OF BUSINESS</b> .....	27
Figure 12. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>MANAGEMENT</b> .....	28
Figure 14. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – <b>HUMAN RESOURCE MANAGEMENT</b> .....	29

Figure 15. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **OPERATIONS AND PRODUCTION MANAGEMENT**..... 30

Figure 16. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **ORGANIZATIONAL BEHAVIOR**..... 31

Figure 17. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **MARKETING**..... 32

Figure 18. Bachelor’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **QUANTITATIVE RESEARCH TECHNIQUES AND STATISTICS**..... 33

Figure 19. Bachelor’s academic degree level Inbound to Outbound Exam Percent Change results for Mongolia, US, and Outside US for the total exam scores. .... 34

Figure 20. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **TOTAL SCORE**. .... 38

Figure 21. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **ACCOUNTING**..... 39

Figure 22. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **BUSINESS ETHICS**. .... 40

Figure 23. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **BUSINESS FINANCE**..... 41

Figure 24. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **BUSINESS INTEGRATION AND STRATEGIC MANAGEMENT**. .... 42

Figure 25. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **BUSINESS LEADERSHIP**..... 43

Figure 26. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **ECONOMICS**..... 44

Figure 27. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **MACROECONOMICS**..... 45

Figure 28. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **MICROECONOMICS**..... 46

Figure 29. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **GLOBAL DIMENSIONS OF BUSINESS**..... 47

Figure 30. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **INFORMATION MANAGEMENT SYSTEMS**..... 48

Figure 31. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **LEGAL ENVIRONMENT OF BUSINESS**..... 49

Figure 32. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **MANAGEMENT**..... 50

Figure 33. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **HUMAN RESOURCE MANAGEMENT**..... 51

Figure 34. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **OPERATIONS AND PRODUCTION MANAGEMENT**..... 52

Figure 35. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **ORGANIZATIONAL BEHAVIOR**..... 53

Figure 36. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **MARKETING**..... 54

Figure 37. Master’s academic degree level Outbound Exam results for Mongolia, US, and Outside US – **QUANTITATIVE RESEARCH TECHNIQUES AND STATISTICS**..... 55

Figure 38. Master’s academic degree level Inbound to Outbound Exam Percent Change results for Mongolia, US, and Outside US for the total exam scores. .... 56

## INTRODUCTION

Peregrine Academic Services, a US-based Company, is a globally recognized leader in providing online services for institutions of higher education related to program-level assessment exams, education modules used for academic leveling and learning assurance, and American Psychological Association (APA) writing style competency development. Assessment exams are available for business, accounting/finance, early childhood education, and public administration higher education programs. Customizable program-level assessment and academic leveling fulfill several essential accreditation requirements related to quality, accountability, and continuous improvement. Peregrine Academic Services solves accreditation challenges with customized academic solutions to improve the quality of higher education in the US and throughout the world.

Online direct assessment services for program-level accountability are based on the Common Professional Components (CPCs) within the academic discipline. The exam services are used to satisfy several accreditation requirements including the program-level assessment of learning outcomes. The CPC-based Comprehensive Exam (COMP) is an online student exam that directly measures learning outcomes and retained knowledge at the academic program level.

Business schools in Mongolia began seeking US-based programmatic accreditation in business education in 2010 with the Accreditation Council for Business Schools and Programs (ACBSP). Initially, two Mongolian universities, the Institute of Finance and Economics and the National University of Mongolia, sought and obtained ACBSP programmatic accreditation. In 2012, another 10 Mongolian schools became ACBSP members, with another 10 schools in 2013. Future expectations include additional Mongolian business schools seeking ACBSP membership and eventual accreditation.

As a valued partner and corporate sponsor of ACBSP, Peregrine Academic Services (PAS) was chartered to provide its online assessment exam in Mongolian language for evaluation of learning outcomes, as required by ACBSP Standard #4. Previously, PAS provided the exam services in French, Spanish, Portuguese, German, and Russian languages for educational testing within several countries and world regions, in addition to its widely popular exam services for US-based schools. Test banks were translated into Mongolian in 2011 for initial beta-testing with Mongolian Schools during the 2011-2012 academic year. Additional testing with more Mongolian schools took place during the 2012-2013 academic year. The service is expected to continue into the foreseeable future with expansion into other academic disciplines.

The purpose of this report is to summarize the exam results from beta-test through spring 2013 testing of the Mongolian schools. Cumulative averages are also compared with other Outside US and US aggregate pools for strategic academic benchmarking and comparative analysis. Due to the confidentiality agreements in place with the exam services, only summarized results are presented within this report.



## **THE ACCREDITATION RELATIONSHIP**

Education stakeholders, including accreditation bodies, government regulators, and local interest groups, require greater accountability in higher education. It is not enough to base academic performance primarily on grades, graduation rates, and perhaps national rankings. In order to properly close the quality loop, program-level assessment exams based on learning outcomes are used to clearly demonstrate academic achievement and facilitate continuous improvement.

The Accreditation Council for Business Schools and Programs (ACBSP), a US-based programmatic accreditation organization, maintains very specific requirements for program-level assessment and learning outcomes evaluation in its standards and criteria guidelines for accreditation. ACBSP Standard #4 (Measurement and Analysis of Student Learning and Performance) states (Revision D, May 2012):

Business schools and programs must have an outcomes assessment program with documentation of the results and evidence that the results are being used for the development and improvement of the institution's academic programs. Each business school or program is responsible for developing its own outcomes assessment program.

Criterion 4.1. The business unit shall have a learning outcomes assessment program.

Criterion 4.2. To identify trends, the business school or program should report, at a minimum, three successive sets of periodic assessment results.

Criterion 4.3. Assessment plans should be designed to yield comparative information and data both over time and with respect to benchmarks and intended outcomes.

Criterion 4.4. The business unit shall make use of the learning outcomes assessment results analyzed in criterion 4.2 to improve its educational processes in the interest of continuously improving student learning outcomes. The business unit must describe specific improvements it has made to its programs based on information obtained from its learning outcomes assessment results for a minimum of three improvement cycles.

In order to fulfill the requirements of ACBSP Standard #4, university officials develop, implement, maintain, and conduct continuous improvement based upon a learning outcomes assessment plan. The assessment services provided by Peregrine Academic Services are approved by the ACBSP for the requirements associated with Standard #4.

## METHODOLOGY

Students enrolled in higher education programs take the first CPC-based COMP exam early in their academic program, usually within their first business course. This initial assessment is referred to as the *Inbound Exam*. Students subsequently take the same exam at the end of their program, usually just before graduation within their last course. This final assessment is referred to as the *Outbound Exam*. Occasionally, schools also administer the same exam during the program of study towards the middle of the program. When administered, this exam is referred to as the *Mid-point Exam*.

The comparison in scores between the Inbound and the Outbound Exams is used for internal benchmarking. The comparison of the Outbound Exam scores with the results from other universities is used for external benchmarking.

The business program accreditation organizations have identified the Common Professional Components (CPCs) associated with the higher education business program. For ACBSP, the 12 Common Professional Component (CPC) topics are identified as listed below:

1. Accounting
2. Business Ethics
3. Business Finance
4. Business Integration and Strategic Management
5. Business Leadership
6. Economics
  - a. Macroeconomics
  - b. Microeconomics
7. Global Dimensions of Business
8. Information Management Systems
9. Legal Environment of Business
10. Management
  - a. Human Resource Management
  - b. Operations/Production Management
  - c. Organizational Behavior
11. Marketing
12. Quantitative Research Techniques and Statistics

School officials decide which CPC topics to include in the program-level assessment exam based on the learning outcomes of the program and the academic curriculum. Most Bachelors' academic degree level programs select all 12 CPC topics. Most Master's academic degree level programs select 6-10 CPC topics for a program-level assessment exam. An exam includes 10 questions per topic drawn from a test bank of 100-400 questions per topic. A Bachelor's exam usually consists of 120 questions; a Master's exam 60-100 questions.

The exam is taken entirely online. Different test banks are used with the graduate and undergraduate exams. The version used in Mongolia is the Outside US version, which excludes questions that are US-specific. This exam version is used throughout the world in similar fashion, thereby making comparative analysis viable. Randomization of questions, as the exam is served to students, ensures that every exam is unique. The online platform has several measures in place to help ensure academic integrity of the exam process.

The exam is administered in Mongolia within a classroom environment with an exam proctor. The exam is also designed to be administered as a homework assignment outside of the classroom. Individual results are available to the student immediately upon completion of the exam. Cumulative results and the raw data are available to the school upon completion of the exam period.

Exam results are reported back to the school and used for both internal and external benchmarking. The comparison between Inbound and Outbound results is used for internal benchmarking to directly measure the change in knowledge levels as a consequence of the academic experience. Each topic is further analyzed to show the frequency of questions missed by the 4-8 subject areas included within the topic. Cumulative results by topic and subtopic are also compared to any number of aggregate pools for external benchmarking.

These are normed exams with an average degree of difficulty of 55-60%. Results are evaluated on a normed scale. Exam results cannot be compared directly to a traditional 100-point grading scale. Outbound exam results, both cumulatively and individually, DO NOT correspond directly to a traditional academic grading scale. The Outbound Exam is only relative to the Inbound Exam results as well as the external aggregate comparisons.

There is a distinct difference between evaluating results versus grading individual exams. Individual student grading of Outbound Exams is conducted using the table shown below on a relative grading scale (school officials determine the exact letter/point grades). Therefore, academic grading of student's outbound results as well as interpreting cumulative outbound exam results should be done only on a relative scale as opposed to a traditional academic grading scale. Evaluation of the results for internal and external benchmarking should be conducted based on comparisons to aggregate pools and between the inbound and outbound exam results.

NOTE: There is no such level as a “passing” or an “acceptable” score based on the results of this normed exam, nor do accreditation organizations expect to see a passing or acceptable level. Rather, school officials determine what is passing or acceptable based on associated benchmarks and learning outcomes.

To encourage students to do their best on the outbound exams, an incentive is usually needed. Exam incentives include a direct grade, grading for extra credit if the result is above a certain threshold, or credit for a future assignment/activity within a course. Typically, simply grading the exam based on the following relative grading scale is the best approach to properly

incentivize the student. The following shows an approximate relationship between the CPC-based COMP exam results and relative student performance based upon competency level.

- 80-100% Very High
- 70-79% High
- 60-69% Above Average
- 40-59% Average
- 30-39% Below Average
- 20-29% Low
- 0-19% Very Low

The benchmarks listed above should only be used for relative grading purposes of individual student exams and with more broad understanding of the cumulative results. This table should not be used to evaluate exam results for program-level assessments; rather the evaluation of exam results should be based on scores and comparisons of scores with the benchmarks.

Client schools use the results in a variety of ways, including:

1. **Raw data Excel files** assist evaluation of individual student achievement and current competency levels. These data may help with academic placement of incoming graduate students and with evaluations of transfer students for undergraduate academic placement.
2. **Cohort comparison reports** allow school officials to compare cohort-level results with each other. Such analysis is helpful when the school has more than one campus location or more than one degree concentration/specialization.
3. **Longitudinal analysis** reports help show trends over time and are used to fulfill the three data point collection requirements set up by ACBSP. A longitudinal analysis shows each year-group (or other time variable) results side-by-side in a graphical report.
4. **Pair-wise reporting** allows school officials to track and manage individual student results over time. The pair-wise report is a one-to-one report that matches a specific student's inbound exam score with that student's outbound exam score.
5. **Comparison reports** show how the school's results compare with other aggregate groups, including Mongolian schools, US schools, European schools, etc. These comparisons are most often used for specific benchmarking, that is setting the school's academic targets in relationship to other groups of schools.
6. **Analysis reports** provide the details down to the subject-levels within each of the topics and sub-topics. These data are used to evaluate learning outcomes and provide the needed assurance of learning.
7. **Student completion certificates** show each student's results and are given to the student upon completion of an exam. Such results can be used both for the education institution as well as for future employment as a direct and independent measure of core competency and knowledge.

## RESULTS

### **Bachelor's Program Assessment Results**

CPC-based COMP exam was conducted during the October 2011 to June 2013 assessment period in which 15 Mongolian colleges and universities administered the Inbound Exam (1,419 total exams) and 14 Mongolian colleges and universities administered the Outbound Exam (1,522 total exams) to students enrolled in Bachelor's academic degree level programs. The list of participating institutions that administered the COMP exam to undergraduate students in Mongolia included:

1. "Etugen" Institute
2. "Ider" Institute
3. Institute of Finance and Economics, The
4. "Mandakh Burtgel" Institute
5. Mongolian National Institute
6. Mongolian State University of Agriculture, School of Economics and Business
7. Mongolian University of Science and Technology, Computer Science and Management School
8. National University of Mongolia, School of Economic Studies
9. "Otgontenger" Institute
10. "San" Institute
11. "Seruuleg" Institute
12. The Global Leadership University
13. The Institute of International Economics and Business
14. "Tsetsee Gun" Institute
15. University of the Humanities, Business School

The Mongolian National Institute is the only school that did not administer the outbound exam, whereas all the other schools on the list have held both inbound and outbound testing.

Inbound Exam results for institutions located in Mongolia, the US and outside of the US by total assessment and topical mean percent scores are shown in Table 1. In terms of total assessment results, the Mongolian students enrolled in Bachelor's academic degree level programs performed comparatively on par with their international counterparts and slightly below the US students' results.

Inbound scores are only used to establish a baseline measurement of knowledge prior to the student's academic experience within the identified program. Inbound exam scores are best understood in comparison to the Outbound Exam scores. Seldom do school officials incentivize students in taking an Inbound Exam, since the students are just starting their academic program and therefore they are expected to score low.

Table 1. Inbound Exam results for Mongolian, Outside US, and US Bachelor's level students.

	<b>Mongolia</b>	<b>US</b>	<b>Outside US</b>
CPC Topic	<b>Percent Score</b>	<b>Percent Score</b>	<b>Percent Score</b>
<b>Total Assessment Analysis</b>	<b>41.7%</b>	<b>44.7%</b>	<b>41.3%</b>
Accounting	34.6%	46.2%	36.2%
Business Ethics	47.9%	45.8%	44.9%
Business Finance	25.6%	43.3%	28.2%
Business Integration and Strategic Management	49.6%	41.9%	47.1%
Business Leadership	46.2%	46.7%	44.8%
Economics	40.1%	41.4%	39.6%
Macroeconomics	43.6%	41.3%	42.2%
Microeconomics	36.7%	41.5%	37.0%
Global Dimensions of Business	50.2%	50.1%	49.4%
Information Management Systems	43.9%	56.7%	45.3%
Legal Environment of Business	44.0%	53.2%	43.6%
Management	43.1%	48.4%	43.2%
Human Resource Management	55.5%	51.5%	53.2%
Operations/Production Management	31.1%	45.3%	34.0%
Organizational Behavior	42.7%	48.3%	42.4%
Marketing	36.1%	30.3%	34.6%
Quantitative Research Techniques and Statistics	43.5%	32.8%	40.7%

Outbound Exam results are compared between the Mongolian, US and International institutions with mean percent scores recorded for the total assessment and individual topics as shown in Table 2. Based on the topical assessment results, the trends are similar to Inbound Exam results. With respect to total assessment results, the Mongolian students enrolled in Bachelor's academic degree level programs performed comparatively on par with their international counterparts and slightly below the US students' results.

Performance on Outbound Exams is usually academically incentivized with individual grades recorded based on student results. The goal is to get students to perform their best on the Outbound Exam in order to realistically show both the change in knowledge from the Inbound Exam results and the retained knowledge of the students.

Table 2. Outbound Exam results for Mongolian, Outside US, and US Bachelor’s level students

	<b>Mongolia</b>	<b>US</b>	<b>Outside US</b>
CPC Topic	<b>Percent Score</b>	<b>Percent Score</b>	<b>Percent Score</b>
<b>Total Assessment Analysis</b>	<b>45.8%</b>	<b>51.4%</b>	<b>46.5%</b>
Accounting	43.1%	51.6%	41.9%
Business Ethics	52.4%	54.5%	54.3%
Business Finance	30.9%	49.7%	31.8%
Business Integration and Strategic Management	54.7%	48.3%	56.2%
Business Leadership	48.5%	51.3%	48.1%
Economics	44.1%	48.1%	43.9%
Macroeconomics	46.4%	47.8%	46.0%
Microeconomics	41.8%	48.4%	41.8%
Global Dimensions of Business	53.7%	55.9%	56.1%
Information Management Systems	48.5%	63.9%	48.8%
Legal Environment of Business	45.6%	58.3%	45.4%
Management	47.9%	55.2%	48.0%
Human Resource Management	60.2%	58.0%	59.6%
Operations/Production Management	34.4%	52.2%	36.3%
Organizational Behavior	49.1%	55.3%	47.9%
Marketing	41.0%	37.9%	42.6%
Quantitative Research Techniques and Statistics	46.4%	41.5%	47.6%

Shown in Figures 1-17 are the Outbound Exam comparison graphics for Mongolian, US, and Outside US results of the mean percent scores for each of the 12 CPC topics with subtopics included for Economics (Macroeconomics and Microeconomics), Management (Human Resource Management, Operations/Production Management and Organizational Behavior).

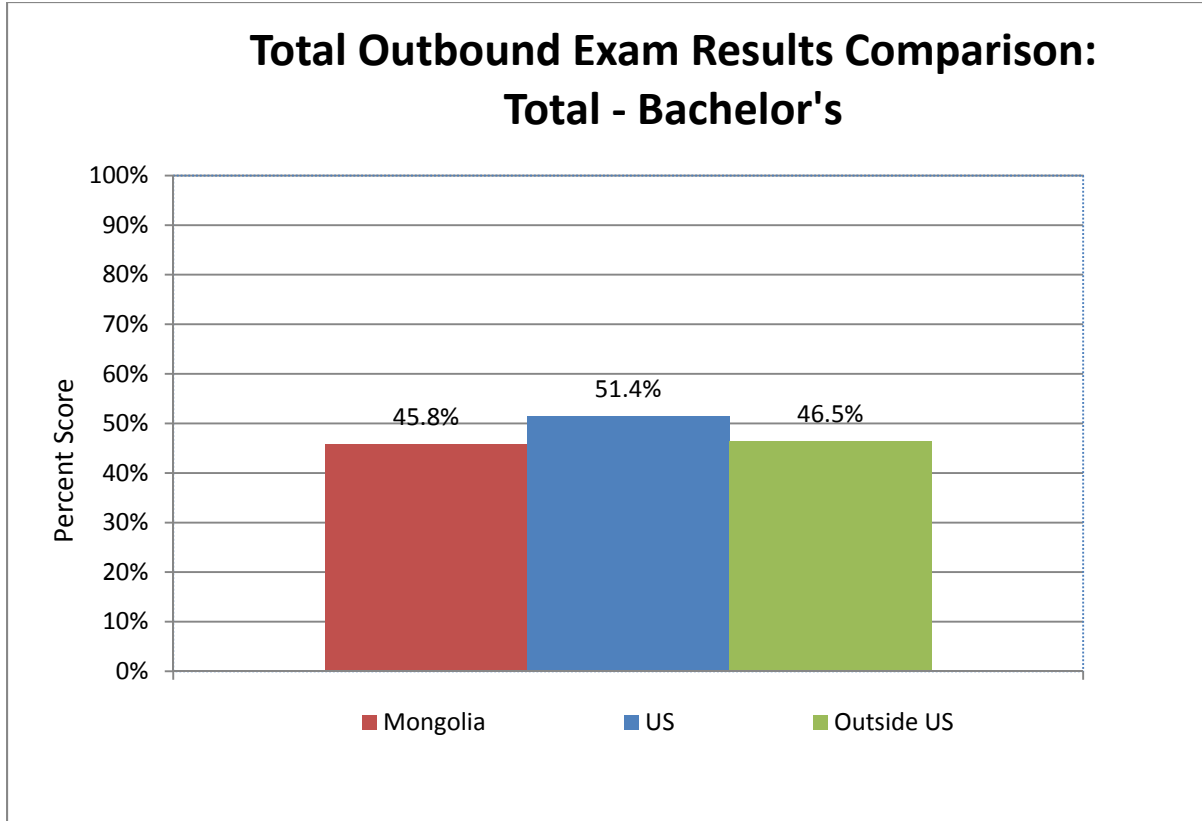


Figure 1. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **TOTAL SCORE**.



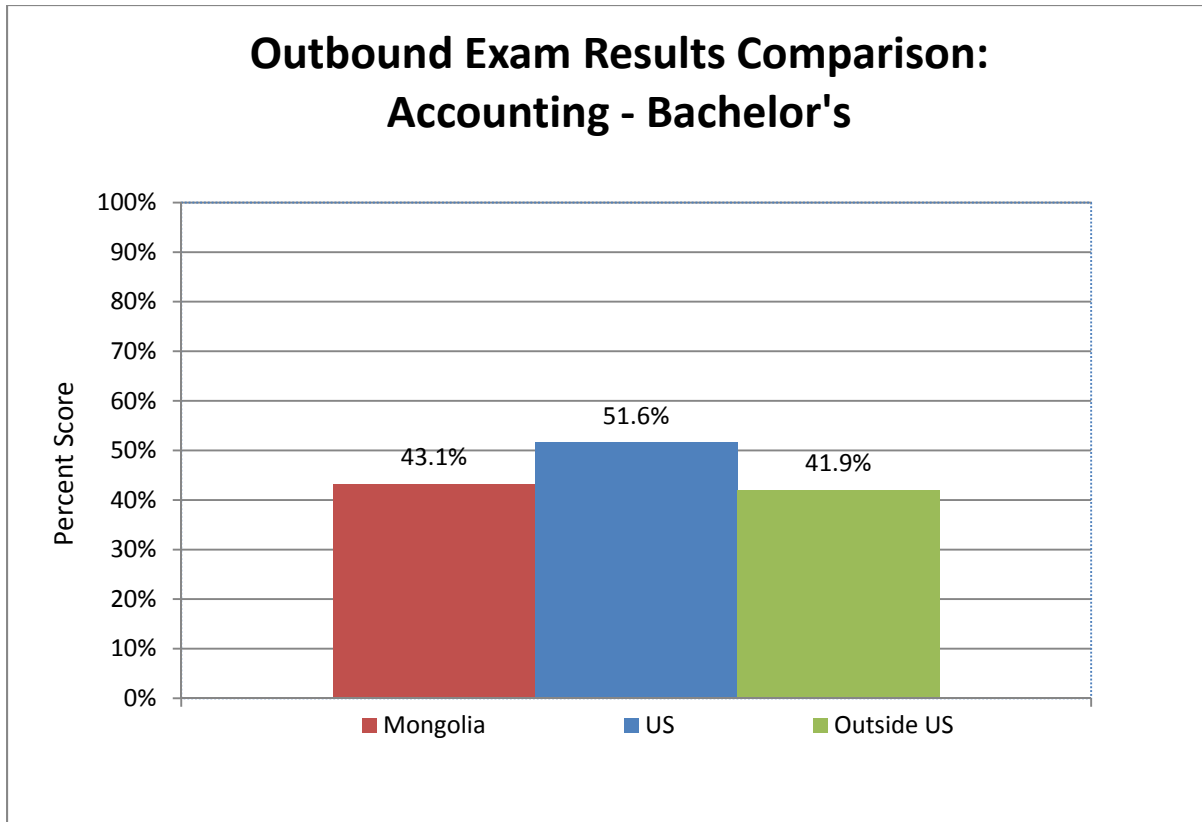


Figure 2. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **ACCOUNTING**.

The accounting principles assessed by this topic include those most closely aligned with the US and the European accounting systems. Considerations are underway to develop a new topic for accounting that would be country-specific to other forms of accounting; however, these results do suggest a reasonable good alignment of the questions with what is taught within the curriculum.

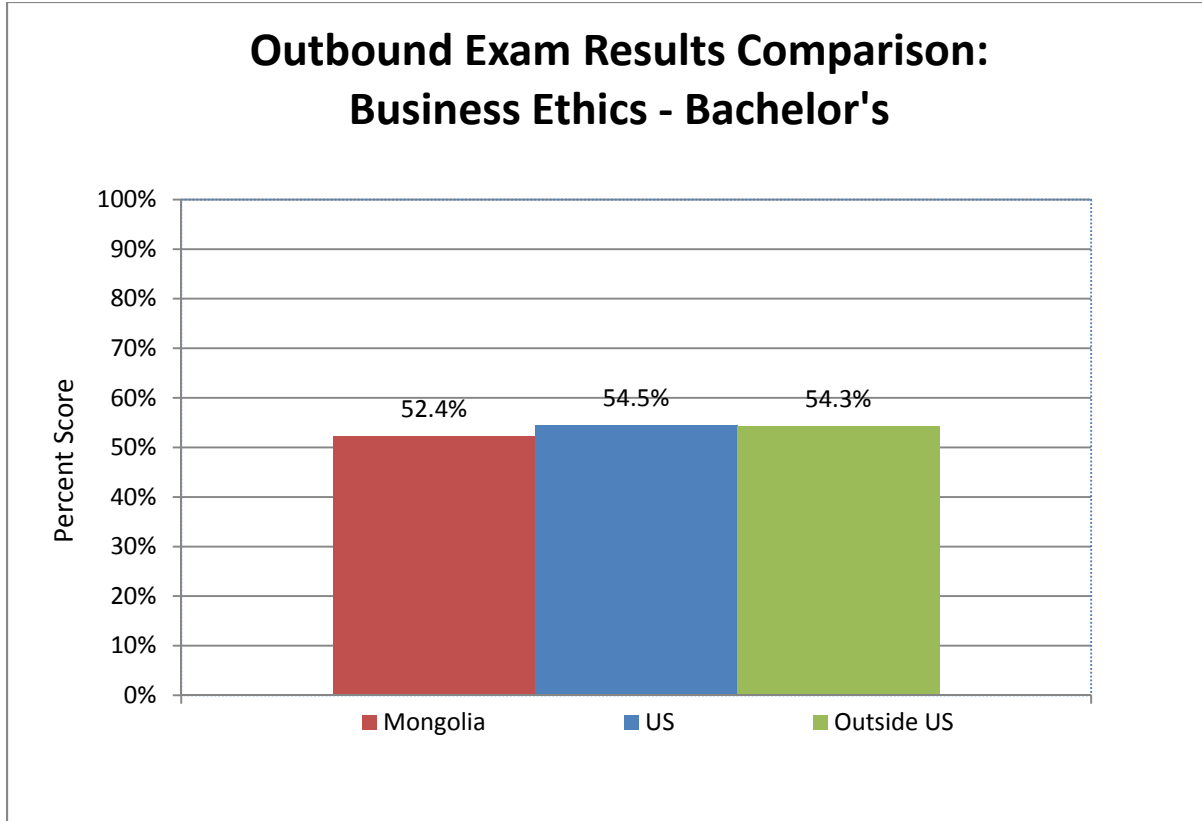


Figure 3. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **BUSINESS ETHICS**.

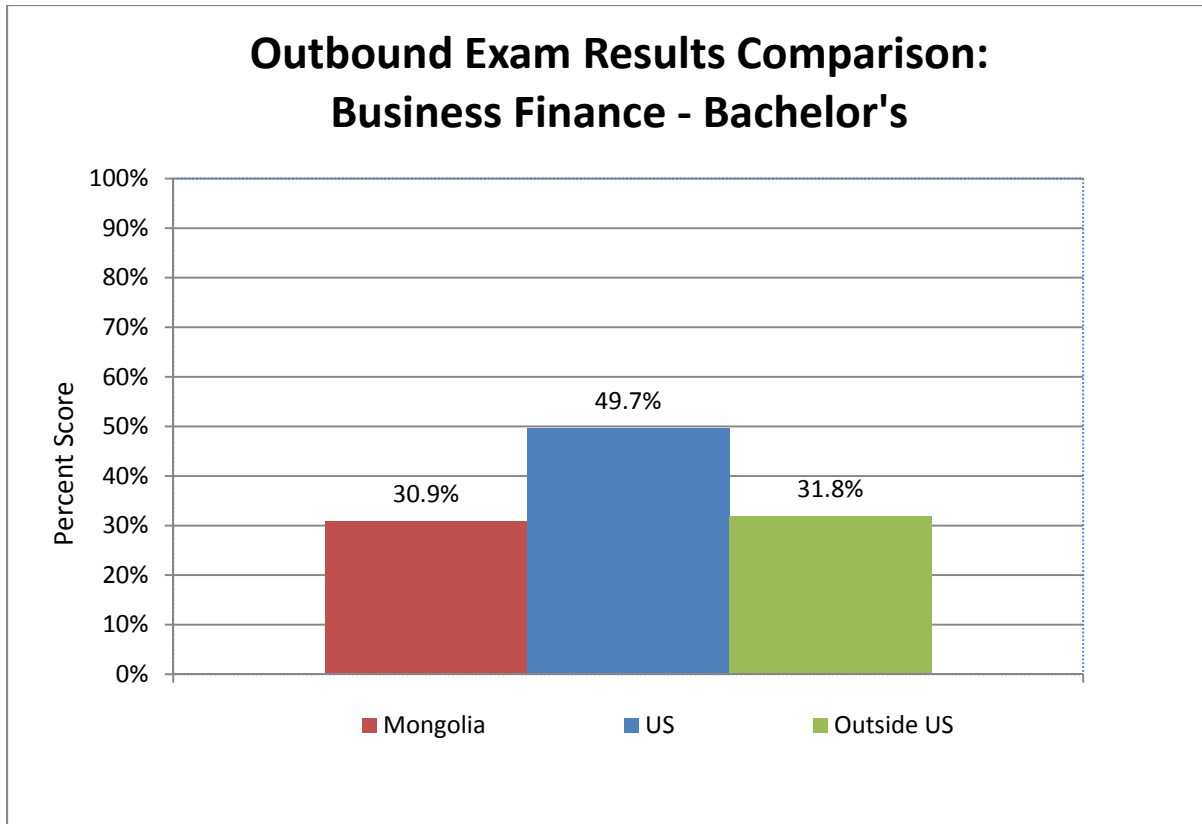


Figure 4. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **BUSINESS FINANCE**.

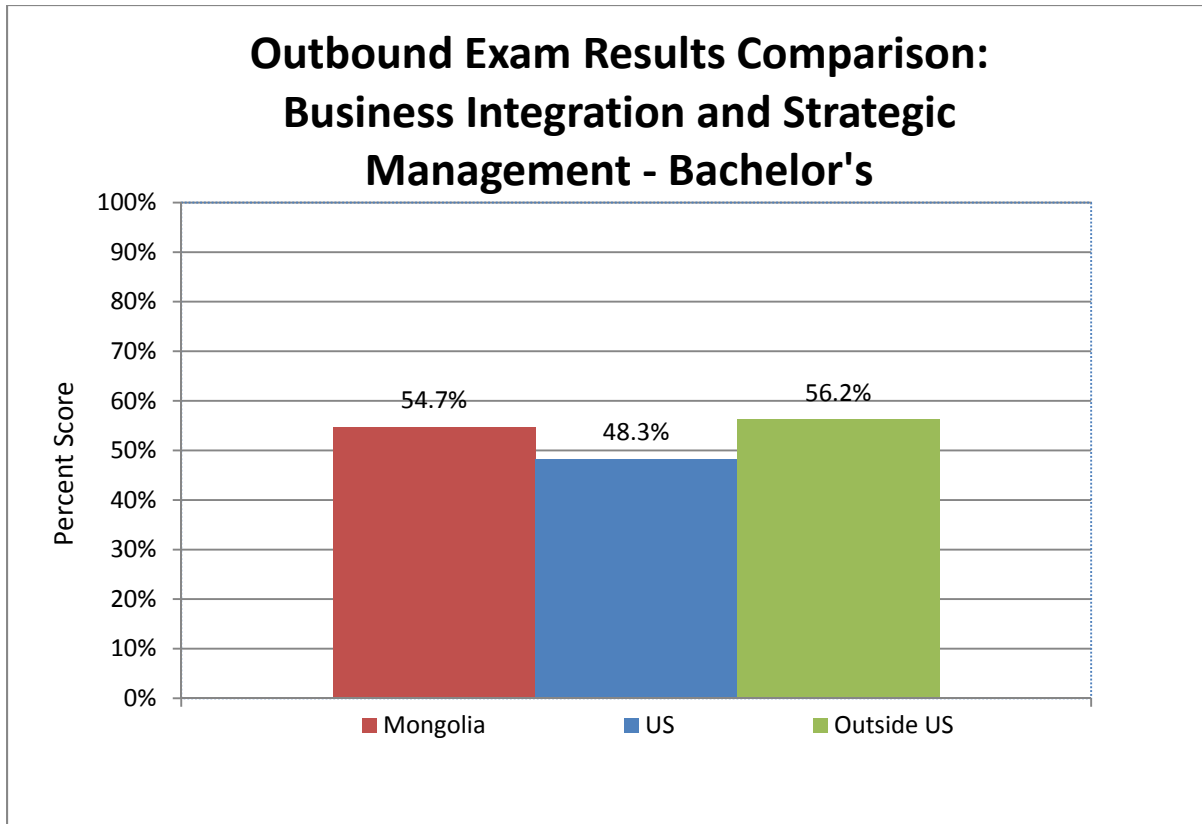


Figure 5. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **BUSINESS INTEGRATION AND STRATEGIC MANAGEMENT**.

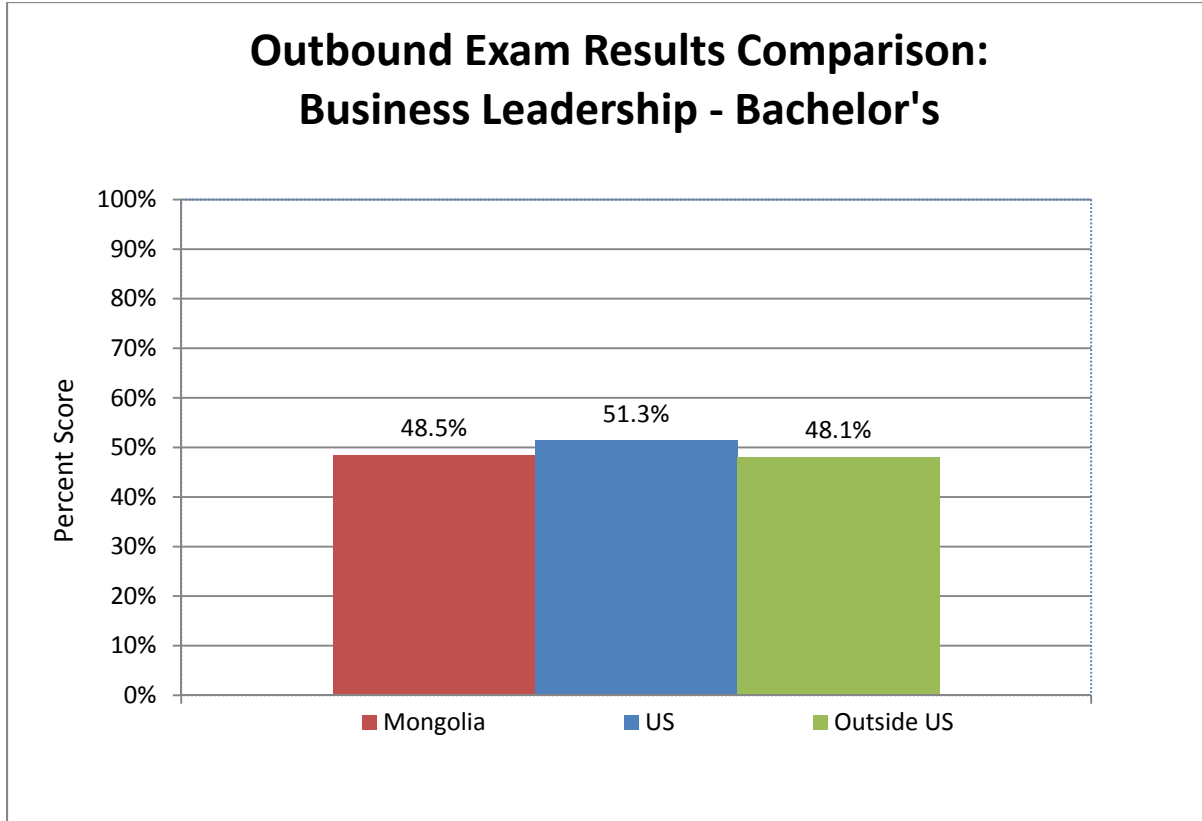


Figure 6. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **BUSINESS LEADERSHIP**.

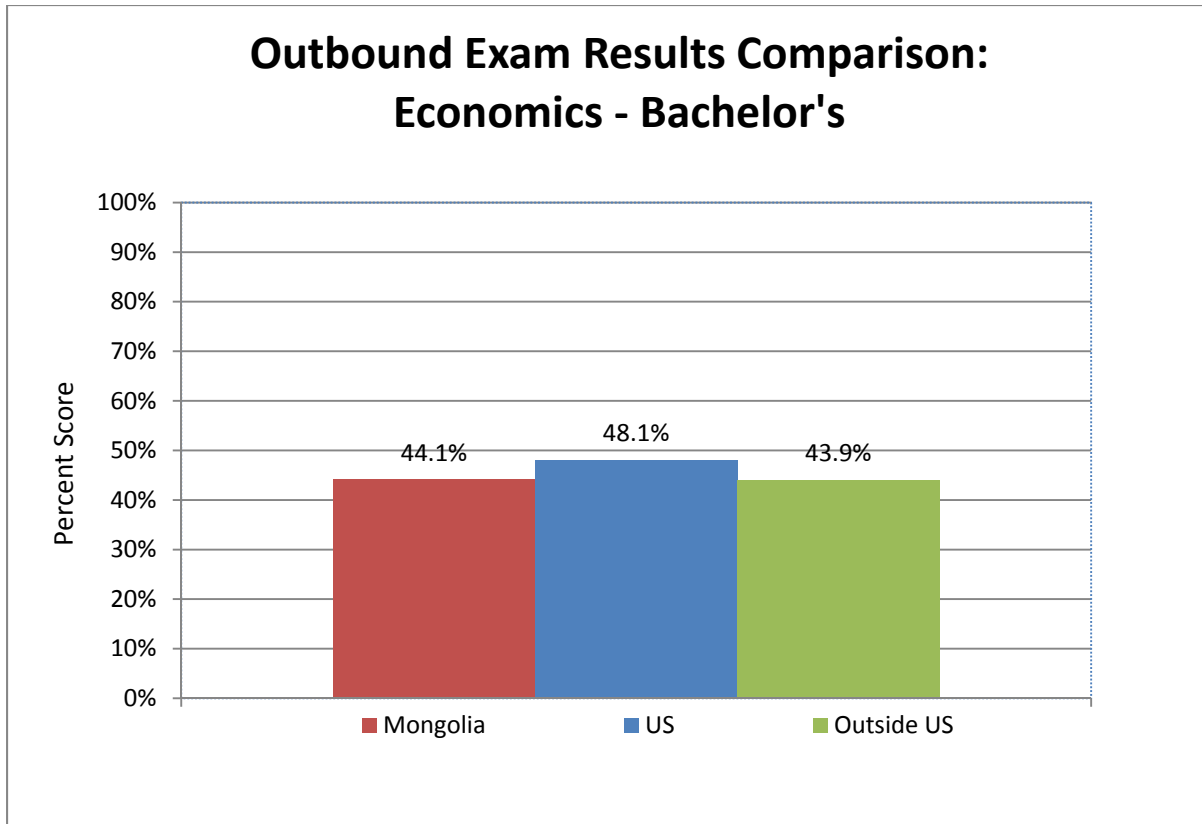


Figure 7. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **ECONOMICS**.

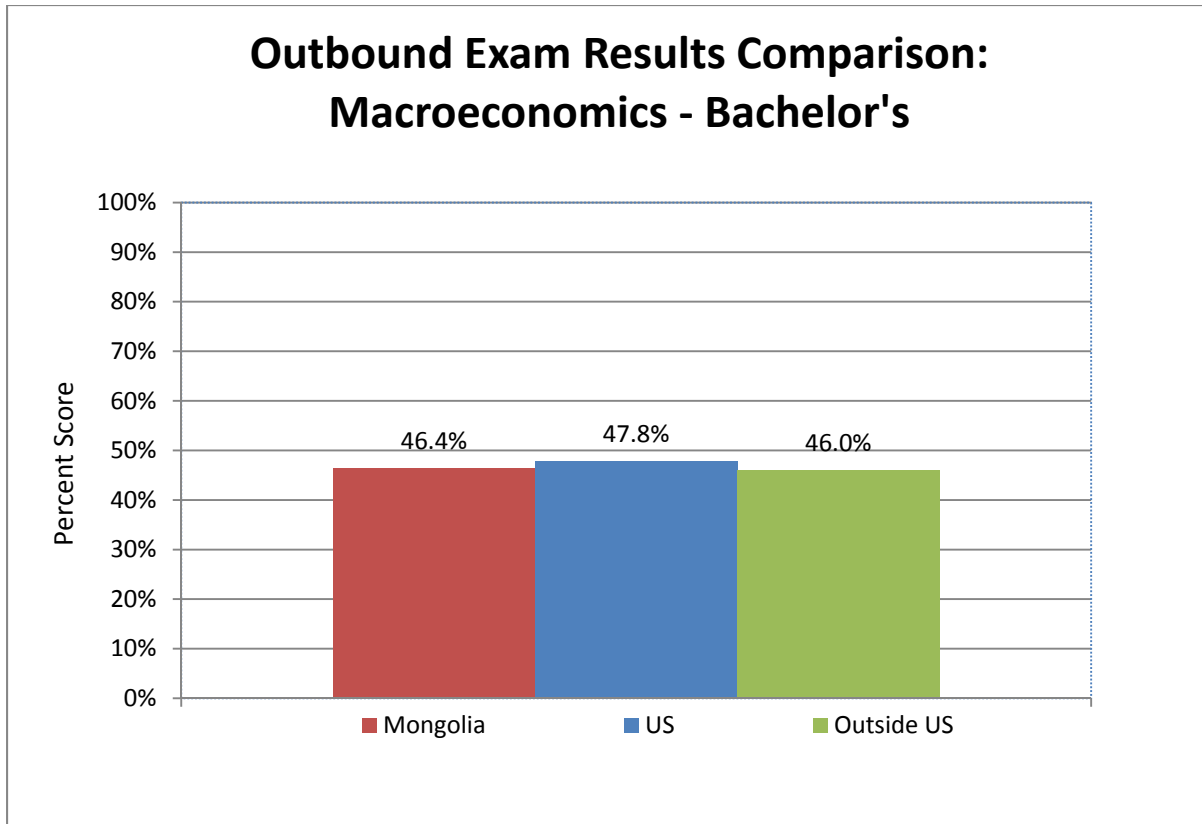


Figure 8. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **MACROECONOMICS**.

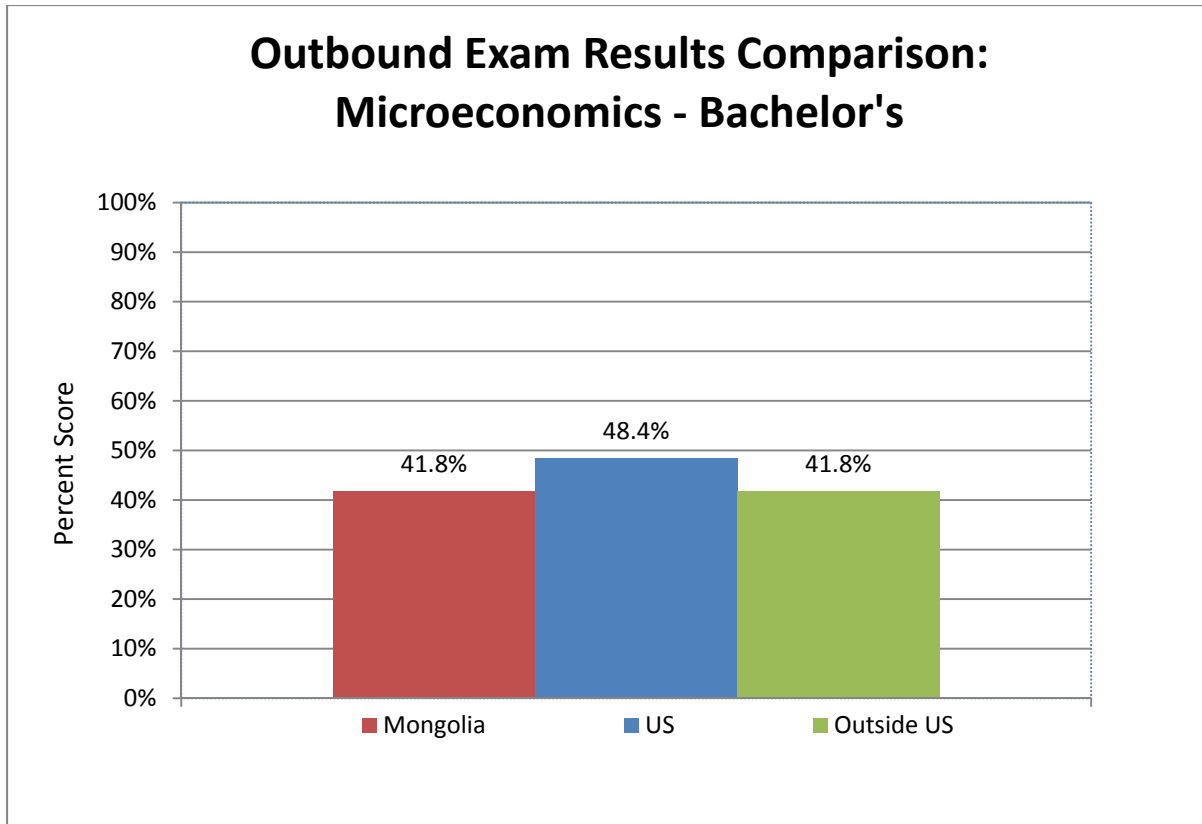


Figure 9. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **MICROECONOMICS**.



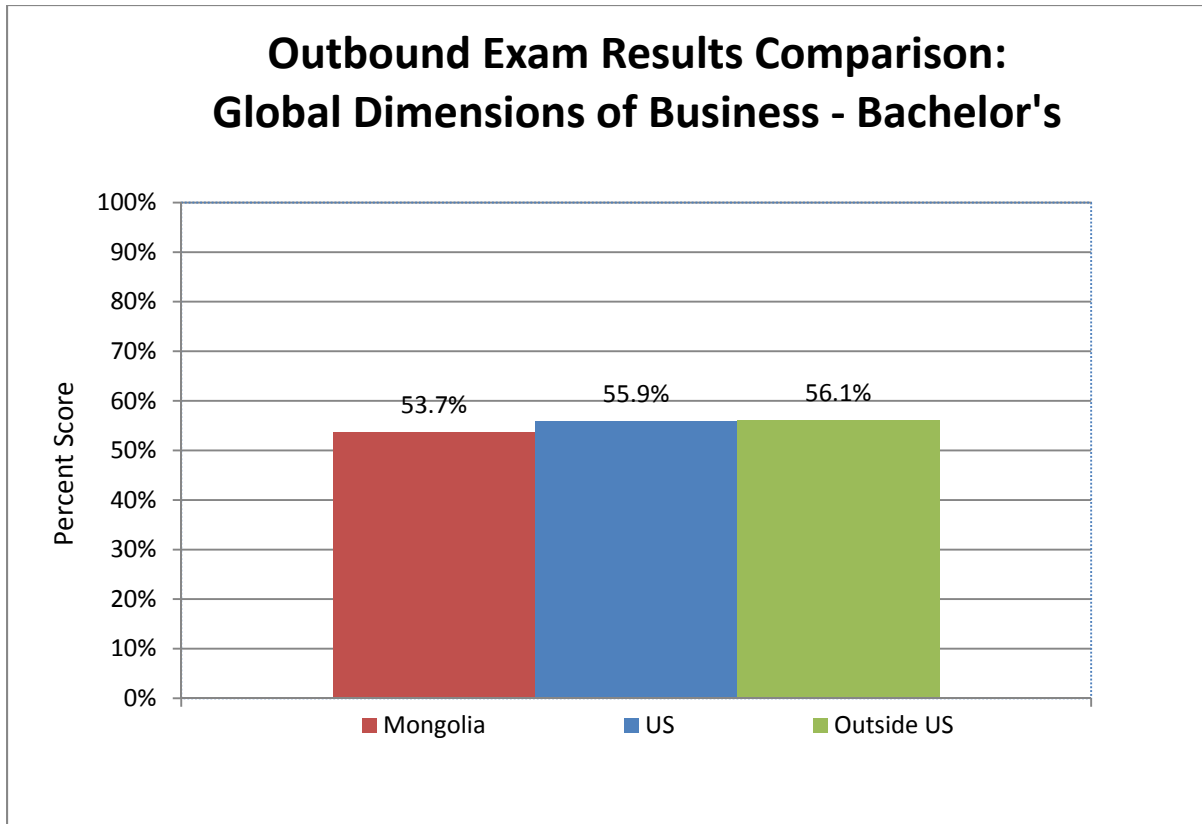


Figure 10. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **GLOBAL DIMENSIONS OF BUSINESS**.

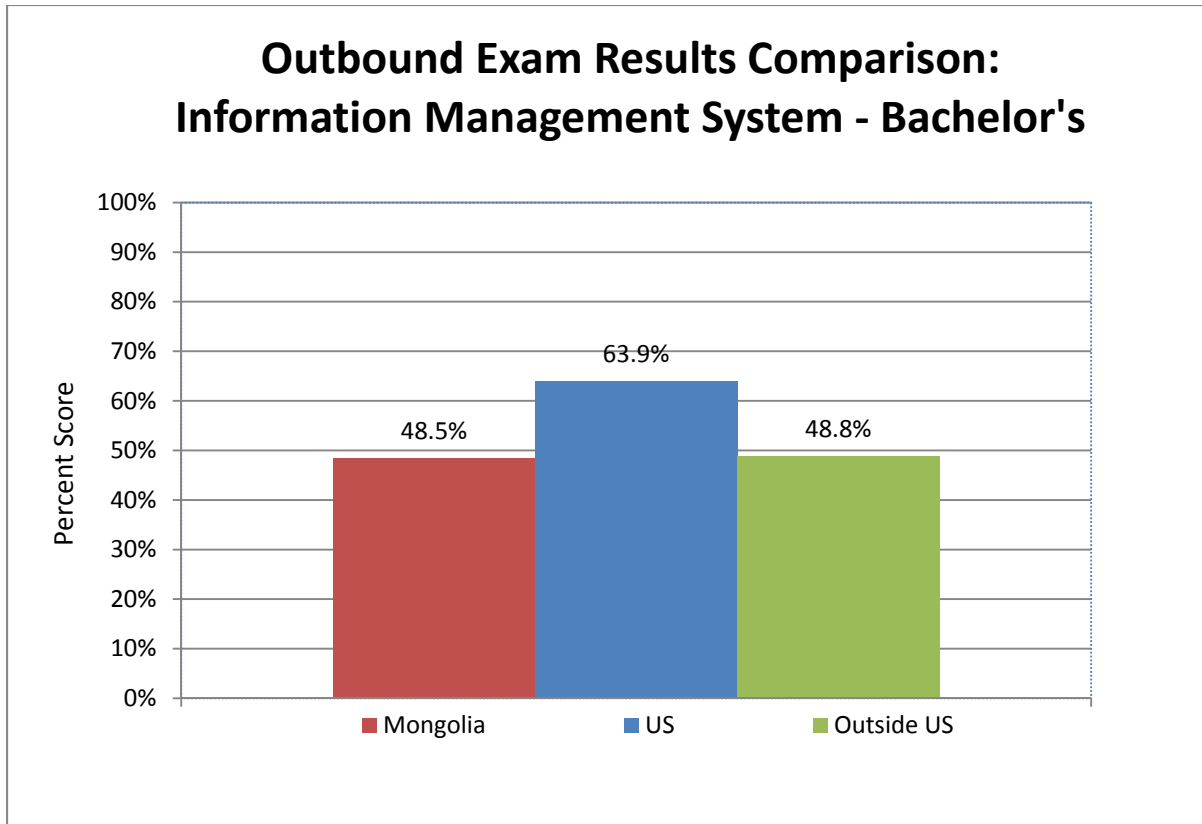


Figure 11. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **INFORMATION MANAGEMENT SYSTEMS**.

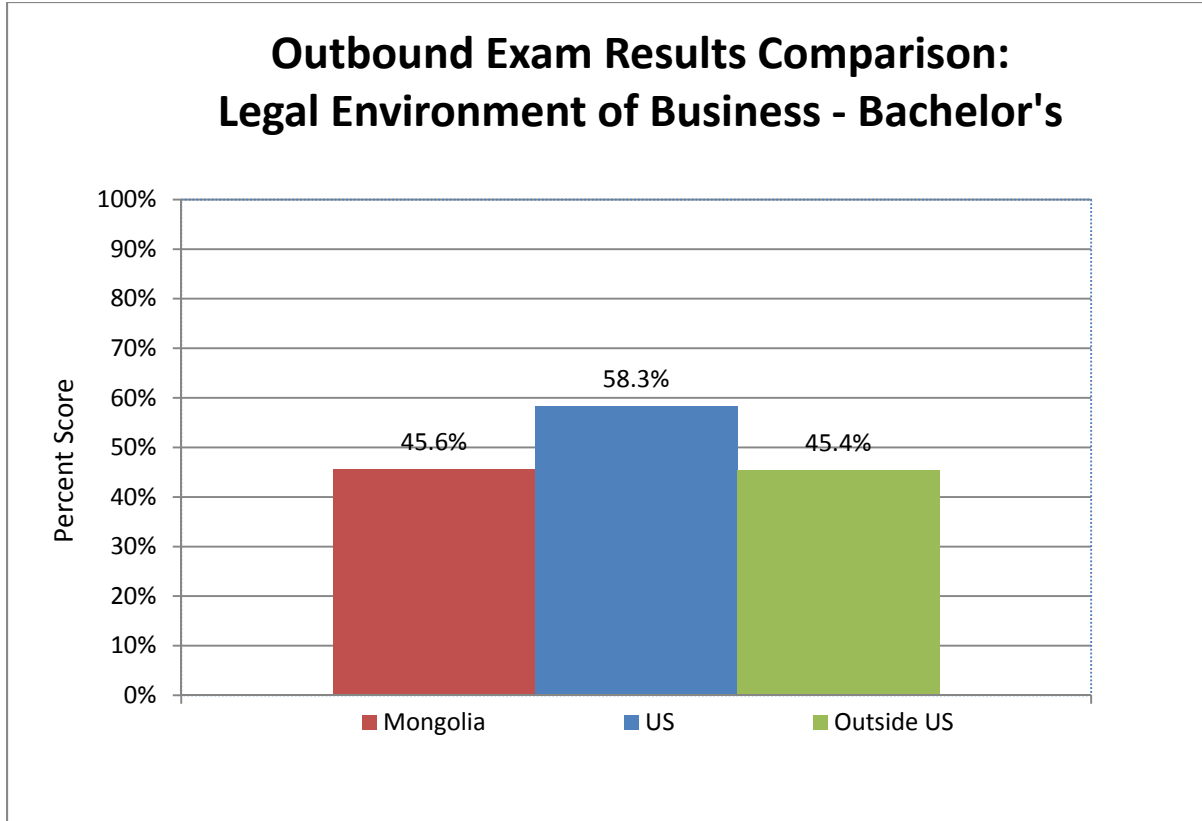


Figure 12. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **LEGAL ENVIRONMENT OF BUSINESS**.

The legal concepts of business assessed by this topic include those most closely aligned with international trade, as opposed to country-specific legal concepts of business. Considerations are underway to develop a new topic for the legal environment of business that would be country-specific; however, these results do suggest a reasonably good alignment of the questions with what is taught within the curriculum.

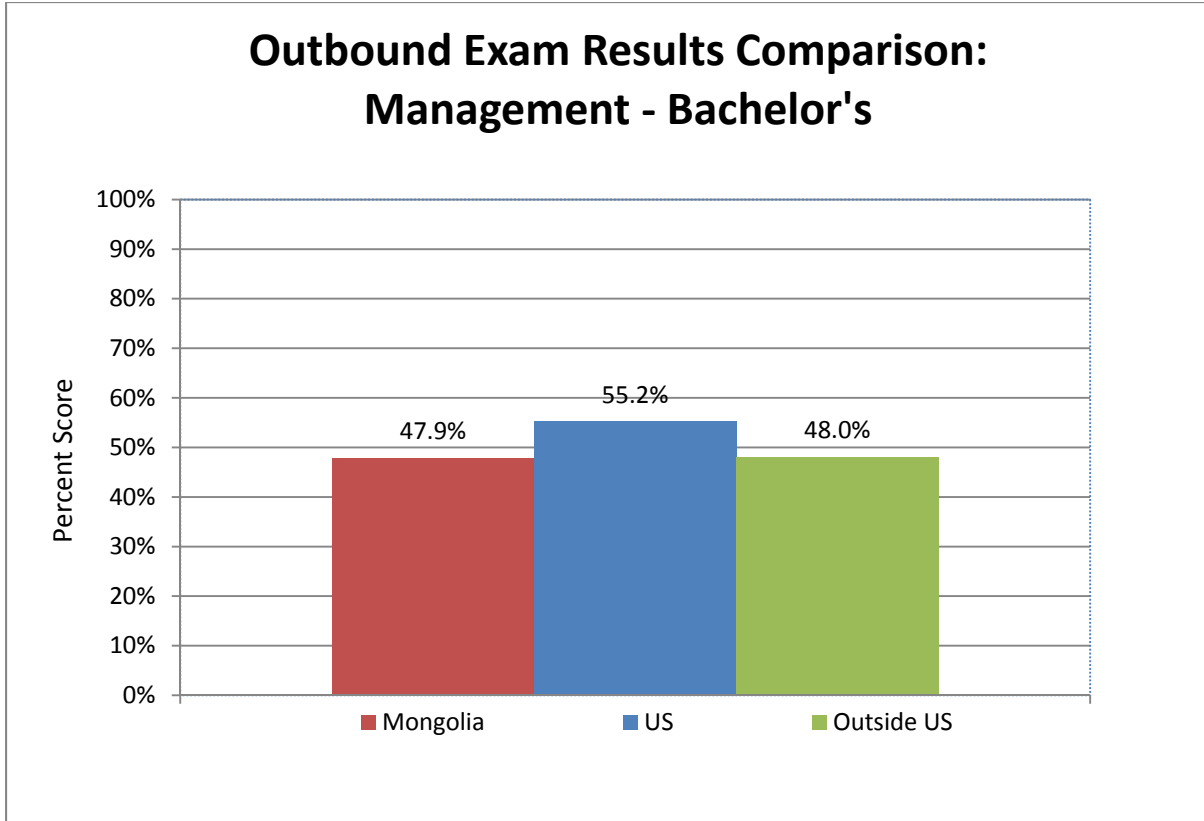


Figure 13. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **MANAGEMENT**.

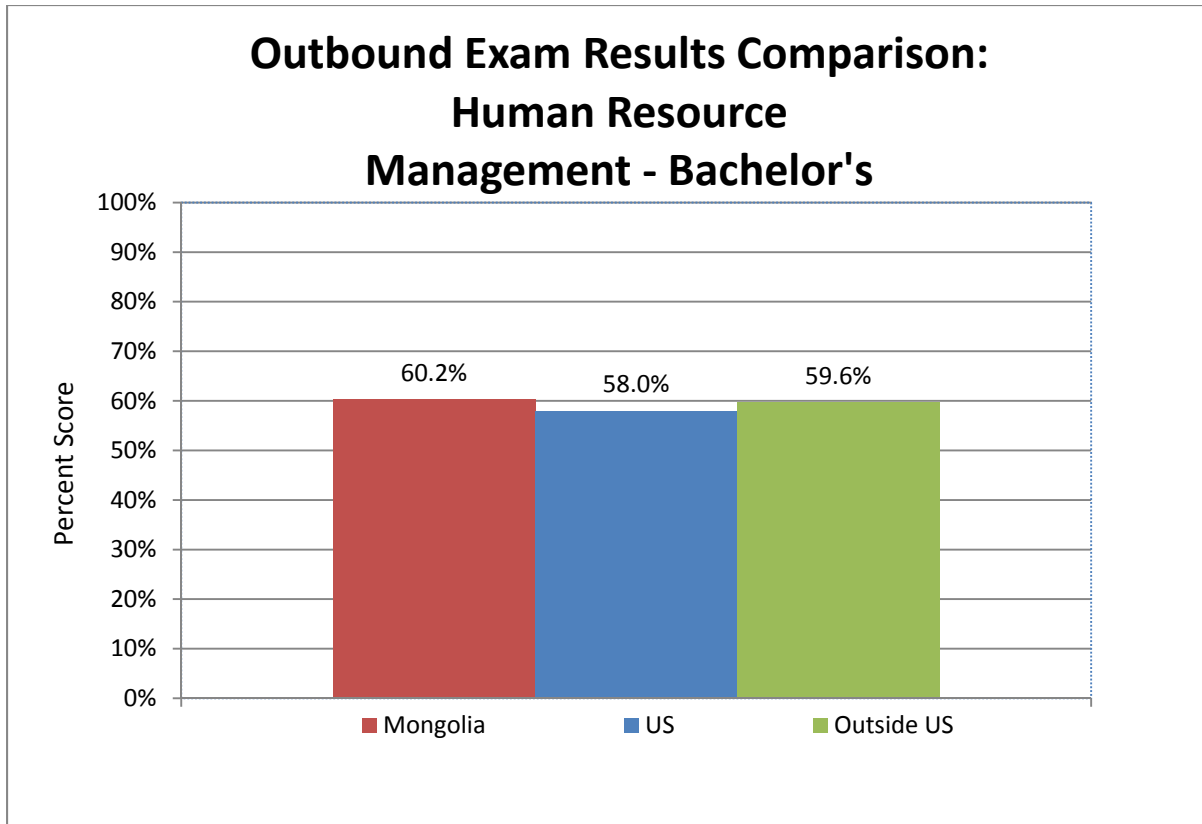


Figure 14. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **HUMAN RESOURCE MANAGEMENT**.

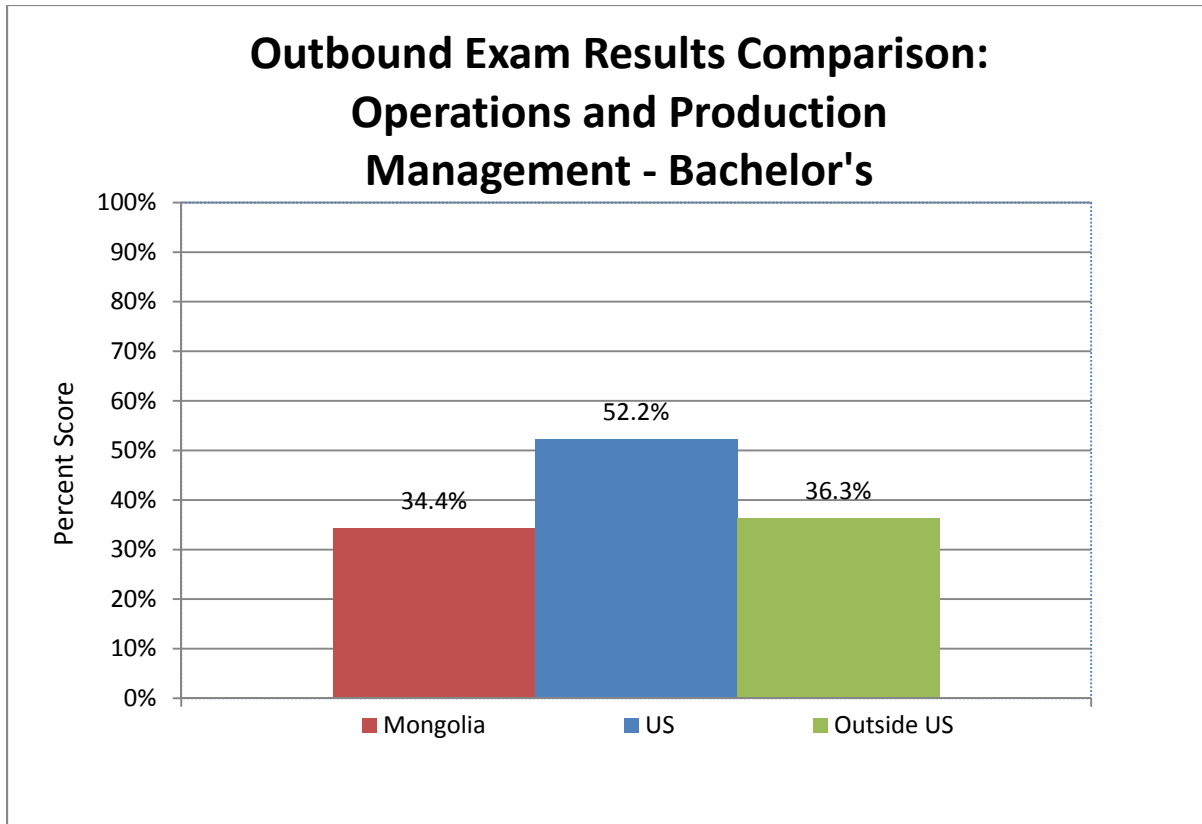


Figure 15. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **OPERATIONS AND PRODUCTION MANAGEMENT**.

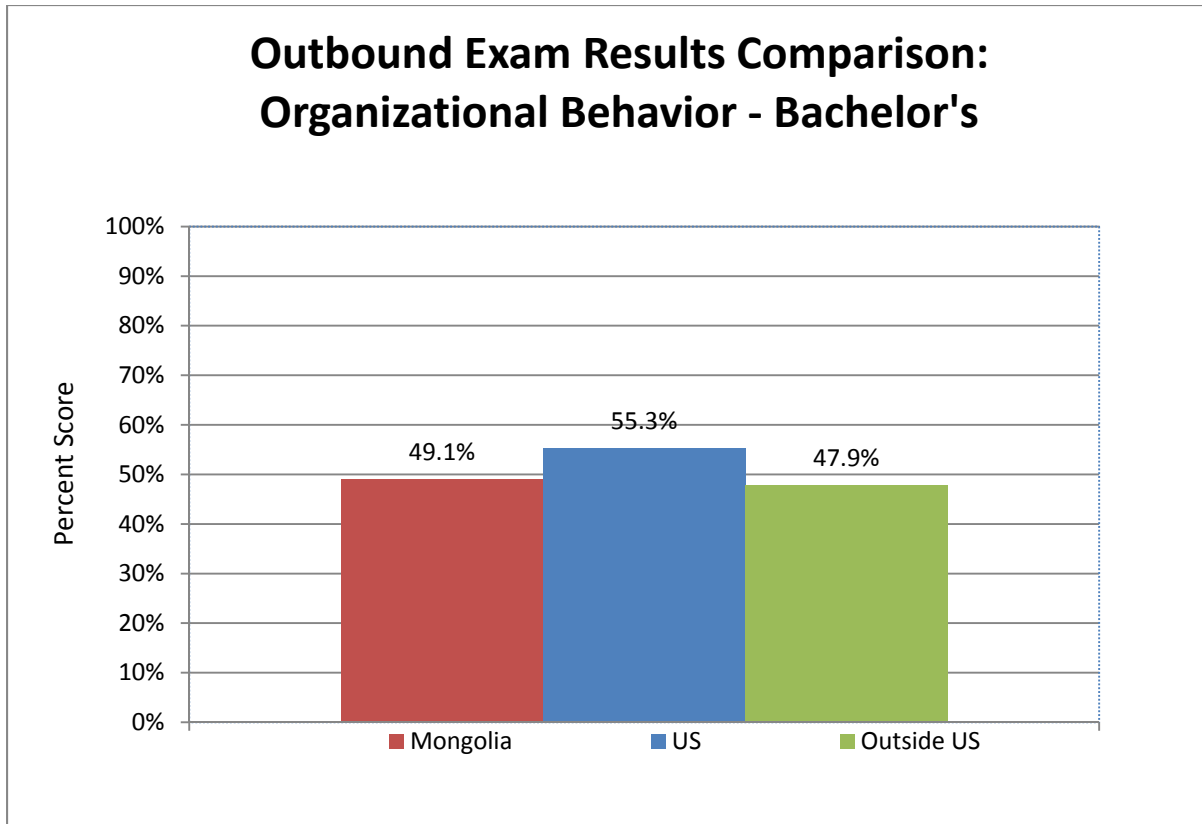


Figure 16. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **ORGANIZATIONAL BEHAVIOR**.

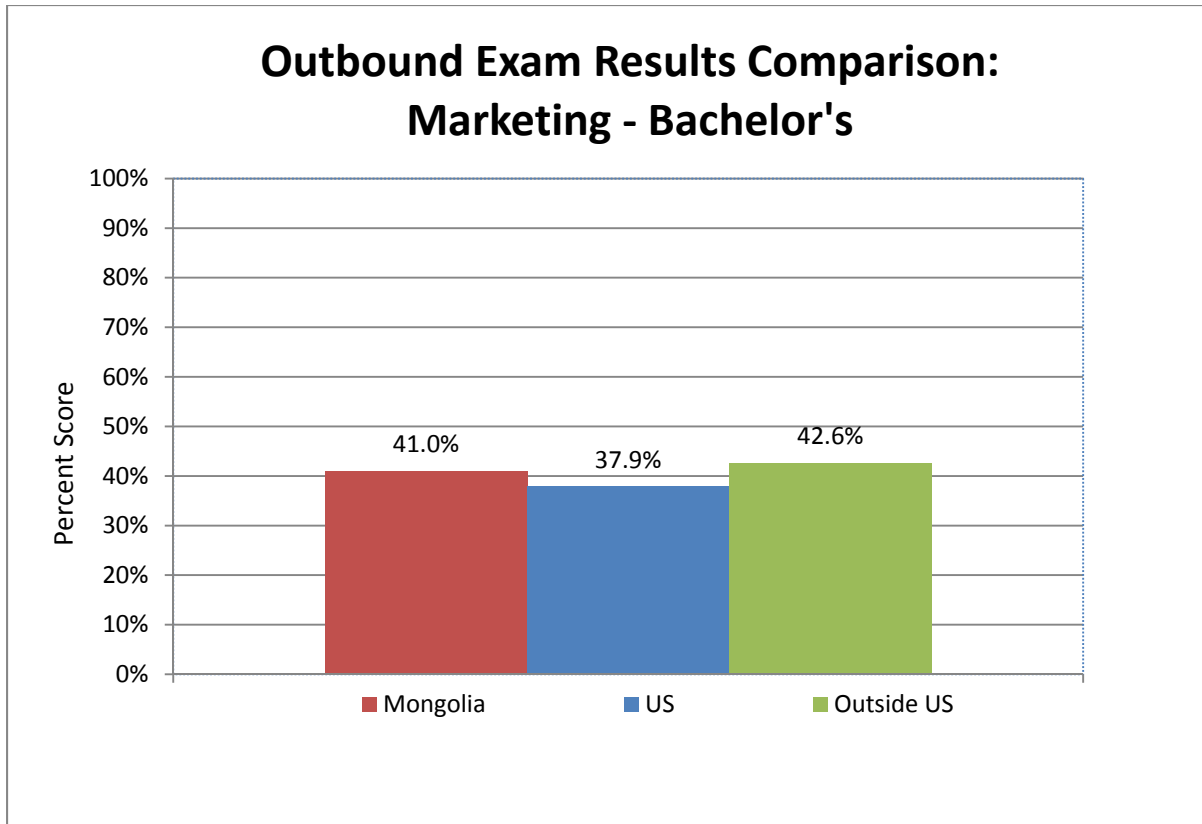


Figure 17. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **MARKETING**.



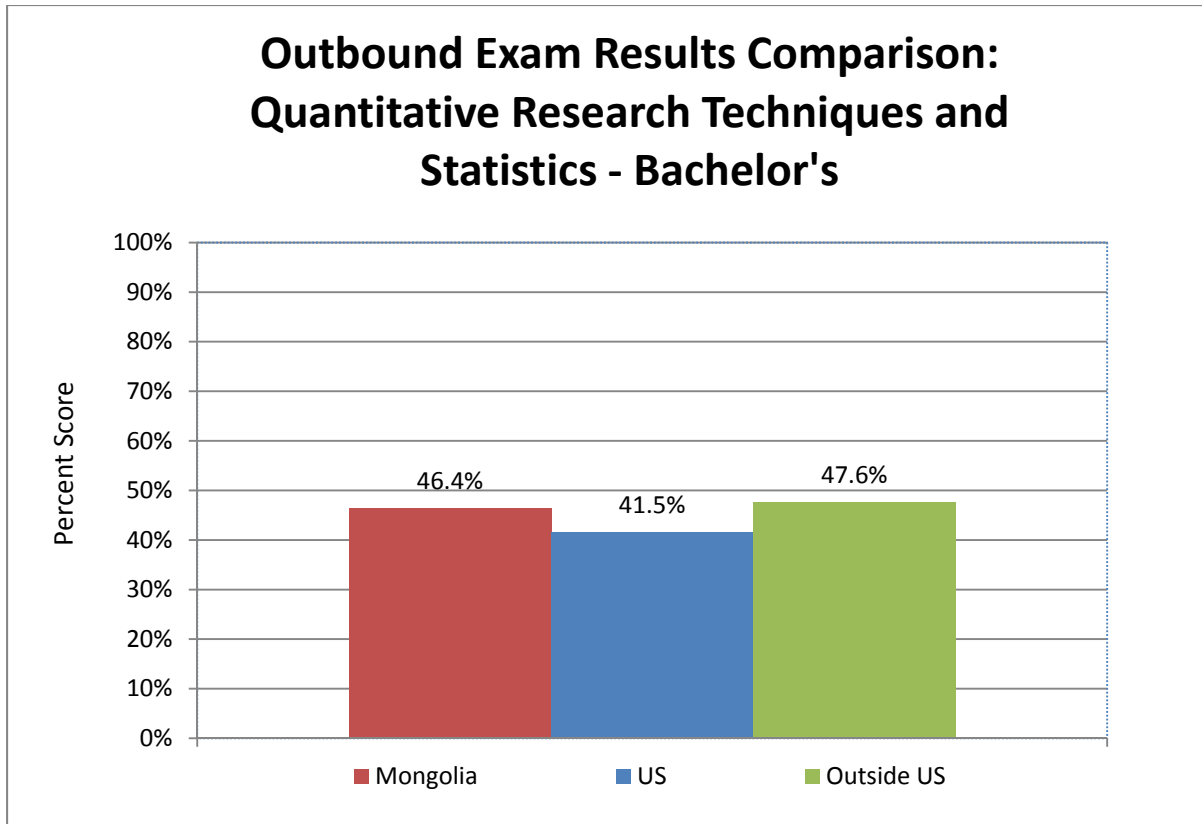


Figure 18. Bachelor's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **QUANTITATIVE RESEARCH TECHNIQUES AND STATISTICS**.

The percentage change between Inbound and Outbound Exam results represents the direct measure of learning. As shown in Figure 19, the average percentage change from Inbound to Outbound exams for Mongolian students at the Bachelor's academic degree level was 9.9%, as compared to 14.9% for US and 12.6% for Outside US aggregate results.

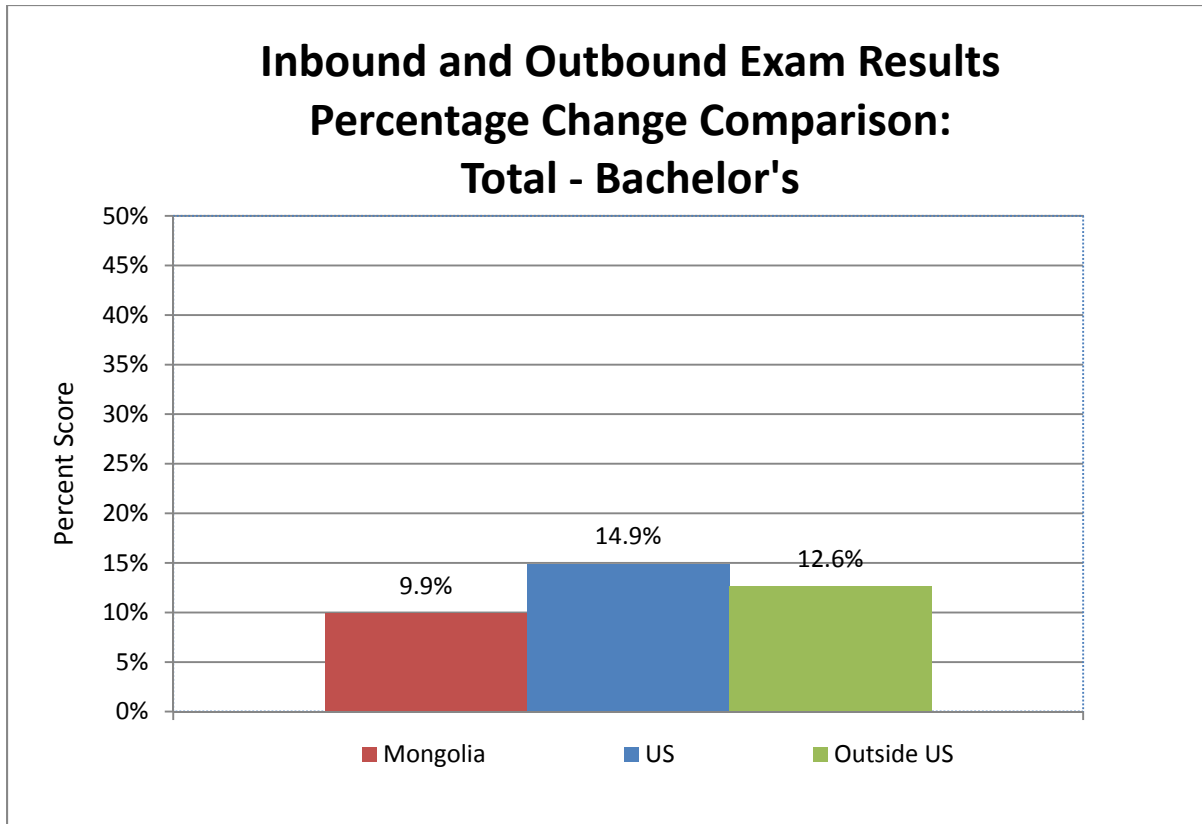


Figure 19. Bachelor's academic degree level Inbound to Outbound Exam Percentage Change results for Mongolia, US, and Outside US for the total exam scores.

### **Master's Program Assessment Results**

During the 2012-2013 academic year, six colleges and universities located in Mongolia administered the inbound (146 total exams) and four the outbound (122 total exams) COMP exam to students enrolled in Master's academic degree level programs. Participating institutions that administered the COMP exam to graduate (Master's academic degree level) students in Mongolia included:

1. "Ider" Institute
2. Institute of Finance and Economics, The
3. "Mandakh Burtgel" Institute
4. Mongolian University of Science and Technology, Computer Science and Management School
5. "San" Institute
6. The Global Leadership University

Of the aforementioned six schools, “San” and “Mandakh Burtgel” institutes administered the inbound exam only, whereas all the other schools have held both inbound and outbound testing for graduate level program assessment.

Master’s academic degree level Inbound Exam results for institutions located in Mongolia, the US and outside of the US by total assessment and topical mean percent scores are shown in Table 3. Based on these total mean percent scores, the Mongolian students enrolled in Master’s academic degree level programs are performing slightly better than their international counterparts, but below those studying in the US. Inbound scores are only used to establish a baseline measurement of knowledge prior to the student’s academic experience within the identified program. Inbound exam scores are best understood in comparison to the Outbound Exam scores. Seldom do school officials incentivize an Inbound Exam, since the students are just starting their academic program and therefore they are expected to score low. Overall scores are higher for Master’s level Inbound Exam compared to Bachelor’s level scores because Master’s degree level students are starting out at a higher knowledge level than Bachelor’s degree students.

Table 3. Inbound Exam results for Mongolian, Outside US, and US Master’s level students.

	<b>Mongolia</b>	<b>US</b>	<b>Outside US</b>
CPC Topic	<b>Percent Score</b>	<b>Percent Score</b>	<b>Percent Score</b>
<b>Total Assessment Analysis</b>	<b>48.9%</b>	<b>54.6%</b>	<b>47.6%</b>
Accounting	58.4%	51.3%	52.3%
Business Ethics	38.9%	52.7%	55.2%
Business Finance	43.6%	38.0%	42.3%
Business Integration and Strategic Management	48.7%	63.9%	42.5%
Business Leadership	55.3%	68.5%	44.5%
Economics	48.2%	48.6%	48.3%
Macroeconomics	44.7%	47.1%	50.7%
Microeconomics	51.8%	50.5%	60.0%
Global Dimensions of Business	44.6%	49.9%	46.3%
Information Management Systems	43.4%	61.3%	55.6%
Legal Environment of Business	56.6%	49.5%	44.4%
Management	57.3%	59.6%	54.9%
Human Resource Management	52.6%	60.9%	52.4%
Operations/Production Management	66.4%	56.5%	43.3%
Organizational Behavior	53.0%	61.1%	46.5%
Marketing	41.6%	60.6%	41.8%
Quantitative Research Techniques and Statistics	42.5%	48.7%	39.2%

Master’s academic degree level Outbound Exam results are compared between the Mongolian, US and International institutions with mean percent scores recorded for the total assessment and individual topics within Table 2. Based on these total mean percent scores, the Mongolian students enrolled in Master’s academic degree level programs are performing below than both of their counterparts studying in the US (difference of -8.0%) and Outside (difference of -2.3%) of the US. This is not what we observe in the Bachelor’s academic degree level Outbound exam, in which the Mongolian students performed nearly on par with the Outside US students and below of those in the US.

Performance on Outbound Exams is usually academically incentivized with individual grades recorded based on student results. The goal is to get students to perform their best on the Outbound Exam in order to realistically show both the change in knowledge from the Inbound Exam results and the retained knowledge of the students.

Table 4. Outbound Exam results for Mongolian, Outside US, and US Master’s level students.

	<b>Mongolia</b>	<b>US</b>	<b>Outside US</b>
CPC Topic	<b>Percent Score</b>	<b>Percent Score</b>	<b>Percent Score</b>
<b>Total Assessment Analysis</b>	<b>50.4%</b>	<b>58.4%</b>	<b>52.7%</b>
Accounting	58.9%	55.4%	57.4%
Business Ethics	40.8%	57.5%	60.3%
Business Finance	45.2%	42.6%	46.2%
Business Integration and Strategic Management	47.9%	66.8%	50.4%
Business Leadership	56.1%	71.1%	50.6%
Economics	53.0%	52.7%	51.7%
Macroeconomics	51.2%	51.0%	52.0%
Microeconomics	54.9%	54.6%	65.6%
Global Dimensions of Business	47.2%	53.0%	51.4%
Information Management Systems	44.3%	64.9%	59.6%
Legal Environment of Business	56.6%	55.6%	51.2%
Management	57.3%	62.7%	63.1%
Human Resource Management	49.4%	63.1%	57.5%
Operations/Production Management	66.5%	60.3%	47.6%
Organizational Behavior	55.7%	64.5%	53.5%
Marketing	43.8%	62.6%	48.7%
Quantitative Research Techniques and Statistics	44.6%	53.5%	44.6%

Shown in Figures 20-37 are the Master’s academic degree level Outbound Exam comparison graphics for Mongolian, US, and Outside US results of the total mean percent scores for each of the 12 CPC topics with subtopics included for Economics (Macroeconomics and Microeconomics), Management (Human Resource Management, Operations/Production Management and Organizational Behavior).

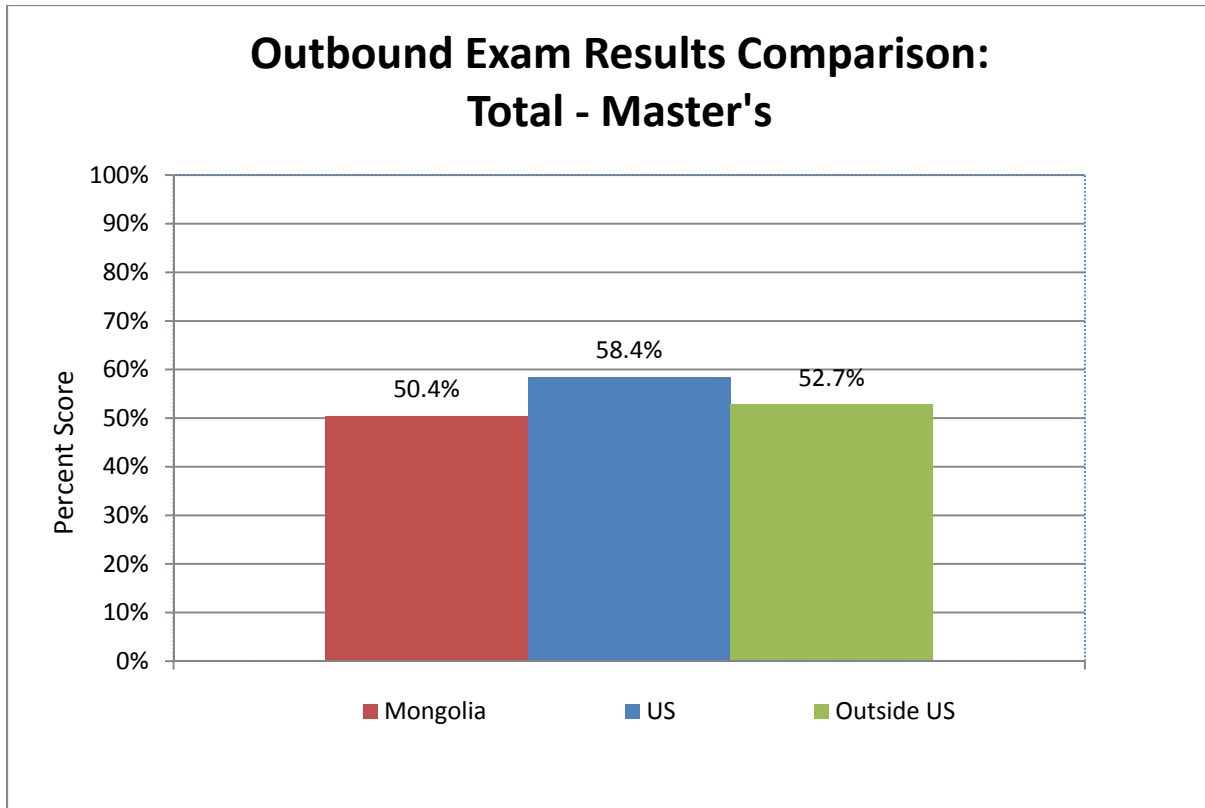


Figure 20. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **TOTAL SCORE**.

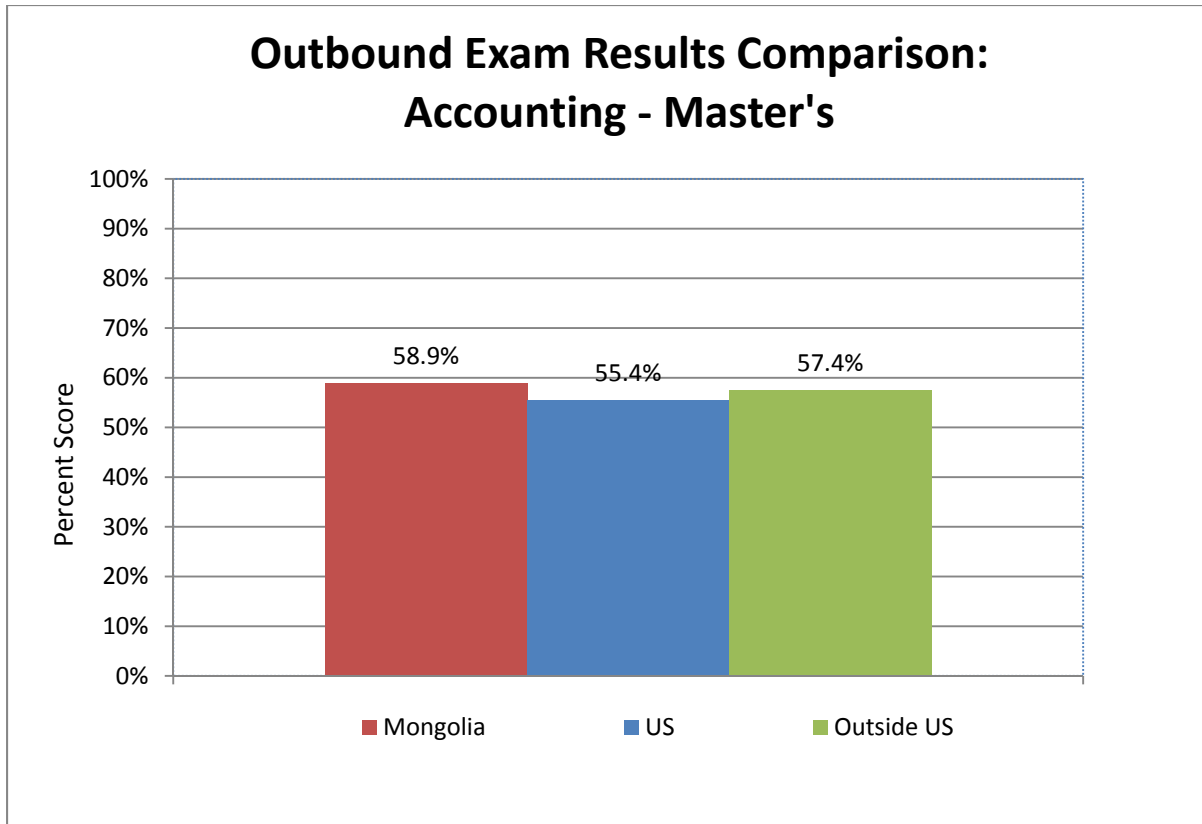


Figure 21. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **ACCOUNTING**.

The accounting principles assessed by this topic include those most closely aligned with US and European accounting systems. Considerations are underway to develop a new topic for accounting that would be country-specific to other forms of accounting; however, these results do suggest a reasonable good alignment of the questions with what is taught within the curriculum.

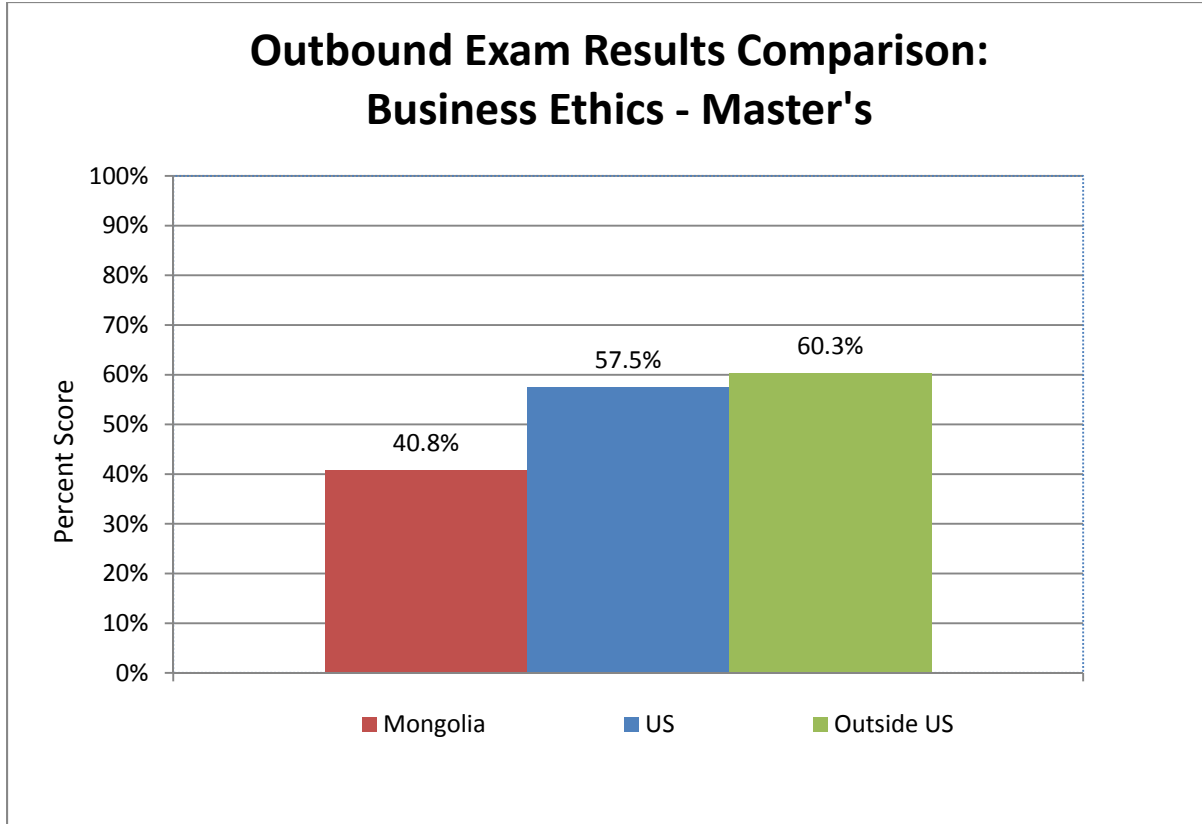


Figure 22. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **BUSINESS ETHICS**.



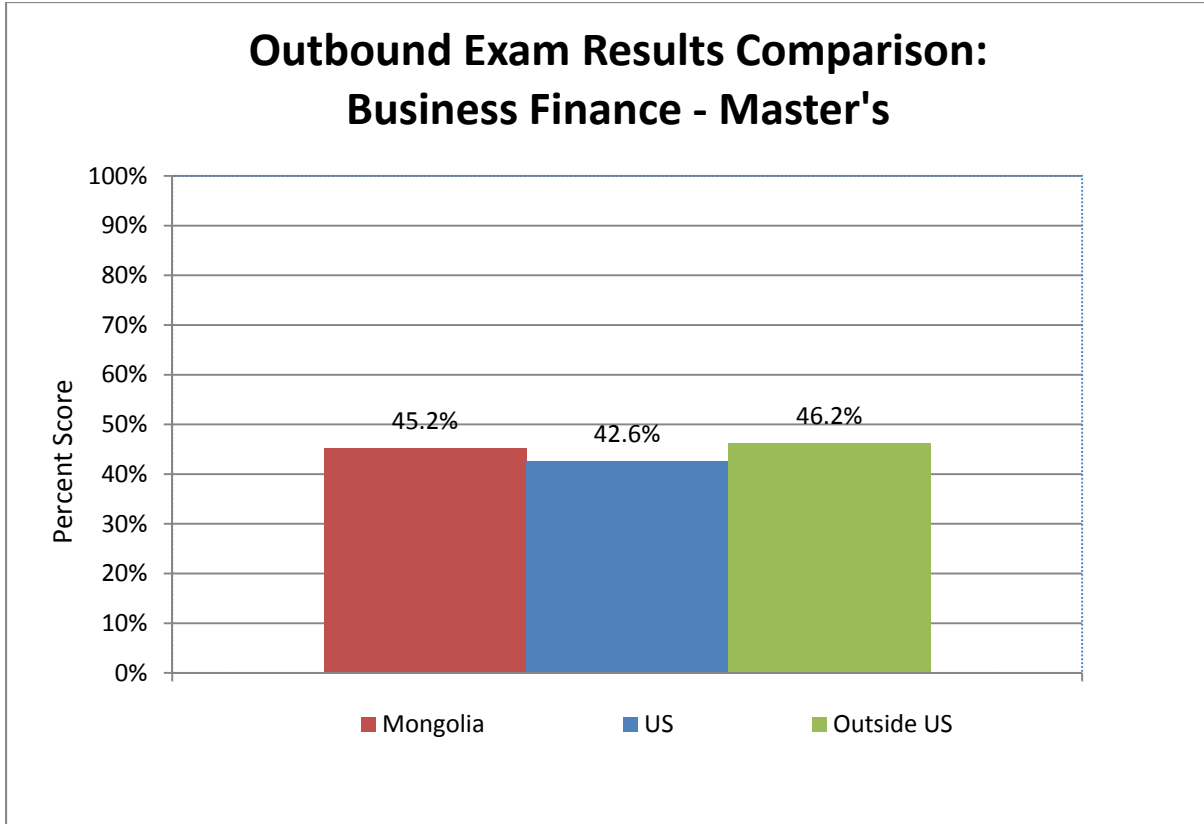


Figure 23. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **BUSINESS FINANCE**.

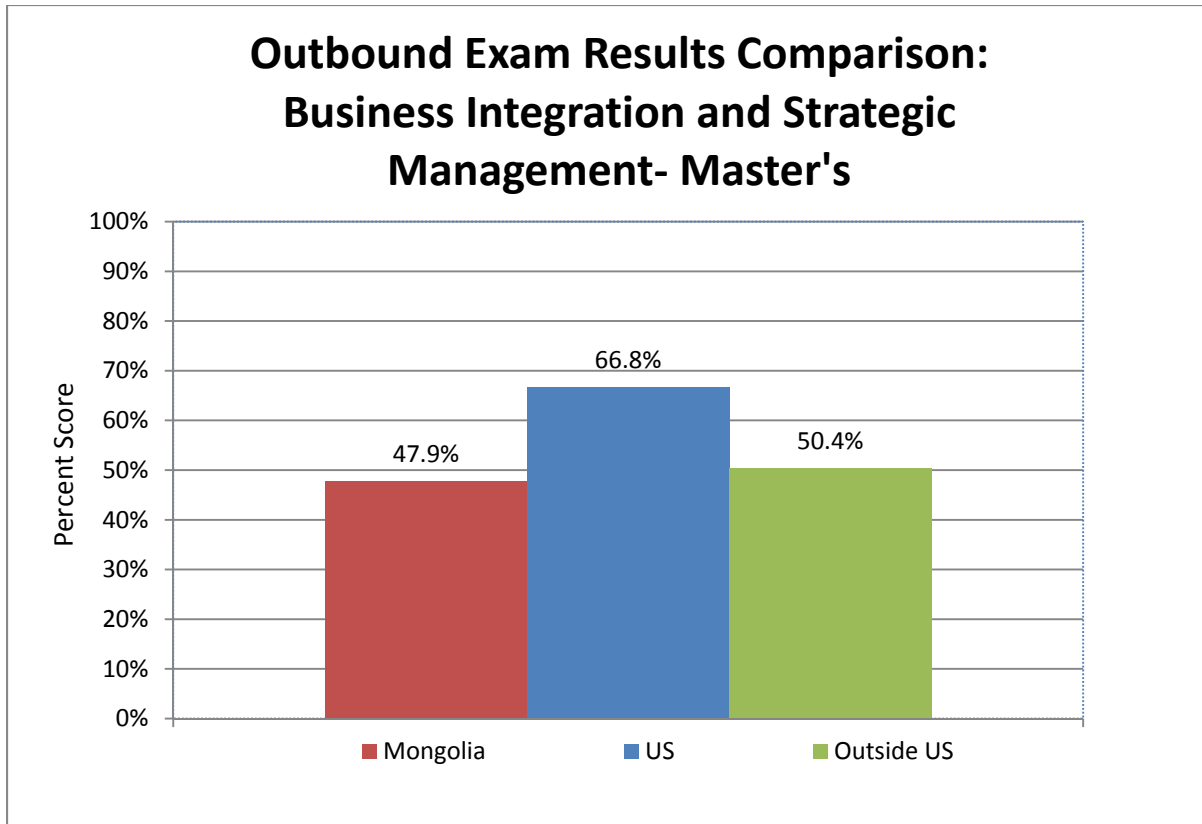


Figure 24. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **BUSINESS INTEGRATION AND STRATEGIC MANAGEMENT**.

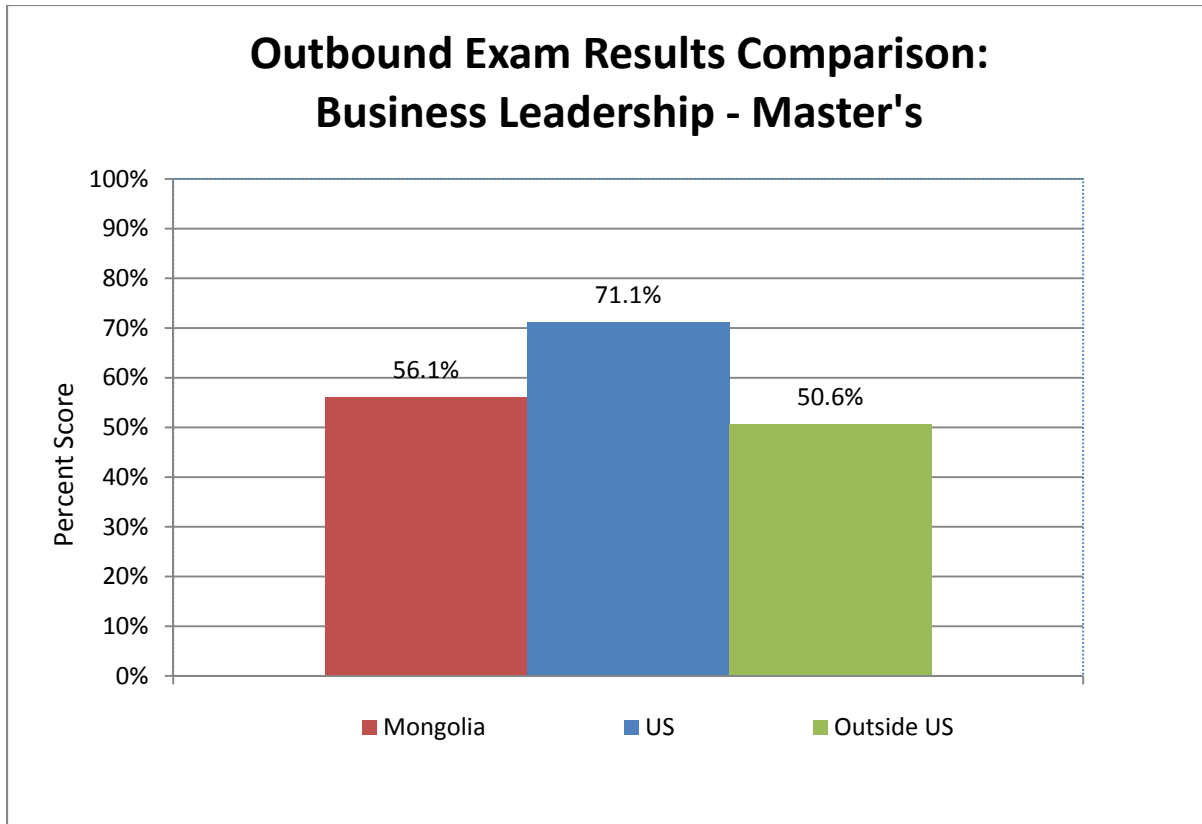


Figure 25. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **BUSINESS LEADERSHIP**.

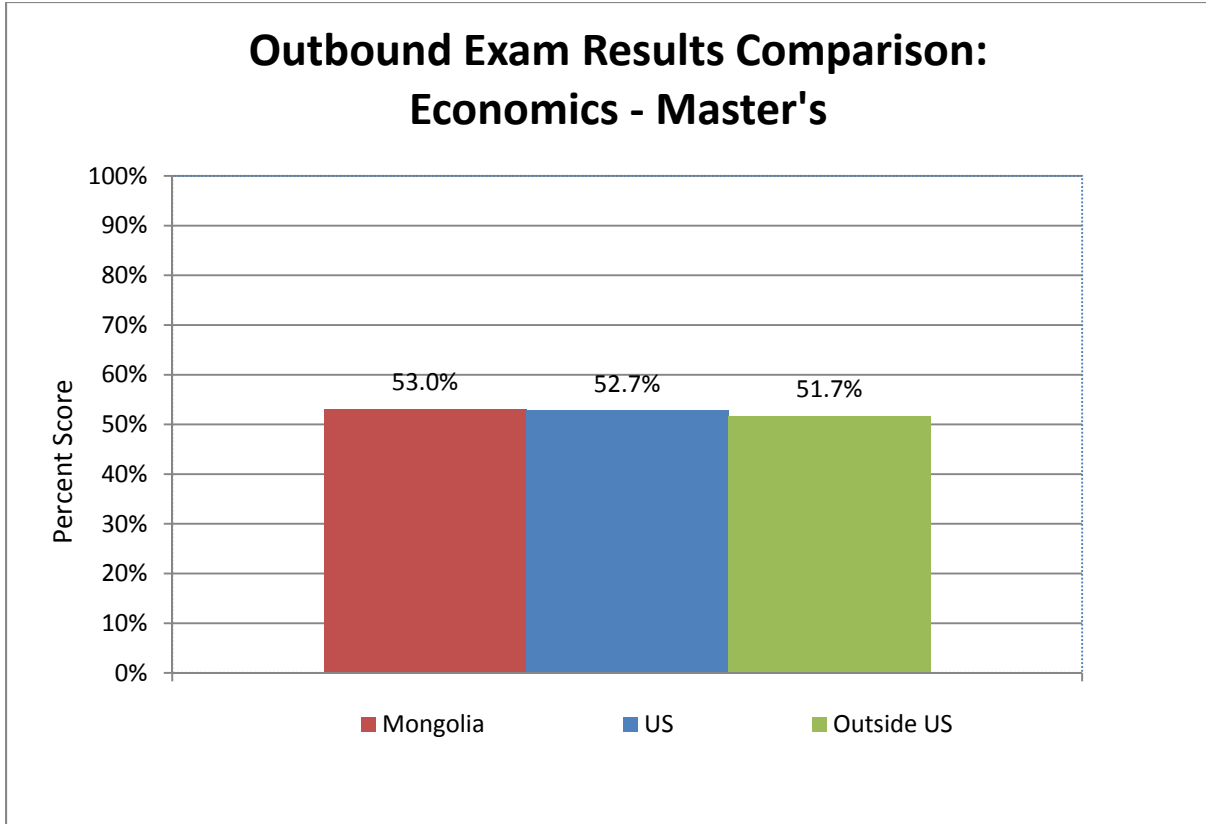


Figure 26. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **ECONOMICS**.

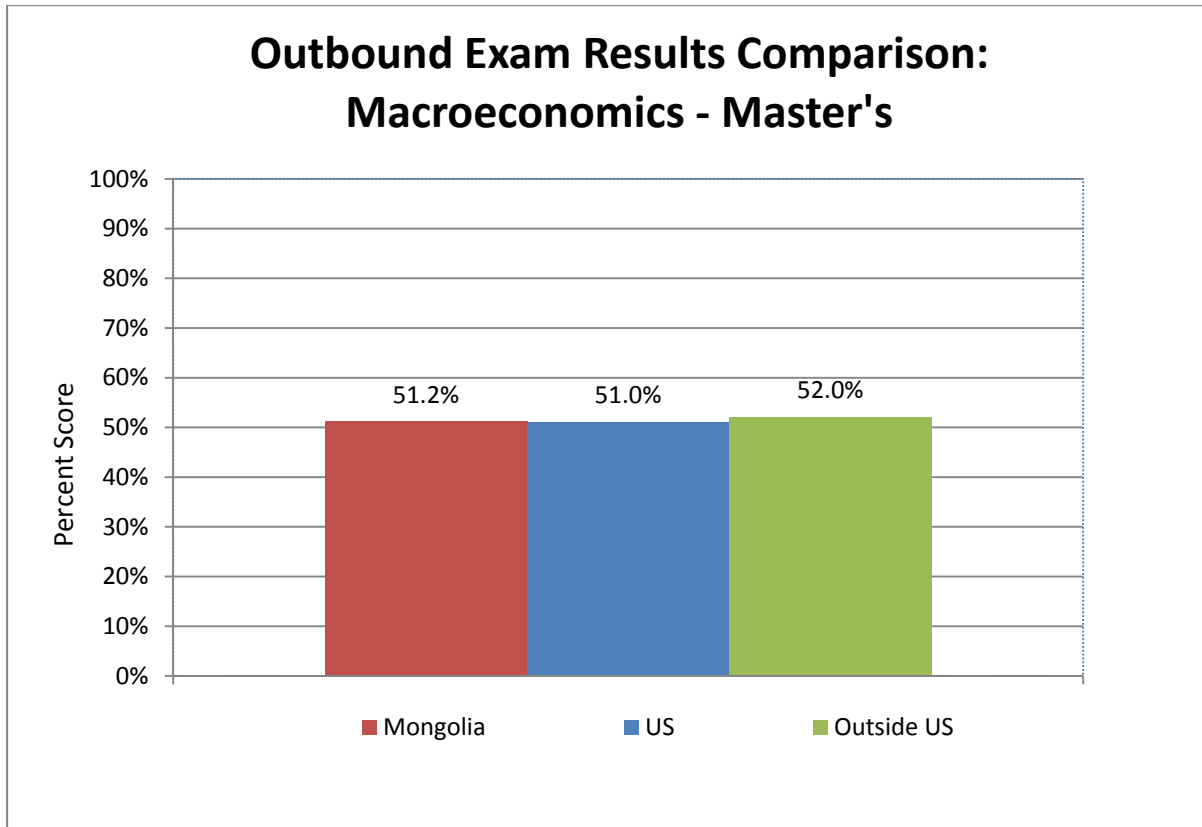


Figure 27. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **MACROECONOMICS**.

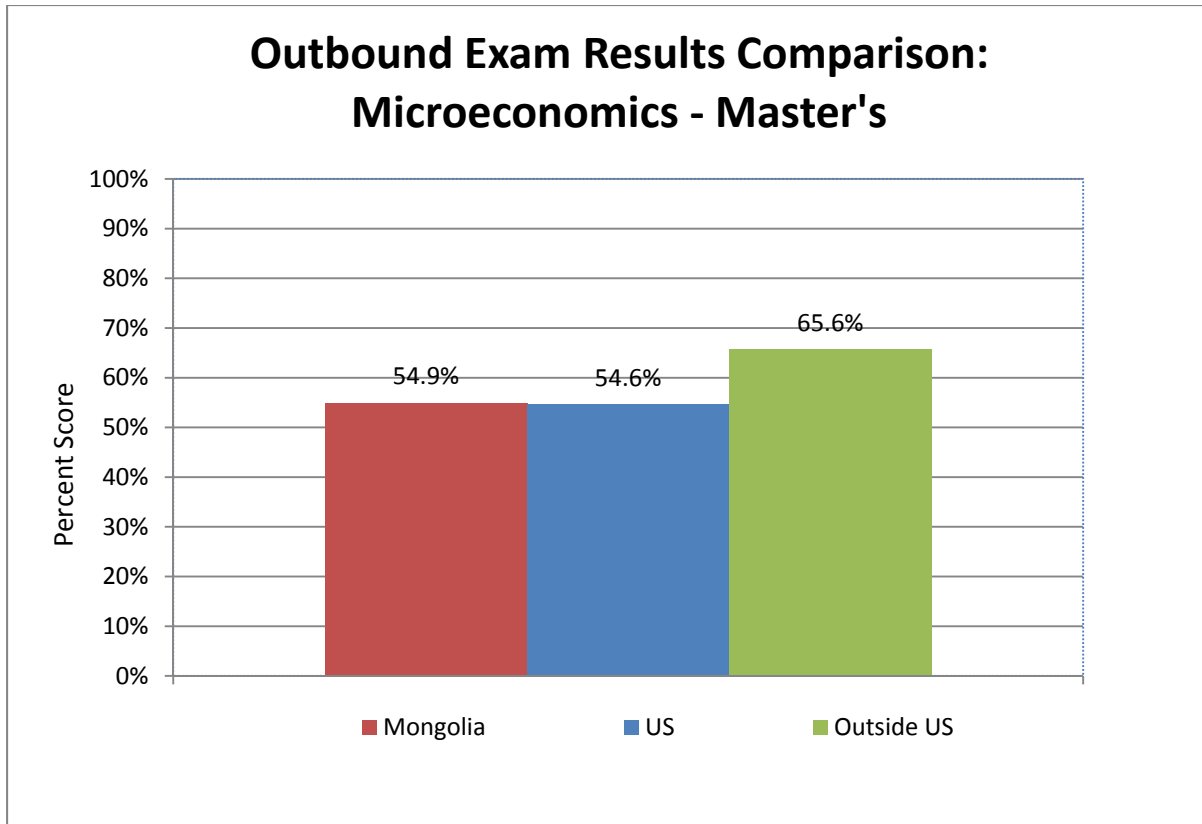


Figure 28. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **MICROECONOMICS**.

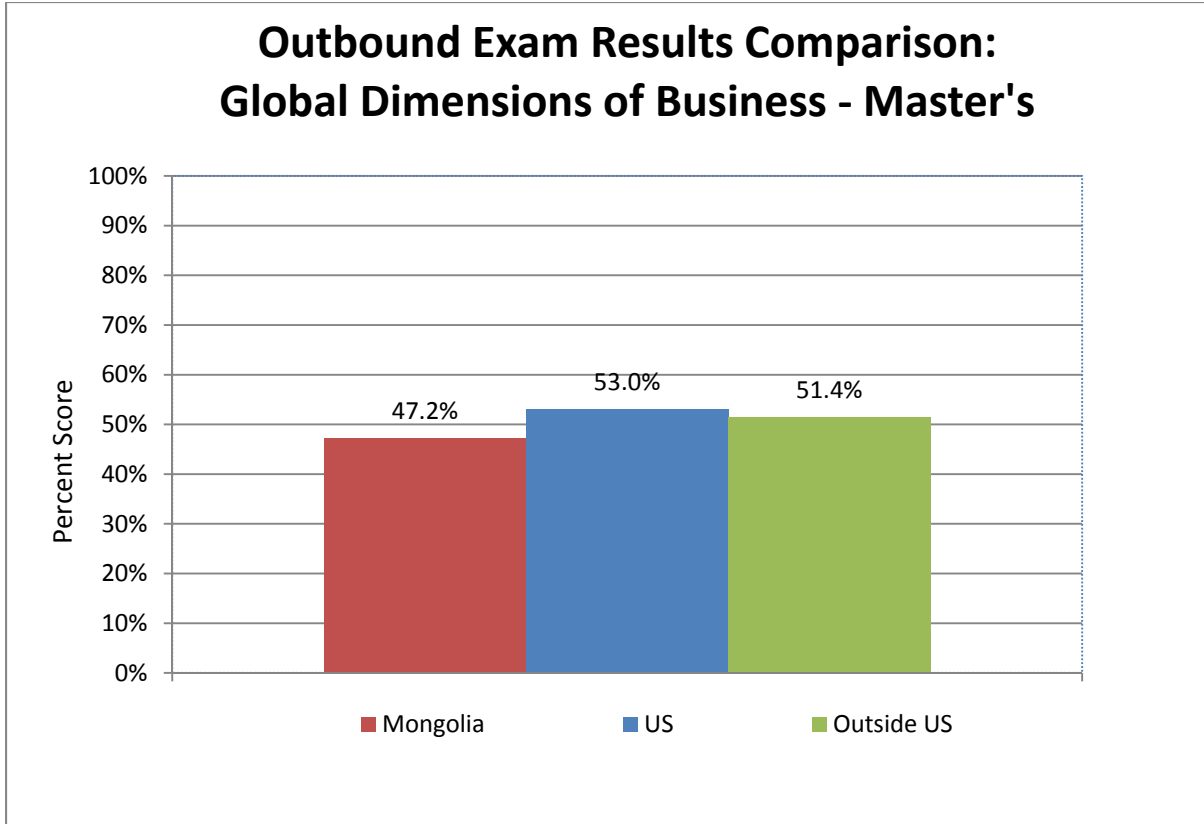


Figure 29. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **GLOBAL DIMENSIONS OF BUSINESS**.

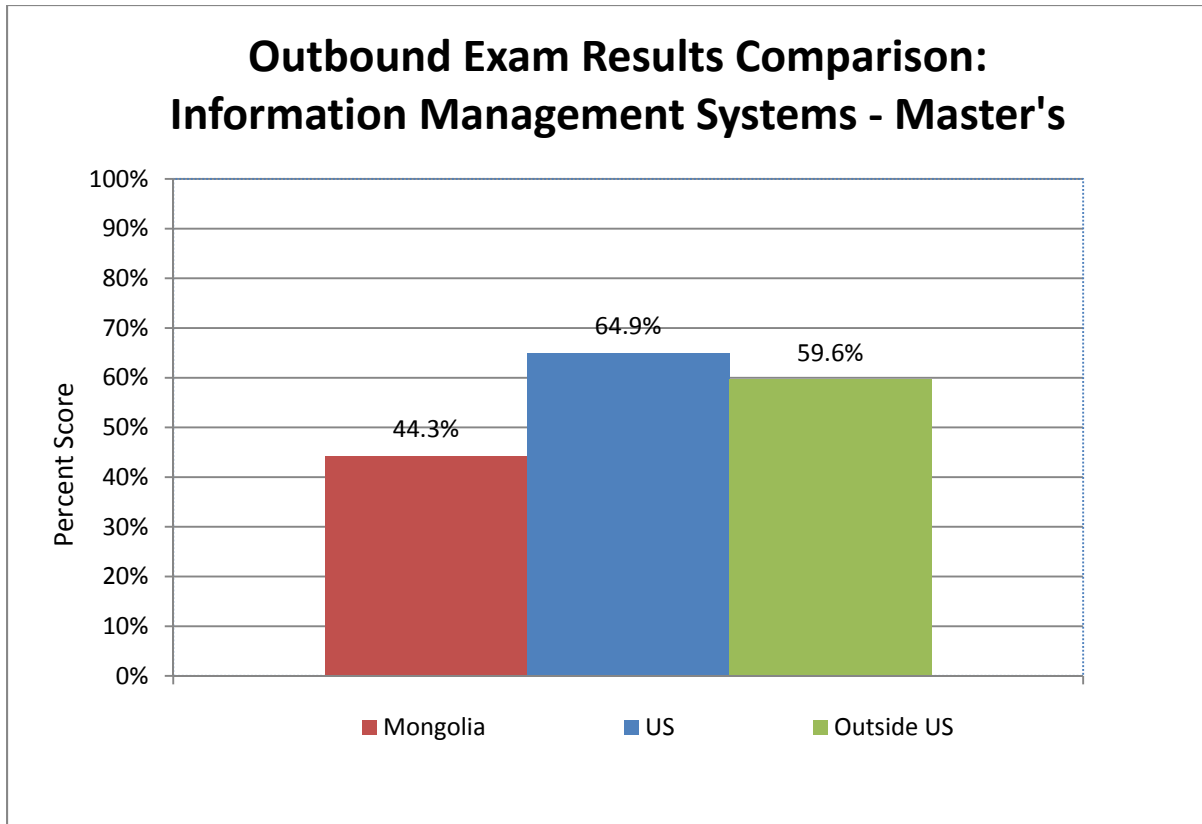


Figure 30. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **INFORMATION MANAGEMENT SYSTEMS**.



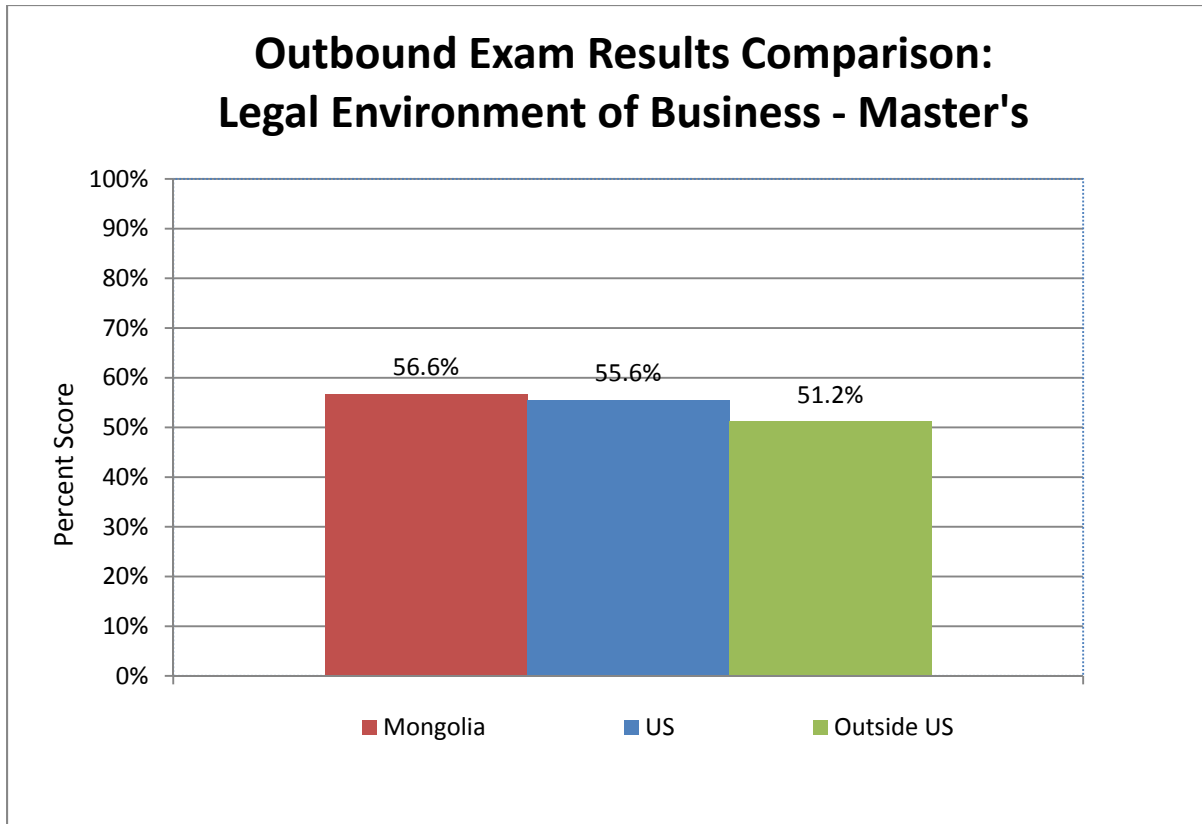


Figure 31. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **LEGAL ENVIRONMENT OF BUSINESS**.

The legal concepts of business assessed by this topic include those most closely aligned with international trade, as opposed to country-specific legal concepts of business. Considerations are underway to develop a new topic for the legal environment of business that would be country-specific; however, these results do suggest a reasonably good alignment of the questions with what is taught within the curriculum.

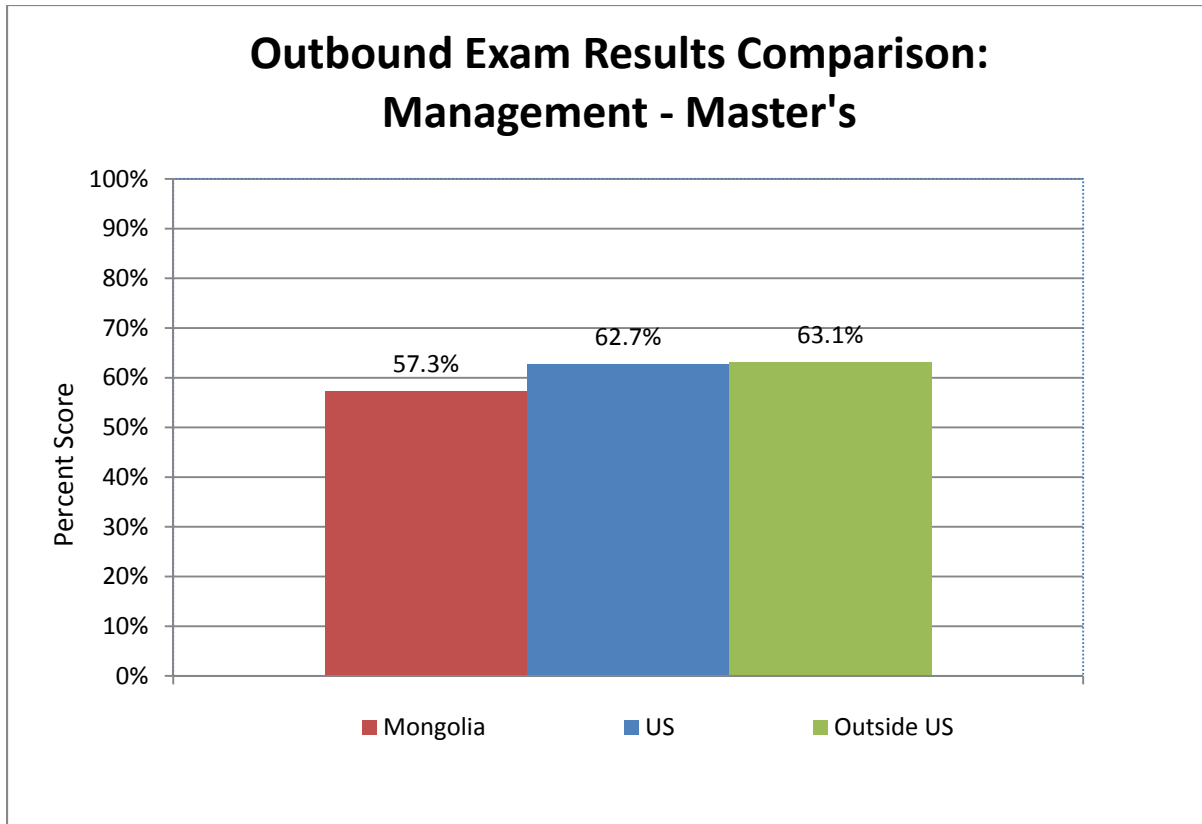


Figure 32. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **MANAGEMENT**.

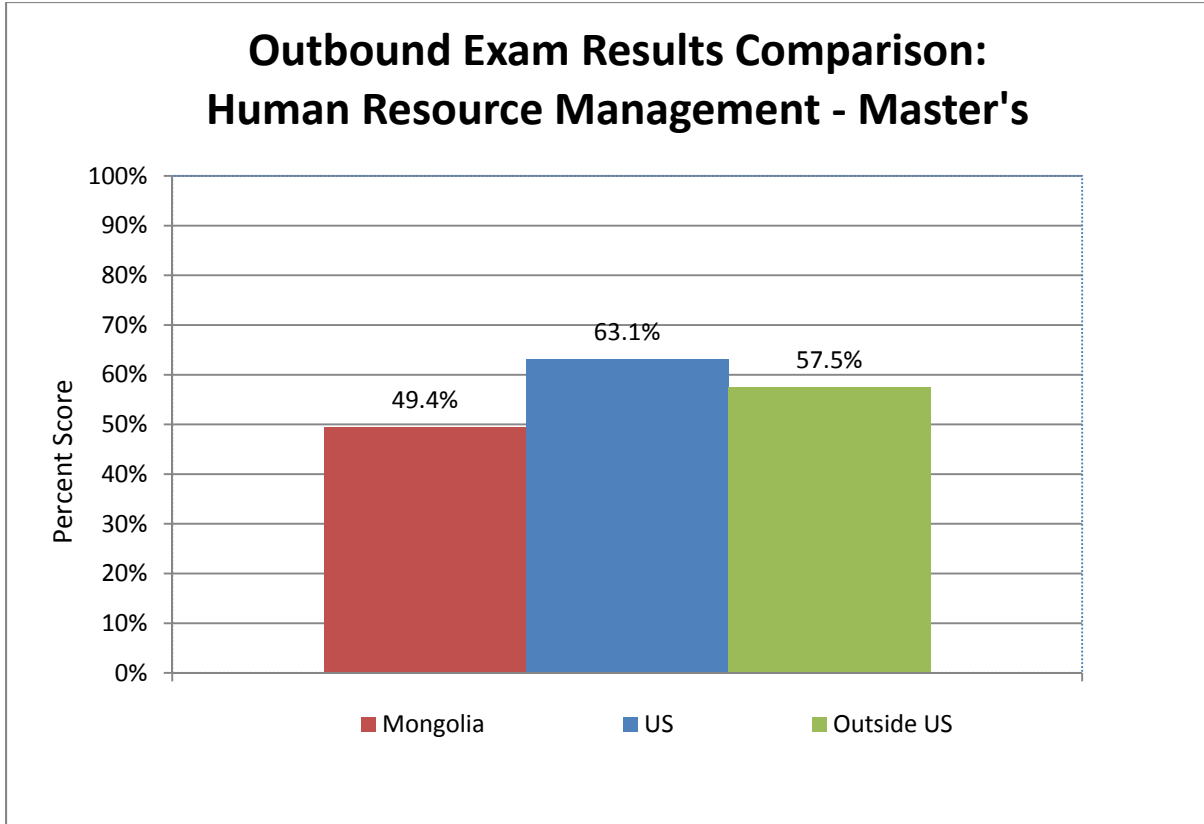


Figure 33. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **HUMAN RESOURCE MANAGEMENT**.

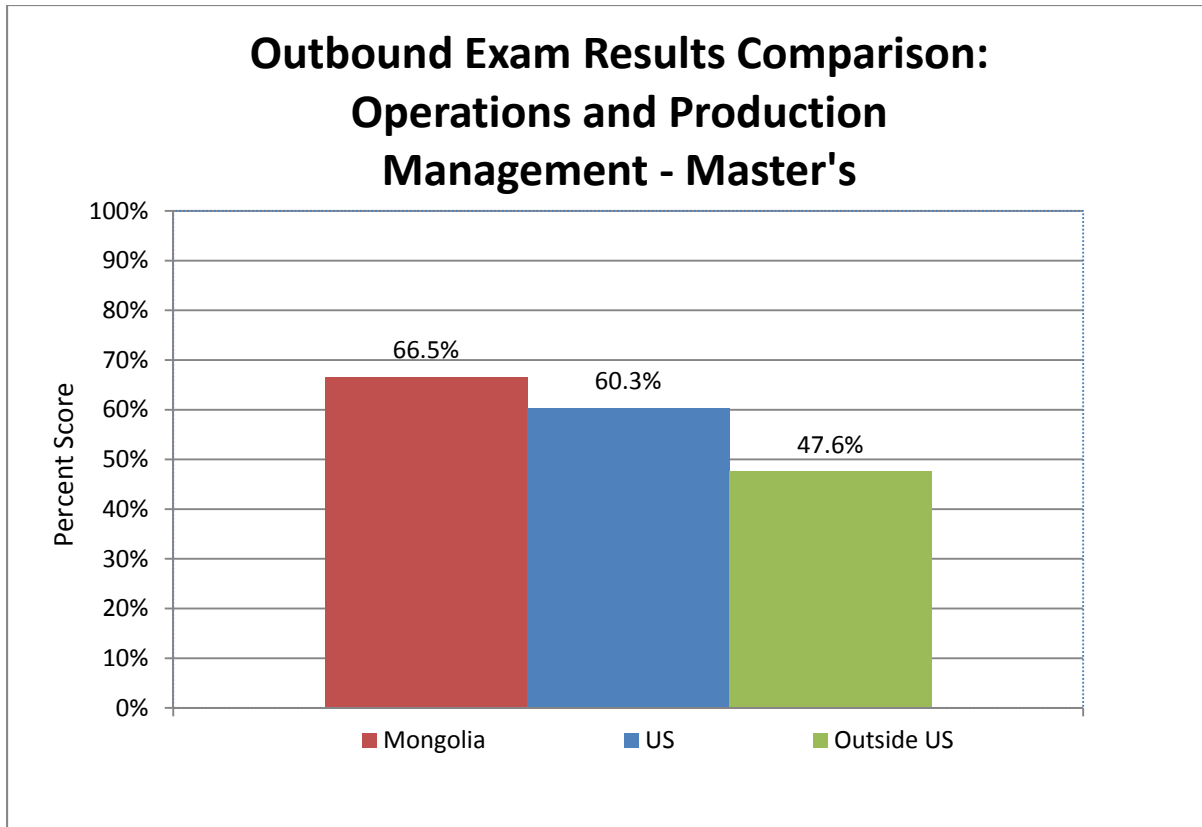


Figure 34. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **OPERATIONS AND PRODUCTION MANAGEMENT.**

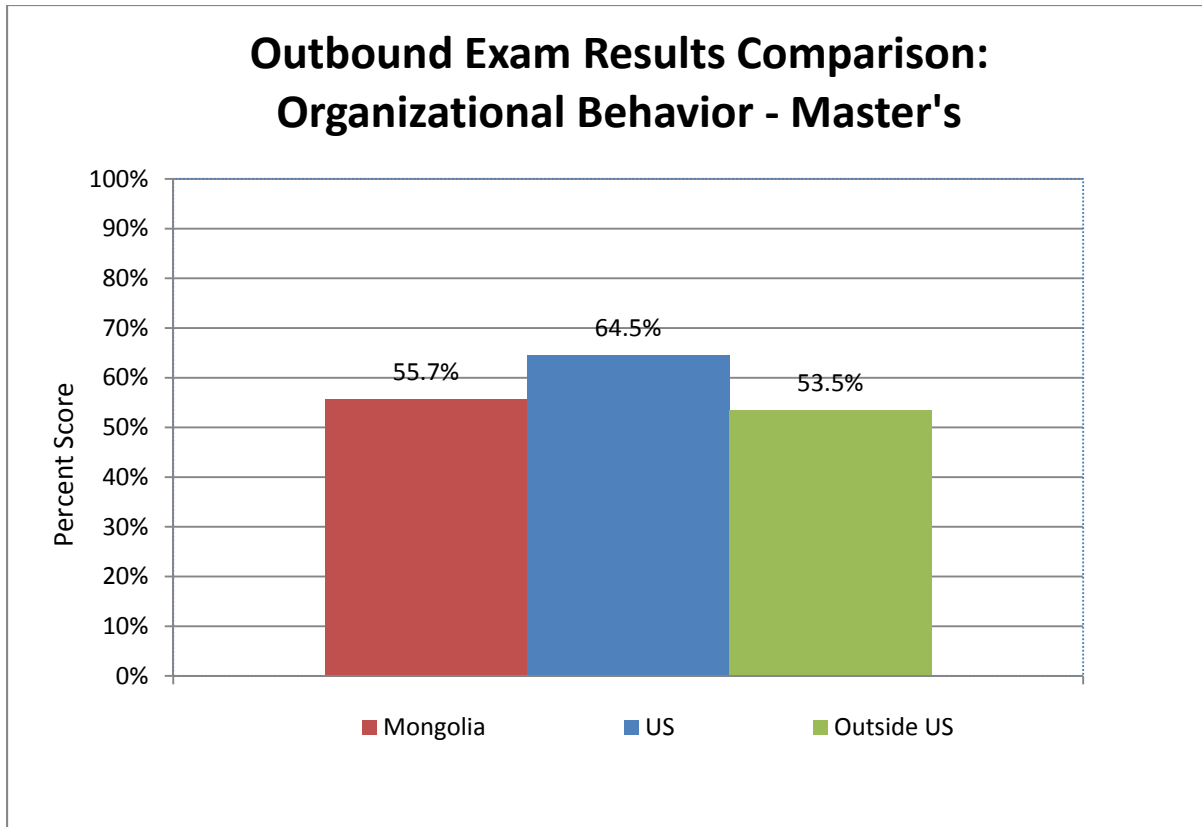


Figure 35. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **ORGANIZATIONAL BEHAVIOR**.

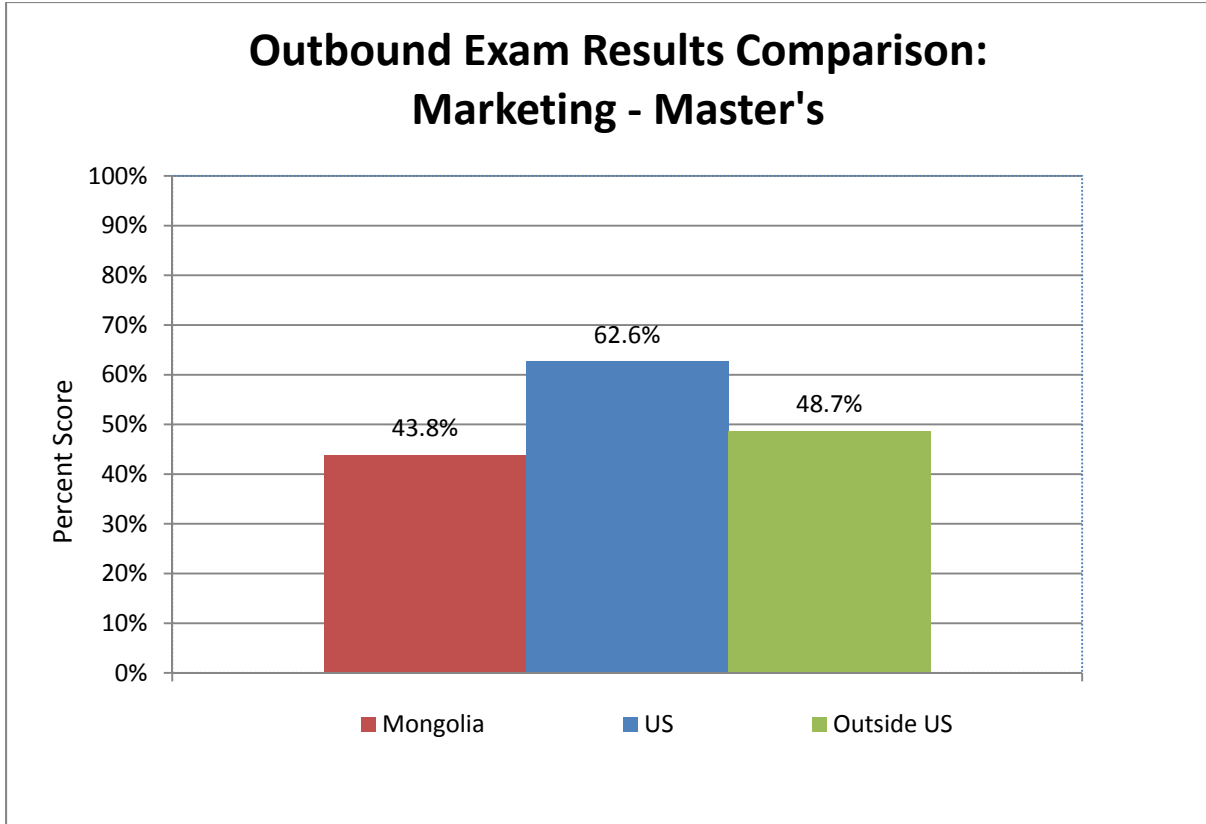


Figure 36. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **MARKETING**.

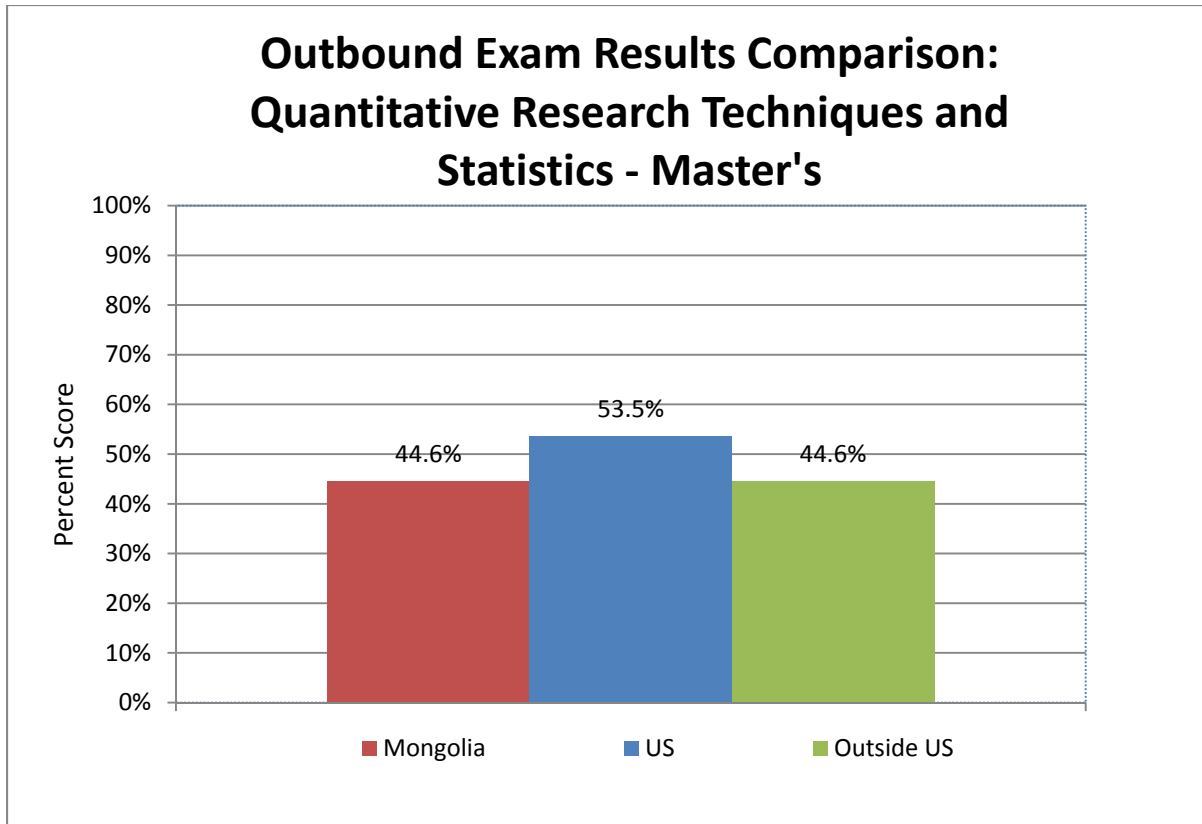


Figure 37. Master's academic degree level Outbound Exam results for Mongolia, US, and Outside US – **QUANTITATIVE RESEARCH TECHNIQUES AND STATISTICS**.

The percentage change between Inbound and Outbound Exam results represents the direct measure of learning. As shown in Figure 38, the average percentage change from Inbound to Outbound exams for Mongolian students at the Master's academic degree level was 3.1%, compared to 7.0% for US and 10.9% for Outside US aggregate results. The percentage change was low for Mongolian Master's academic degree level students; however, the sample size used for such comparisons is low.

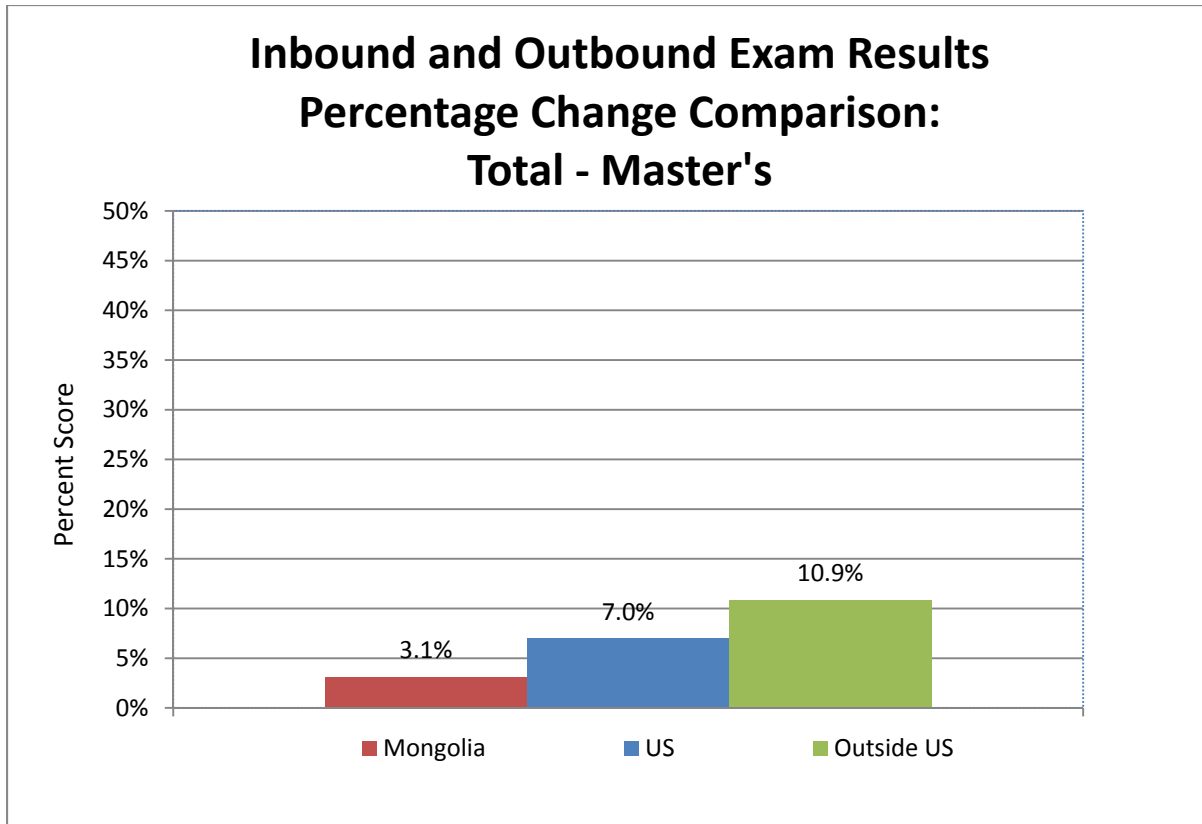


Figure 38. Master's academic degree level Inbound to Outbound Exam Percentage Change results for Mongolia, US, and Outside US for the total exam scores.



## **FUTURE ACTIONS**

In the 2013-2014 academic year, Peregrine Academic Services plans to continue working with the existing client institutions in Mongolia and adding new Mongolian client institutions. As the number of Mongolian business schools interested in seeking US accreditation by ACBSP increases, PAS continues to support that effort with academic tools related to specific accreditation related requirements. Additionally, as school officials become more involved in assessment of student learning outcomes and improvement in the quality of business curriculum and instruction, it is anticipated that more colleges and universities will be added.

Peregrine Academic Services is committed to providing the highest quality service with the best customer support. Specifically, PAS is undertaking a review and enrichment of the Mongolian test bank questions to improve the quality of translation work from English into Mongolian and supplement the test bank with questions and examples that are relevant to the local Mongolian academic needs.

In September 2013, PAS plans to conduct a series of one-day consulting workshops for several client institutions in Mongolia on topics covering Student Learning Assessment, Strategic Planning Review and Development, Self-Study Review and Development. Similar workshops are anticipated for 2014. PAS will continue maintaining its valued partnership with ACBSP.

During visits to Mongolia by the PAS team and with the ongoing work by the PASM team, company representatives continue to work with client institutions in assisting them towards understanding and applying the results of the program-level assessments for continuous improvement of the Mongolian higher educational delivery.

## GLOSSARY OF TERMS

**Abandoned Exam:** an exam where the 48-hour time limit elapses. These exams are auto-completed, giving the student a score of "0" for each unanswered question. These exams are only included in the school's raw data, not in the reporting or analysis.

**Academic Level:** the academic degree level of the program such as Associate, Bachelor's, Master's, and Doctoral.

**Aggregate Pools:** the aggregate pool is the dataset used for external benchmarking and comparisons and is based on the results from accredited institutions. The various aggregate pools are defined as follows:

### Pools Based on Program Delivery Modality

1. Traditional. The majority of the program is delivered at a campus location at an established college or university. The majority of the students are recent high school graduates, typically 18-22 years old. Courses are taught on a semester or quarter bases, typically Monday through Friday.
2. Online. The majority of the program is delivered online to students and there is little, if any, requirement for the students to go to a campus location any time during their college or university experience. The majority of the students are considered non-traditional, meaning they tend to be older, may have some college credit prior to starting their program, and are often working adults completing their degree program.
3. Blended. The program is delivered to students using a combination of online and campus-based instructions and/or the program is delivered at an accelerated format. The course term is typically 4 to 8 weeks. Campus-based instruction tends to be either at night or on weekends with generally longer individual sessions. The student population tends to be non-traditional, meaning they tend to be older, may have some college credit prior to starting their program, and are often working adults completing their degree program.

### Pools Based on Location

1. Outside-US. Includes colleges and universities located outside of the United States. Program delivery is usually campus-based; however, the aggregate pool includes some blended and online programs.
2. Regional/Country. Includes colleges and universities located outside of the United States from specific regions (e.g. Latin America, Europe, Asia, etc.) or from specific countries (e.g. Mongolia). Program delivery is primarily campus-based; however, the pools may include some blended and online course delivery.
3. US. Includes all US-based schools and programs.

### **Pools Based on Institutional Characteristics**

1. Large Private. This aggregate pool includes large, privately owned universities within the United States.
2. HBCU. Includes colleges and university that are designated as Historically Black Colleges and Universities in the US.
3. Private. US schools that are privately owned.
4. Public. US schools that are publically owned.
5. Faith-based. US schools that have a specific religious affiliation or association.

### **Master's-level Pools Based on Degree Type**

1. Master's-MBA. Includes programs that are designed as Master of Business Administration.
2. Master's-MS. Includes programs that are designed as Master of Science.
3. Master's-MA. Includes programs that are designed as Master of Arts.

### **Pools Based on Dual-Accreditation Affiliation**

1. IACBE. Includes business schools and programs affiliated with the International Assembly for Collegiate Business Education. Where available, this pool is further divided by IACBE Region.
2. ACBSP. Includes business schools and programs affiliated with the Accreditation Council for Business Schools and Programs. Where available, this pool is further divided by ACBSP Region.
3. AACSB. Includes business schools and programs accredited with the Association to Advance Collegiate Schools of Business.

**Assessment Period.** The date range for the report, which includes all the exams administered within these dates. For synchronous schools, the assessment period is generally based upon the semester or quarter. For asynchronous schools, the assessment period is generally annual, semiannual, or quarterly. School officials determine the assessment period.

**Cohort.** A group of students based upon a demographic factor such as degree program, course delivery modality, campus location, program start date, etc. We provide cohort-level analysis based upon cohort categories identified at the start of the exam cycle.

**Common Professional Component (CPC).** As defined by the program accreditation bodies. CPC-based Comprehensive (COMP) Exam - an exam that includes all of the CPC topics to be assessed for a specified program. Each topic has 10 questions included within exam, randomly selected from a validated test bank that includes 300-500 exam questions. Inbound and outbound exams are generated from the same test bank of questions.

**External Benchmarking.** Analyses performed by comparing the cumulative results from a school with a demographically similar aggregate data set.

**Frequency of Questions Correct.** For outbound exams, the frequency of questions answered correctly is calculated for each subject within a CPC topic. The formula is:  $\text{Number of Questions Correct} / \text{Number of Questions Offered} * 100$ . In order to provide a relative index for understanding these data, an average of questions correct is shown for the aggregate pool selected for the Analysis Report. To see the comparisons for other pools, the Analysis Report can be re-run with a different pool selected.

**Inbound Exam.** A student exam administered early in the student's program, usually during their first or second core course, which measures the student's knowledge level at the beginning of his/her academic program.

**Internal Benchmarking.** Analyses performed by comparing the inbound and outbound exam scores and/or by the analyses of the frequency of questions correct for each subject within a CPC topic.

**Mean Completion Time.** The average time, in minutes, to complete the exam. Mean completion time is also shown for each CPC topic. Mean completion times are usual when evaluating student effort, particularly with outbound exam results. If the outbound exams have a relatively low mean completion time, this may be an indication that the students are not putting forth their best effort. Additional incentives may be necessary to encourage better student performance (extra credit, points, letter grades, credit for future assignments, etc.).

**Outbound Exam.** A student exam administered at the end of the student's academic program, usually within their last course, which measures the student's knowledge level at the end of their academic program.

**Percentage Change.** The percentage change between two scores. For inbound/outbound testing, the percentage change is calculated using the following formula:  $(\text{Outbound Score} / \text{Inbound Score}) - 1$ .

**Percentage Difference.** The percentage difference between a school's outbound student results and the aggregate, calculated using the following formula:  $\text{Aggregate Score} - \text{School Score}$ .

**Percentile.** Percentiles are shown within the subject level analysis based upon the frequency of questions answered correctly. The measure is used to establish relevancy of the school's score with the selected aggregate pool used for the Analysis Report. The Best in Class percentile scores indicate to what level an average score is needed in order to be at the 80th, 85th, 90th, or 95th percentiles, which school officials can subsequently use for academic benchmarking and for setting performance targets. The standard definition of Percentile (and formula) used is what percent of the total frequency scores is at or below that measure. A percentile rank is the percentage of scores that fall at or below a given score. When shown, the percentile rank of the school's exam sample of the subject/subtopic/ topic score to the aggregate pool is based on using exam results within the aggregate pool grouped by school and calculated using samples of 30 exams. The percentile rank is not a ranking based on the number of individual schools

included within the aggregate pool, rather it is a percentile ranking compared to the exam results included within the aggregate pool. When shown, the percentile rank of the school's exam sample of the subject/subtopic/ topic score to the aggregate pool is based on using exam results within the aggregate pool grouped by school and calculated using samples of 30 exams.

**Percent Change Comparison.** The percent difference between the school's percent change between inbound and outbound exam results and the aggregate pool's percent change between inbound and outbound exam results. The percent change comparison represents a relative learning difference between the specific school and demographically similar schools.

**Scatter Plot.** A visual representation of the exam results for all students. The purpose of the scatter plot is to provide you with a visual reference for the ranges in results.

**Subjects.** For each CPC topic, questions are grouped using 4-8 subject areas. CPC subjects generally correspond to the school's learning outcomes associated with each CPC topic. In using these data, consider the Subject is the Learning Outcome without the verb.

**Subtopic.** For the CPCs of Economics and Management, there are identified subtopics. For the CPC topic of Economics, the subtopics are Macroeconomics and Microeconomics. For the CPC topic of Management, the subtopics are Operations/Production Management, Human Resource Management, and Organizational Behavior. **NOTE:** When analyzing and evaluating the sub-topic scores, the cumulative totals of the subtopic scores (percentages) will not equal the topic score. The subtopic scores are based on the number of questions answered correctly for that specific subtopic. For example, getting 2 out of 3 questions correct for the subtopic of Human Resource Management would result in a score of 66.66%, 3 correct out of 4 questions on Organizational Behavior 75% and 1 out of 3 on Operations/Production Management -33.33%. The total Management topic score, however, is  $2+3+1 = 6$  out of 10, or 60%.

**Summary Statistics.** Includes the mean completion time, sample size, average score, standard deviation, and the min/max/median/mode scores.

**Total Exam Score Significance.** If a student simply randomly selected responses to questions, the statistical mean of the total score of such a randomly responded exam would be approximately 30% (+/- 2.5% depending upon the number of questions on the exam). Therefore, exam scores above 30% could be considered significant in terms of measuring actual knowledge levels - Total Exam Score Significance. If a student simply randomly selected responses to questions, the statistical mean of the total score of such a randomly responded exam would be approximately 30% (+/- 2.5% depending upon the number of questions on the exam). Therefore, exam scores above 30% could be considered significant in terms of measuring actual knowledge levels.