GEORGE FOX UNIVERSITY

External Comparison Report

Outbound 22

Assessment Period:
January 1, 2024 - November 20, 2024

Academic Level/Assessment Solution:
Masters Business Administration

Aggregate:
ACBSP Region 7 (Western Council)

PEREGRINE GLOBAL SERVICES

Data Included in Report

Outbound Assessments

- BUSG-556 Developing World-Class Leaders , n=22

External Comparison Report — George Fox University

Description of the report:

The External Comparison Report is a report of a selected set of exam results compared to one or more aggregate pools. Comparisons include a comparison of the scores and a comparison of percentage change when Inbound Exam scores are included with the Outbound Exam scores.

The report is based on an analysis of the means of the exam scores. The report compares the total score for the exams and the subject-level scores with the selected aggregate pools. The report also compares the percentage change between the Inbound Exam scores and the Outbound Exam scores.

A negative value for percentage change between the Inbound Exam and the Outbound Exam scores may indicate a potential issue with how the Outbound Exam was incentivized.

Academic officials use the report for program evaluation and external benchmarking. The report helps the officials identify the strengths of the program and potential gaps relative to the learning outcomes of the academic program.

Prepared By:

Peregrine Global Services

640 North Highway 14-16

Gillette, WY 82716

Phone: +1 (307) 685-1555

Email: ClientServices@PeregrineGlobal.com

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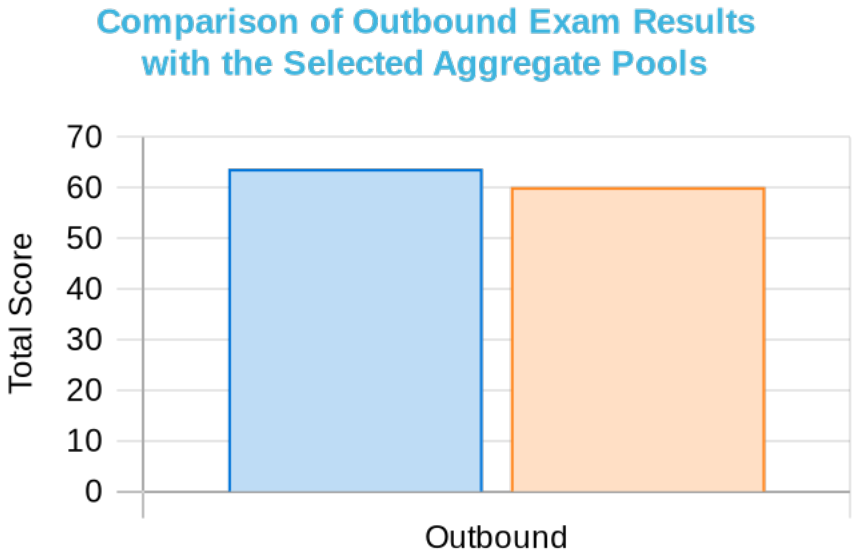
External Comparison Report — George Fox University

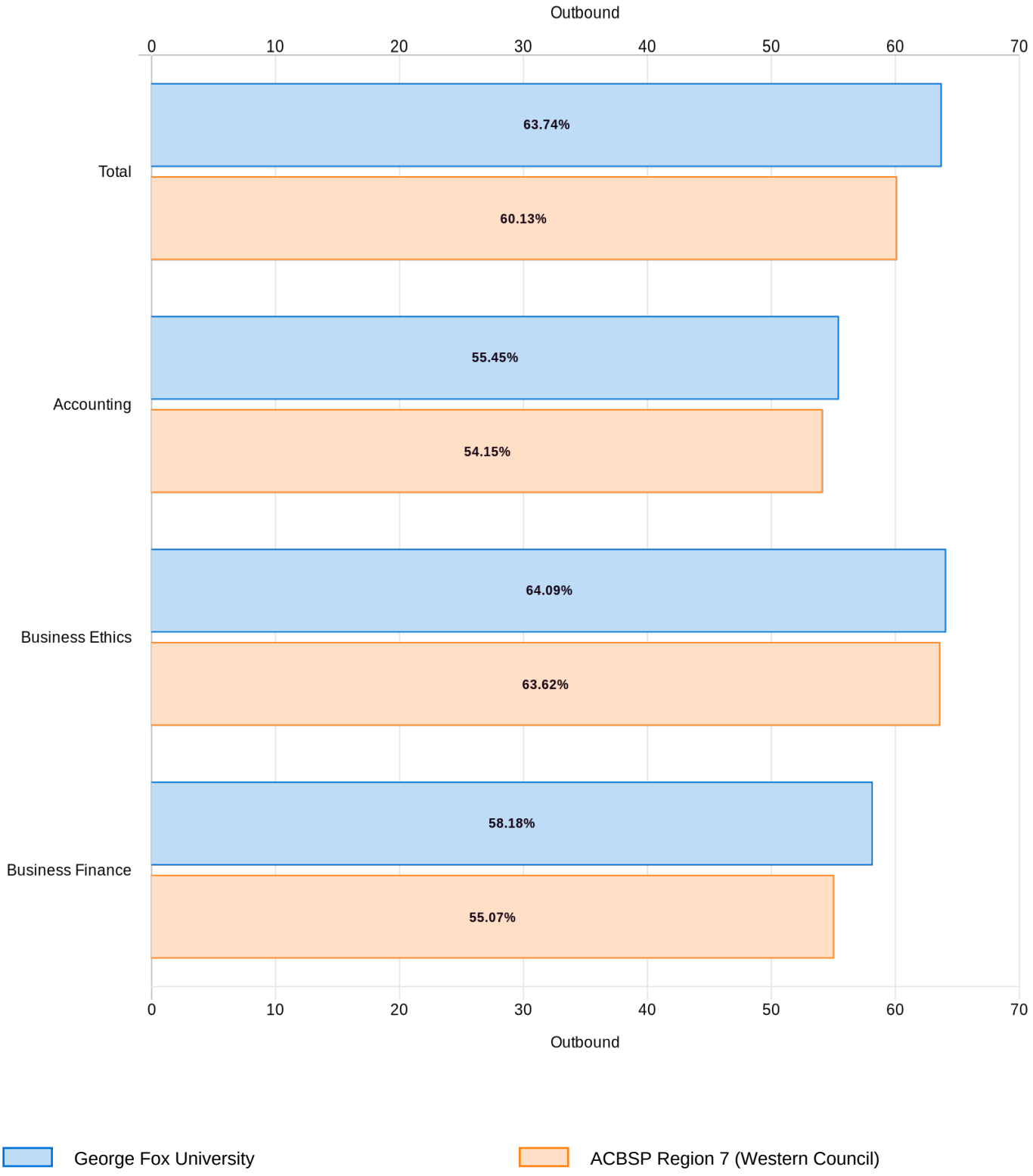
Masters Business Administration

Executive Summary

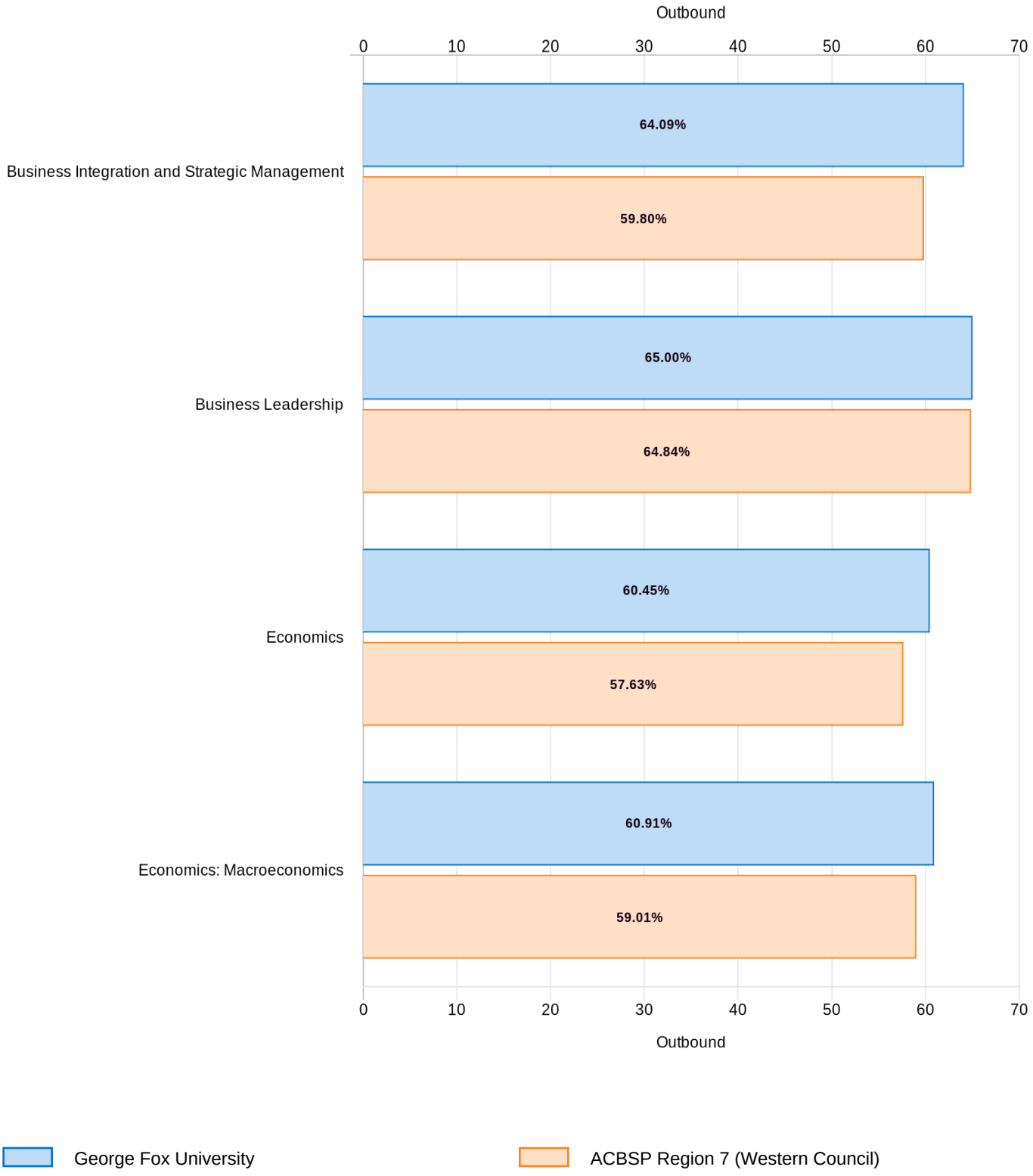


School/Aggregate	Outbound %
George Fox University	63.74%
ACBSP Region 7 (Western Council)	60.13%

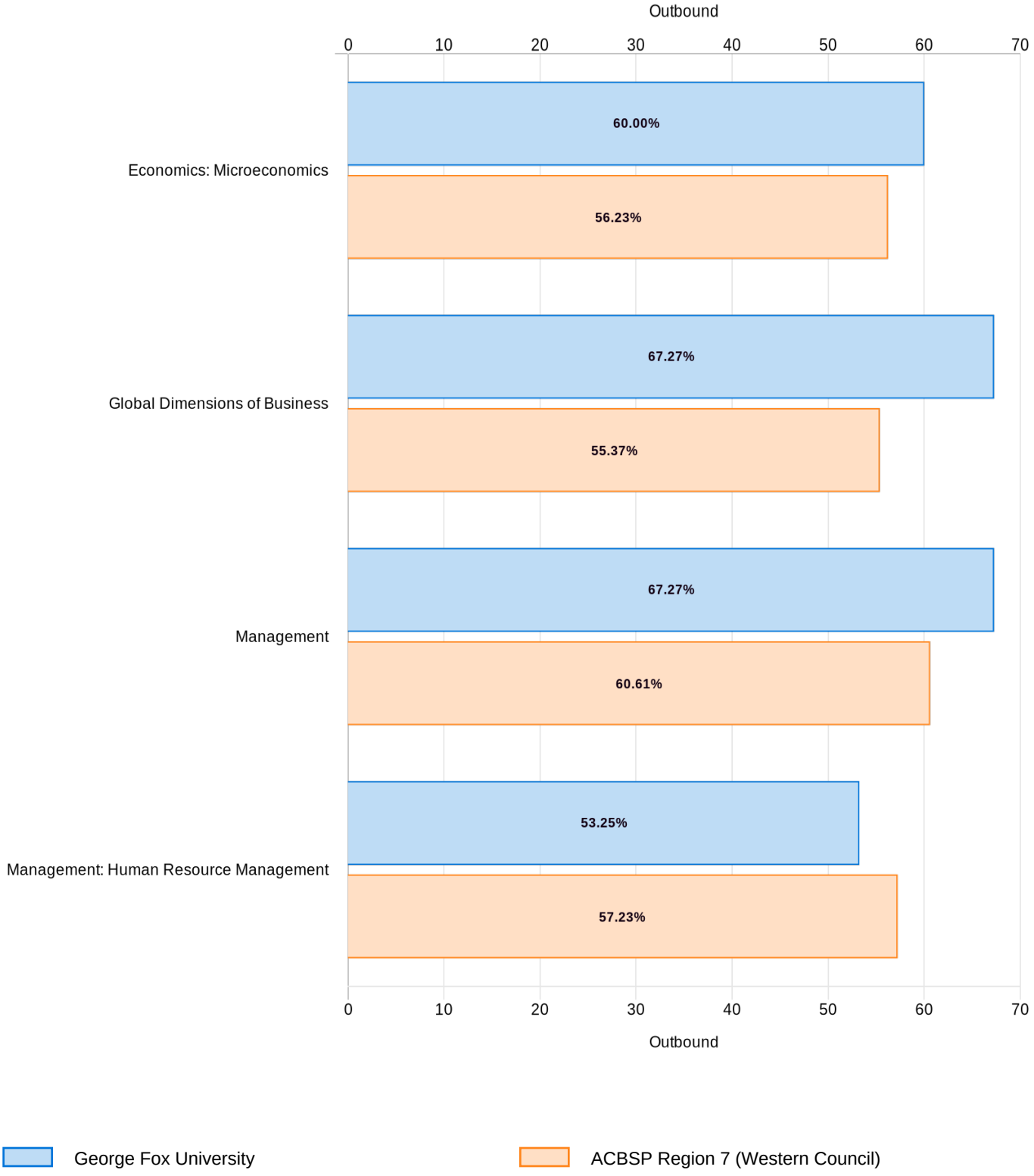
Comparison of Exam Results with Selected Aggregate Pools



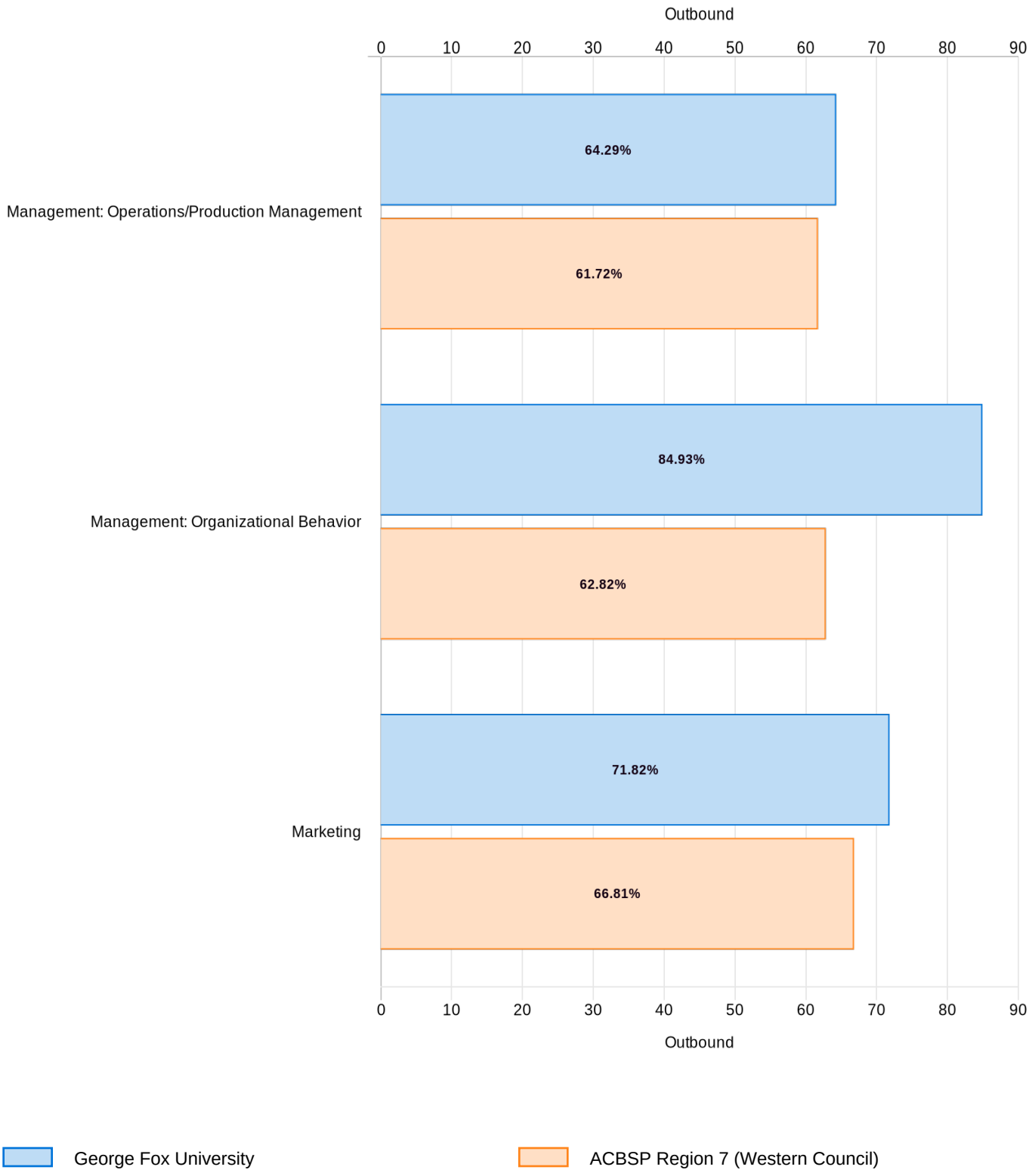
Comparison of Exam Results with Selected Aggregate Pools



Comparison of Exam Results with Selected Aggregate Pools



Comparison of Exam Results with Selected Aggregate Pools



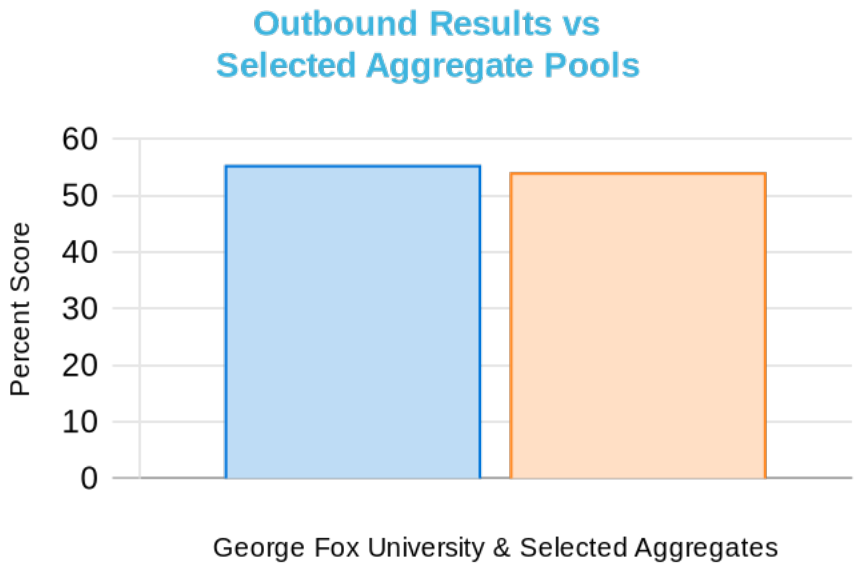
External Comparison Report — George Fox University

Masters Business Administration

Comparison of Outbound Exam Results with Selected Aggregate Pools

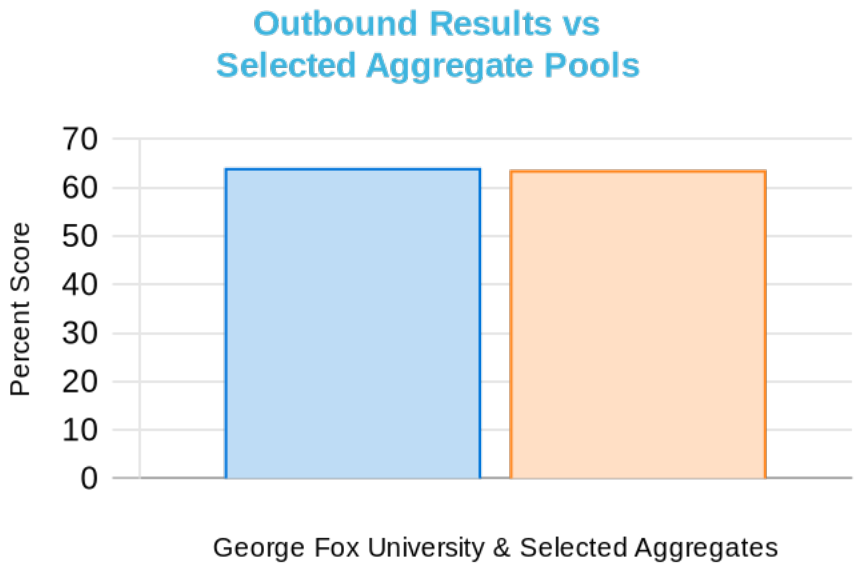
Topic	George Fox University	ACBSP Region 7 (Western Council)
	Outbound	Outbound
Accounting	55.45%	54.15%
Business Ethics	64.09%	63.61%
Business Finance	58.18%	55.07%
Business Integration and Strategic Management	64.09%	59.80%
Business Leadership	65.00%	64.84%
Economics	60.45%	57.63%
Economics: Macroeconomics	60.91%	59.01%
Economics: Microeconomics	60.00%	56.23%
Global Dimensions of Business	67.27%	55.37%
Management	67.27%	60.61%
Management: Human Resource Management	53.25%	57.23%
Management: Operations/Production Management	64.29%	61.72%
Management: Organizational Behavior	84.93%	62.82%
Marketing	71.82%	66.81%
Total	63.74%	60.13%

Comparison of the Accounting Topic Outbound Exam Results with the Selected Aggregate Pools



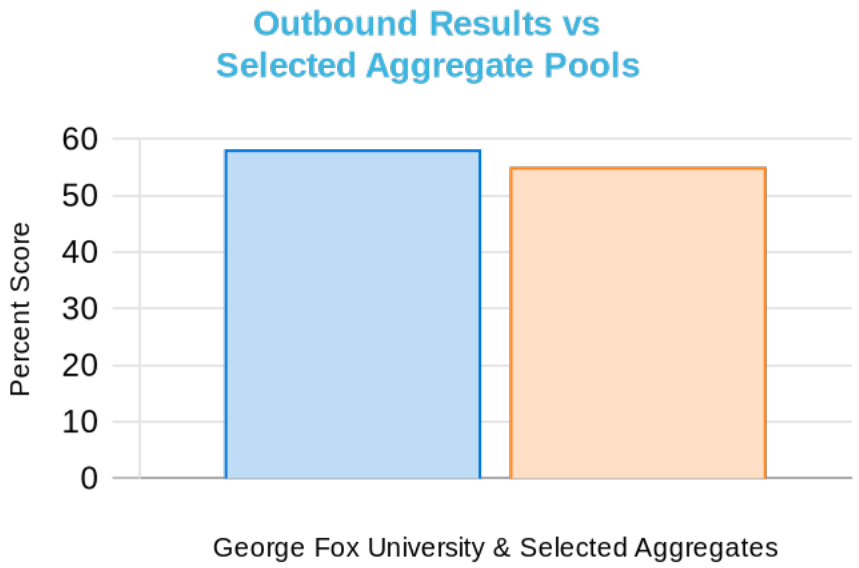
School/Aggregate	Outbound%	Difference in the Results w/ Selected Aggregate Pools
George Fox University	55.45%	–
ACBSP Region 7 (Western Council)	54.15%	1.30%

Comparison of the Business Ethics Topic Outbound Exam Results with the Selected Aggregate Pools



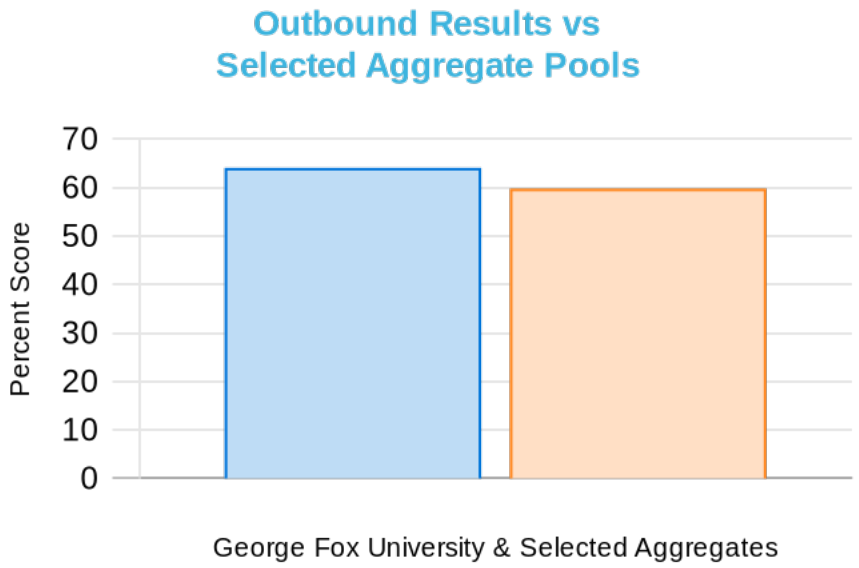
School/Aggregate	Outbound%	Difference in the Results w/ Selected Aggregate Pools
George Fox University	64.09%	–
ACBSP Region 7 (Western Council)	63.61%	0.47%

Comparison of the Business Finance Topic Outbound Exam Results with the Selected Aggregate Pools



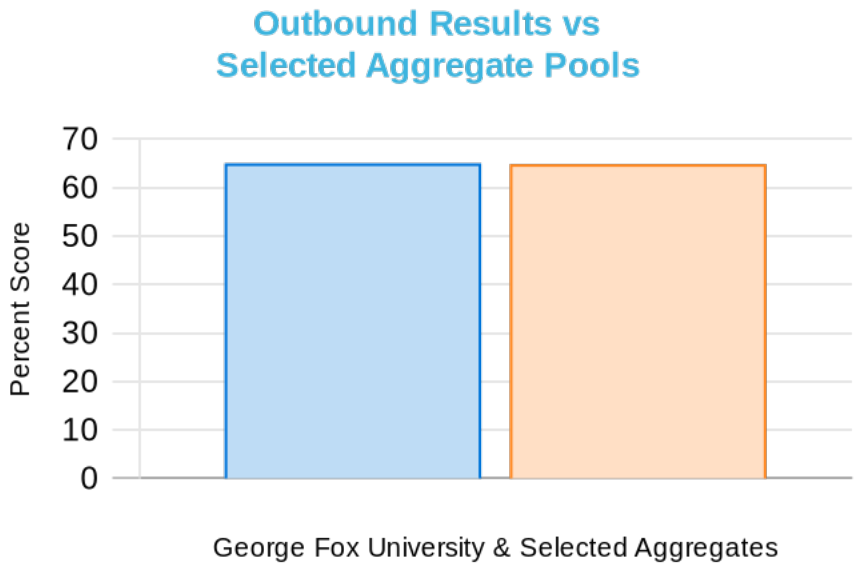
School/Aggregate	Outbound%	Difference in the Results w/ Selected Aggregate Pools
George Fox University	58.18%	–
ACBSP Region 7 (Western Council)	55.07%	3.11%

Comparison of the Business Integration and Strategic Management Topic Outbound Exam Results with the Selected Aggregate Pools



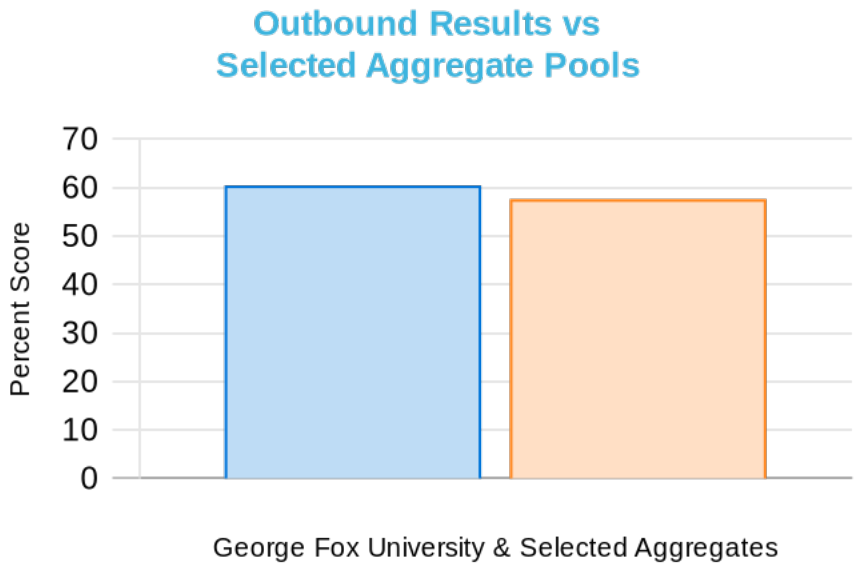
School/Aggregate	Outbound%	Difference in the Results w/ Selected Aggregate Pools
George Fox University	64.09%	–
ACBSP Region 7 (Western Council)	59.80%	4.29%

Comparison of the Business Leadership Topic Outbound Exam Results with the Selected Aggregate Pools



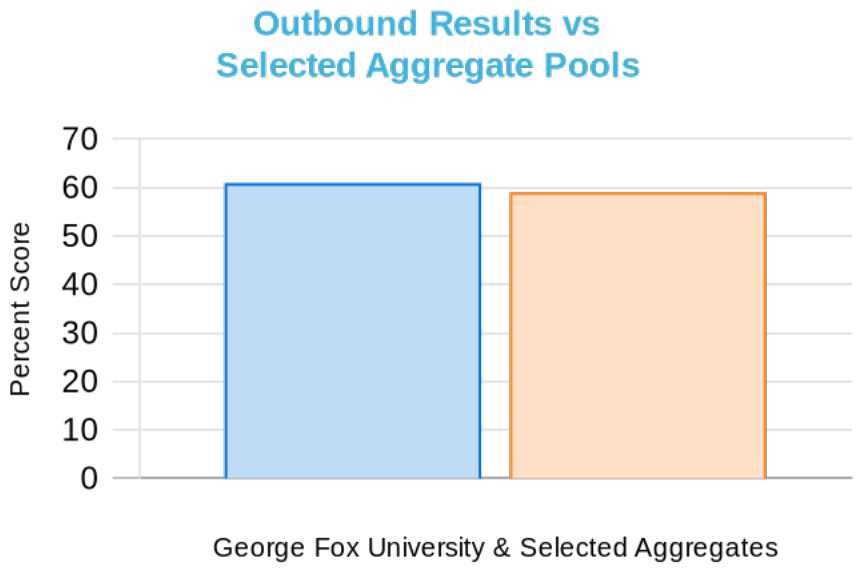
School/Aggregate	Outbound%	Difference in the Results w/ Selected Aggregate Pools
George Fox University	65.00%	–
ACBSP Region 7 (Western Council)	64.84%	0.16%

Comparison of the Economics Topic Outbound Exam Results with the Selected Aggregate Pools



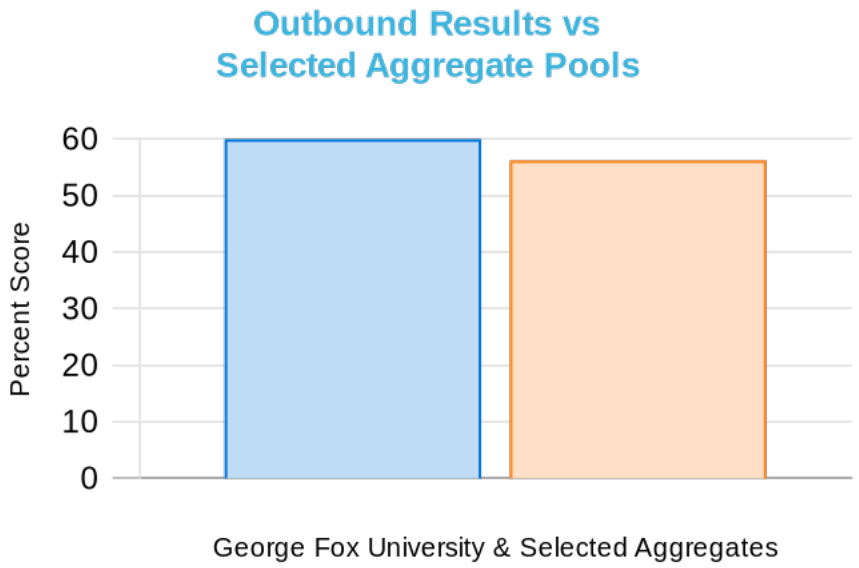
School/Aggregate	Outbound%	Difference in the Results w/ Selected Aggregate Pools
George Fox University	60.45%	–
ACBSP Region 7 (Western Council)	57.63%	2.82%

Comparison of the Economics: Macroeconomics Topic Outbound Exam Results with the Selected Aggregate Pools



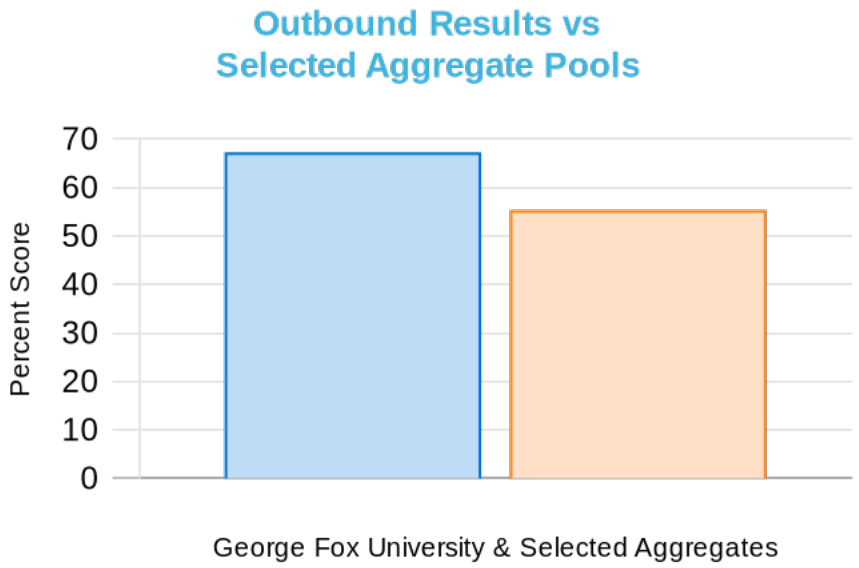
School/Aggregate	Outbound%	Difference in the Results w/ Selected Aggregate Pools
George Fox University	60.91%	–
ACBSP Region 7 (Western Council)	59.01%	1.90%

Comparison of the Economics: Microeconomics Topic Outbound Exam Results with the Selected Aggregate Pools



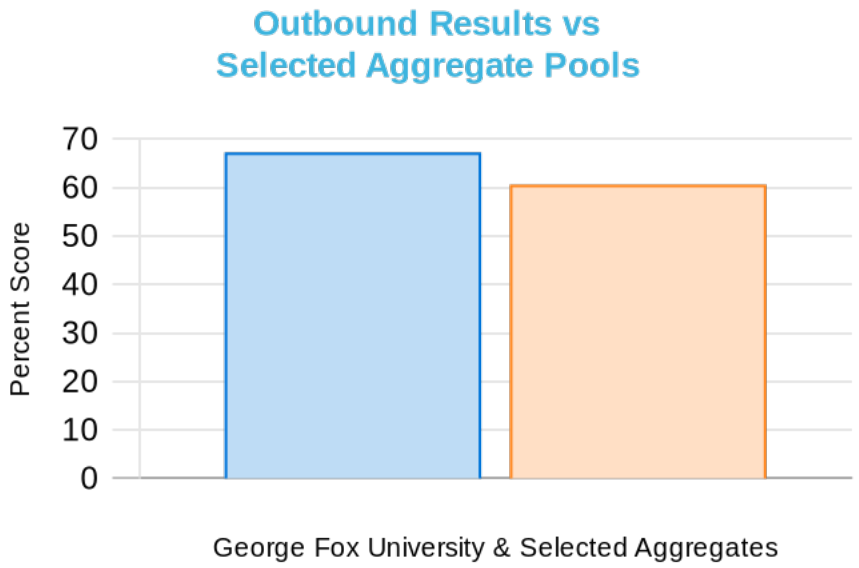
School/Aggregate	Outbound%	Difference in the Results w/ Selected Aggregate Pools
George Fox University	60.00%	–
ACBSP Region 7 (Western Council)	56.23%	3.77%

Comparison of the Global Dimensions of Business Topic Outbound Exam Results with the Selected Aggregate Pools



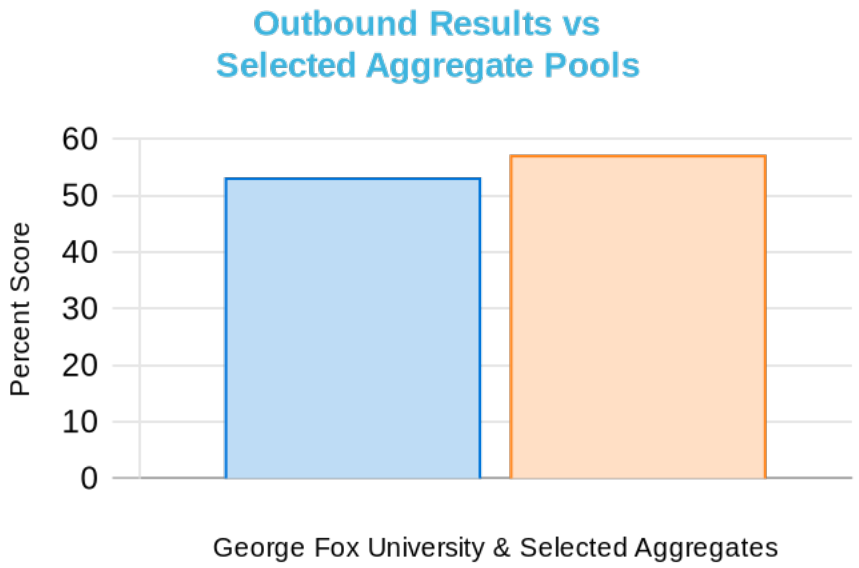
School/Aggregate	Outbound%	Difference in the Results w/ Selected Aggregate Pools
George Fox University	67.27%	–
ACBSP Region 7 (Western Council)	55.37%	11.90%

Comparison of the Management Topic Outbound Exam Results with the Selected Aggregate Pools



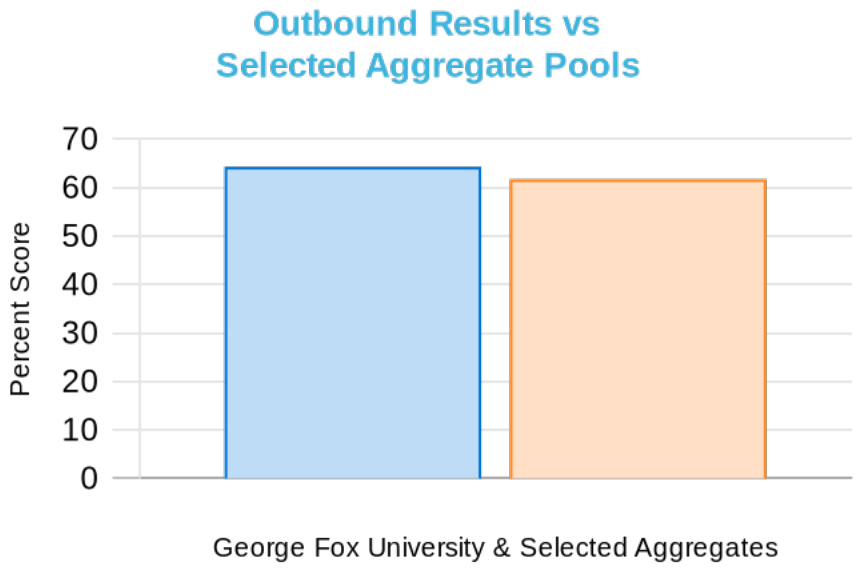
School/Aggregate	Outbound%	Difference in the Results w/ Selected Aggregate Pools
George Fox University	67.27%	–
ACBSP Region 7 (Western Council)	60.61%	6.66%

Comparison of the Management: Human Resource Management Topic Outbound Exam Results with the Selected Aggregate Pools



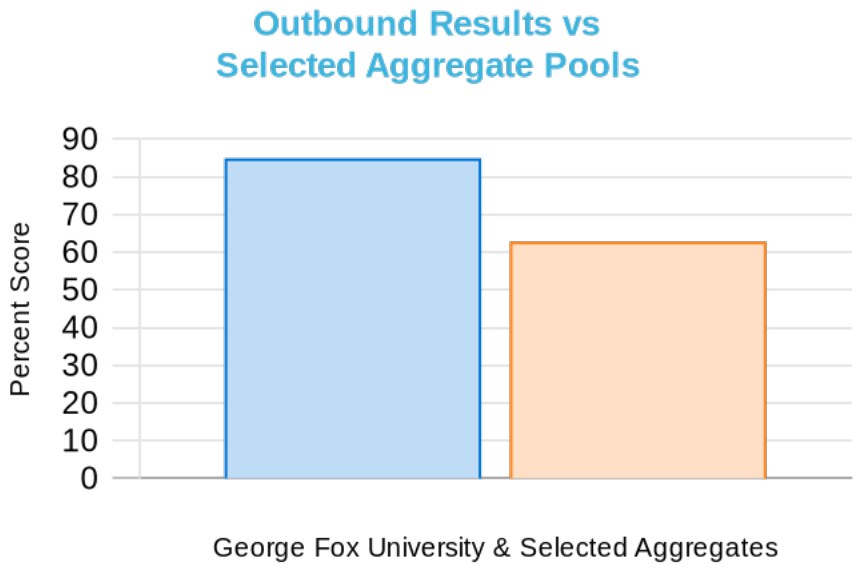
School/Aggregate	Outbound%	Difference in the Results w/ Selected Aggregate Pools
George Fox University	53.25%	–
ACBSP Region 7 (Western Council)	57.23%	-3.98%

Comparison of the Management: Operations/Production Management Topic Outbound Exam Results with the Selected Aggregate Pools



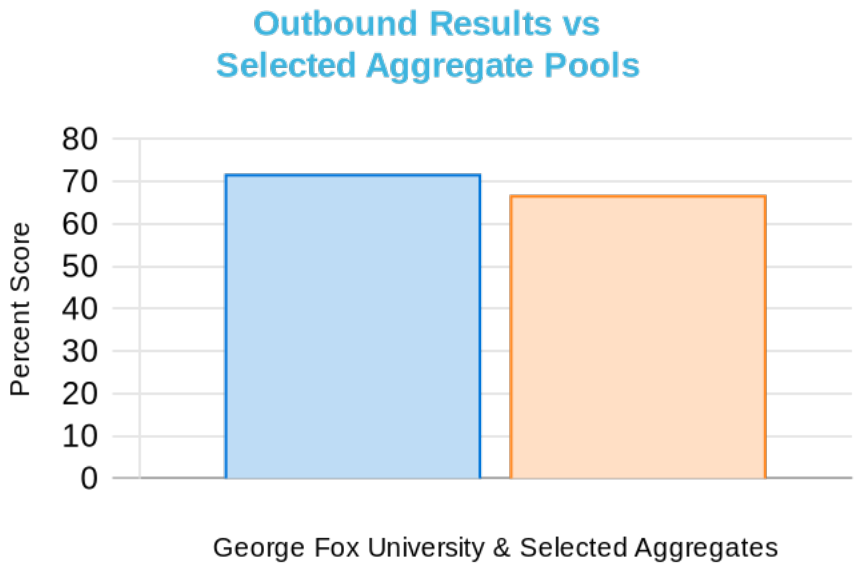
School/Aggregate	Outbound%	Difference in the Results w/ Selected Aggregate Pools
George Fox University	64.29%	–
ACBSP Region 7 (Western Council)	61.72%	2.57%

Comparison of the Management: Organizational Behavior Topic Outbound Exam Results with the Selected Aggregate Pools



School/Aggregate	Outbound%	Difference in the Results w/ Selected Aggregate Pools
George Fox University	84.93%	–
ACBSP Region 7 (Western Council)	62.82%	22.11%

Comparison of the Marketing Topic Outbound Exam Results with the Selected Aggregate Pools



School/Aggregate		Outbound%	Difference in the Results w/ Selected Aggregate Pools
	George Fox University	71.82%	–
	ACBSP Region 7 (Western Council)	66.81%	5.01%

How to Read and Understand the External Comparison Report

Purpose of the exam

The purpose of the exam is to provide direct assessment of student learning. The exam results are used to assess the strengths and opportunities for improvement of academic programs. The exam measures the knowledge levels of students related to the learning outcomes of the program.

The External Comparison Report is a report of a selected set of exam results compared to one or more aggregate pools. Exam analyses include a comparison of the scores and a comparison of percentage change when Inbound Exam scores are included with the Outbound Exam scores. The report is based on an analysis of the means of the exam scores whereby the total score for the exams and the topic-level scores with the selected aggregate pools are illustrated as a side-by-side comparison. A summary analysis by topic can be found in the report comparing the percentage change between the Inbound Exam scores and the Outbound Exam scores of the program with the selected aggregates.

Who uses the reports

- Program administrators
- Program directors
- Academic program managers
- Accreditation coordinators
- Assessment coordinators
- Course managers
- Anyone involved with programmatic evaluation

Exam Construct: Inbound and Outbound Approach

An Inbound or Outbound Exam construct provides data for both internal and external benchmarking. The Inbound Exam evaluates the student's knowledge level at the beginning of the student's program of study. The Outbound Exam assesses the student's knowledge level at the end of the student's program of study. The difference in results between the Inbound and Outbound exams is the direct measure of learning most often used for internal benchmarking.

The number of questions offered, and the frequency correct value of the aggregates, is based on the sampling of the data at each level (subject, topic, total), independent of each summary level. Thus, the sum of the number of questions offered for a set of subjects may not equal the number of questions offered for the topic.

How to use the External Comparison Report

The Inbound Exam provides the baseline measurement of student knowledge level as they start the academic program. Outbound Exam results are relative. Outbound Exam relevancy is understood in terms of the change in knowledge level from the time a student enters the program compared to when they graduate from the program. The results are presented at the topic, subtopic, and subject levels.

External comparisons of Outbound Exam scores with the various aggregate pools should only be used as a relative index of how the assessed program compares with other programs. There is a high degree of variability between schools with respect to specific curriculums and areas of emphasis or concentrations. Comparisons include other schools with relatively similar student populations and educational delivery means, not necessarily based on the exact curriculum of the program (which would be nearly impossible and most likely unrealistic). There are multiple pools to select from for the comparisons and up to five aggregates can be selected using the External Comparison Report.

Analyses used in the External Comparison Report

The report presents the results of two types of data analyses: Means of Scores Analysis and Analysis of Percentage Change.

a) Means of Scores Analysis. This is a simple mean where we take the total scores and divide by the number of scores. The sample then is either the school's number of exams included in the report or the total number of completed exams in the aggregate pools.

b) Analysis of Percentage Change. This is the relative change between two numbers where we take a score and compare the percentage change with another score. The percent increase or decrease measure of the changes between two percent values provides us with the relative change between the school's Inbound and Outbound Exam Scores as well as the relative change with the selected aggregates.

How the data are organized and presented

The Executive Summary page includes an overview of the data presented in the External Comparison Report. The comparison of exam results with selected aggregate pools are illustrated as a side-by-side overview of the exam comparisons' results. If Inbound or Mid-point exams are included, this graph displays Inbound, Mid-point, and Outbound Exam scores. Following are graphs illustrating the percentage change for Inbound vs Outbound, the percentage change for the Top 3 Outbound Exam Topics compared to the Selected Aggregate Pools and Bottom 3 Outbound Exam Topics vs the Selected Aggregate Pools. A table is presented below each graph providing the corresponding descriptive data displayed.

The comparison of Inbound Exam results with Outbound Exam results are illustrated for each exam topic and subject. The comparisons to selected aggregate pools are provided as an overview of the total score, followed by the topic scores or subtopic score data graphed as the percentage change. A summary table is presented providing all exam topics, the Inbound and Outbound Exam scores with the Selected Aggregate Pools' scores and their corresponding percentage change.

For each topic or subtopic, the reported data include:

1. The Graph of the Outbound Exam Score vs Selected Aggregate Pools Percentage Change
2. The Table of Outbound Scores and Selected Aggregate Pool Scores with the Percentage Change

Best Practices

Reviewing Individual Results

It is important that students give their best effort in completing the assessment, especially for the Outbound Exam. An essential component of administering the assessment is to explain the purpose of the exam to the students so that the schools can collect actionable and accurate data on student performance for programmatic evaluation and continuous improvement efforts.

- To encourage students to do their best with the Outbound Exam, an incentive is usually needed. Exam incentives include a direct grade, points, or extra credit. Another option is to assign an additional assignment when students do not meet a specific threshold. Typically, simply grading the exam is the best approach to properly incentivize the exam (see the Interpreting & Evaluating Exam Scores section).
- Individual student completion times provided in the Individual Results Report are helpful when evaluating student effort, particularly with Outbound Exam results. Typically, a 100-question exam should take the student about 60-90 minutes to complete. If exam completion times are below 30 minutes, academic officials may consider further efforts to incentivize the exam in order to get the students to take the exam seriously and thus improve results. Note: Mean completion times are provided in the Internal Analysis report. All reports can be filtered to remove results where the completion time is below a desired threshold.
- Another way to evaluate students' readiness for assessment, and their commitment to academic integrity, is to review the time students spent away from the exam window. This information is provided in the Individual Results Report.

Reviewing Cumulative Results

Topic and subtopic level scores tend to be more meaningful in terms of analysis value than the total score. Although most exams include all available topics, not all exams will include all available topics. Therefore, the total score comparisons are shown for relative benchmarking, whereas the topic and subtopic level score comparisons will tend to be more meaningful in terms of understanding relevancy of the scores.

- If there are topics included on the exam that do not appear to be directly related to your curriculum and/or learning outcomes, consider removing these topics from future testing. It is generally best not to test on topics that are not included in the program's curriculum.
- Consider the sample size for the exam period before making changes in the program based on the exam results. Lower sample sizes tend to have higher standard deviations. In general, it is best to have a sample of at least 100 exams before the results can be used for programmatic changes. Since the report period is a variable, the past exam results could be included for future reporting in order to get the sample size high enough for meaningful analysis.
- It is important not to make too many changes in a program at once based on the results of one or two exam periods. Instead, make small incremental changes to the program based on the results and then monitor the results to assess the consequences of the change effort.

Interpreting and Using Exam Scores

Inbound Exam results are obtained from incoming learners who have just started their academic program. Cumulative Inbound Exam results are typically used relative to the cumulative Outbound Exam results to directly measure academic learning. Individual learner results from Inbound Exam (Individual Results Report) can be used to help guide, advise, and place a learner within a program of study.

Outbound Exam results are a direct measure of academic learning since the learners taking the Outbound Exam have completed, or nearly completed, the academic degree program.

Outbound Exam results, both cumulatively and individually, DO NOT correspond directly to a traditional academic grading scale. This is a normed exam with an average degree of difficulty of questions approximately 55%-60%. The exam is relative to the Inbound Exam results, as well as the external aggregate comparisons.

NOTE: There is not a “passing” or “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/acceptable based on associated benchmarks. Abandoned exams receive a zero and are not included in cumulative results.

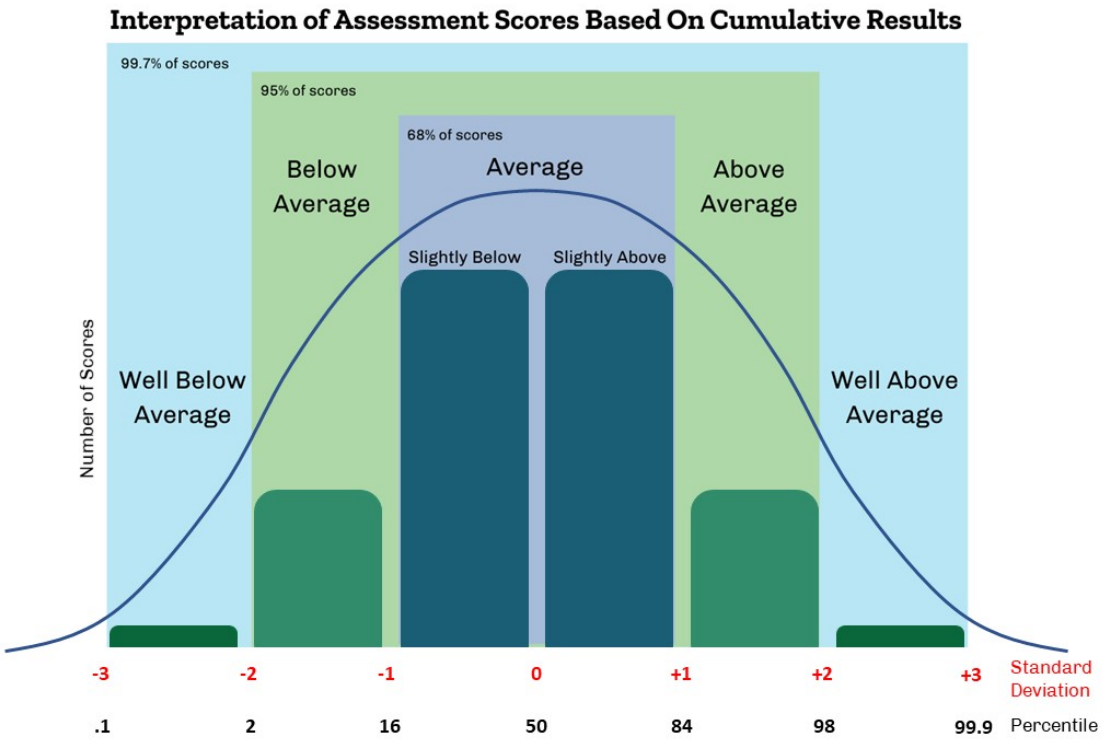
There is a distinct difference between evaluating results versus grading individual exams. Individual learner grading of the Outbound Exam could be conducted using the figure and table on the following page. Typically, the Outbound Exam should be incentivized to encourage learners to do their best. Inbound Exams are usually not incentivized since the learner is just starting the academic degree program and most likely has limited knowledge of the instructional topics.

If specific academic credits (e. g., grade, points, or extra credit) are to be awarded to learners based on their exam results, the Interpretation of Assessment Scores Based on Cumulative Results figure and the Relative Interpretation of Learner Competency table show a relationship between the percentile score's exam results and relative student performance based upon competency level.

Percentiles are used rather than percent scores so that the learner’s results can be understood relative to the cumulative results of all learners who have completed the exam. Peregrine Global Services maintains 4-year rolling aggregate comparison pools that include percentiles. The individual learner scores and the cumulative assessment results are shown in both percentages and percentiles.

As illustrated in the Interpretation of Assessment Scores Based on Cumulative Results figure, the percentile distribution is based on the standard deviations (SD) of the sample:

- Average is the 50th percentile.
- Exam scores that are one SD above the mean are Slightly Above Average (50.1st – 84th percentile).
- Exam scores that are two SDs above the mean are Above Average (84.1st – 97.9th percentile).
- Exam scores that are three SDs above the mean are Well Above Average (98th – 99.9th percentile).
- Exam scores that are one SD below the mean are Slightly Below Average (16th – 49.9th percentile).
- Exam scores that are two SDs below the mean are Below Average (2.1st – 15.9th percentile).
- Exam scores that are three SDs below the mean are Well Below Average (0.1st – 2.0th percentile).



Percentiles	Relative Interpretation of Learner Competency
98.0-99.9	Well Above Average
84.1-97.9	Above Average
50.1-84	Slightly Above Average
50	Average
16-49.9	Slightly Below Average
2.1-15.9	Below Average
0.1-2.0	Well Below Average

Once the academic institution has data from at least 50 exams from the same assessment service, the Grade Scale Report can be generated to provide a grading curve based on the learner results from the institution. Alternatively, academic officials can grade an exam using the percentiles calculated from the aggregate pools. Both methods are appropriate so long as the exam is evaluated based on a curve of the distribution of scores.

Peregrine Global Services Reports

Individual Learner Assessment Reports

Individual Results Report. A learner-by-learner report of the exam results in Excel that shows the scores and percentiles obtained on the exam at the Topic and Subject levels.

Pairwise Report. A report that shows learner-by-learner results when the same learners who took the Inbound Exam also complete a Mid-point or Outbound Exam. The differences in scores are displayed.

Pairwise Report Executive Summary. A summary of the Pairwise Report showing the average Inbound, Mid-Point, and Outbound exam results of learners who completed these exams.

Individual Learner Module Reports

Academic Leveling Report. A learner-by-learner summary of the pre-test and post-test results of the learner's leveling modules.

Academic Leveling Report Executive Summary. A summary of the pre-test and post-test averages of the leveling modules.

Write & Cite Report. A report specifically for Write & Cite: Academic Writing Readiness that shows the learner's pre -test and post-test scores.

Programmatic Assessment Reports

Internal Analysis Report. A report of a selected set of exams compared to an aggregate pool. Results are compared at the topic and subject levels based on percent scores and percentile rankings to determine if student performance is below, at, or above desired thresholds.

Internal Analysis Report Executive Summary. An abbreviated version of the Internal Analysis Report that is commonly used to share the summarized results with stakeholders.

External Comparison Report. A report of a selected set of exams comparing the results against one or more aggregate pools. Comparisons include a comparison of the scores and a comparison of percentage change when Inbound exams are included.

External Comparison Report Executive Summary. An abbreviated version of the External Comparison Report that is commonly used to share the summarized results with stakeholders.

Program-Cohort Comparison Report. A side-by-side comparison of the results between two or more academic programs or cohorts of learners where there is an overlap of the exam topics. The report is used to understand any differences that exist between the groups.

Longitudinal Report. A side-by-side comparison of the same exam over different exam periods. Up to four exam periods can be shown on the report. The report is most often used to evaluate programmatic change and to understand the trends over time.

Gap Analysis Report. A report that identifies potential learning gaps by combining elements from the Longitudinal Report, the Internal Analysis Report, and the Response Distractors Report. This report provides a comparative analysis of topic and subject level data against one external benchmark, while summarizing program data over multiple exam periods. This analysis identifies trends in exam results and potential gaps in student retained knowledge. The gaps are color-coded at the topic and subject levels to draw attention to opportunities for reinforcement. Further analyses of student error results inform program directors on opportunities to reinforce and develop student knowledge in key topic and subject areas.

Response Distractors Report. A report that summarizes the reasons why learners answered questions incorrectly based on five types of response distractors. The report compares the school's results against both the test bank and an aggregate pool to see if learners are selecting incorrect responses at disproportionately higher or lower rates.

Learner Comparison Report. A comprehensive report that includes data analysis elements from both Internal Analysis and External Comparison in one report.

EvaluSkills Soft Skill Assessment Reports

EvaluSkills Participant Report. A report that summarizes the soft skill evaluations of a participant and compares the results against the group averages. The report includes the participant's action plan.

EvaluSkills Participant Comparison Report. A report that compares the results of two soft skill assessments such as a pre-program assessment and a post-program assessment to show the learner the resulting changes.

EvaluSkills Group Report. A report that summarizes a group of participants and their evaluations. The report is used to directly measure desired learning outcomes.

EvaluSkills Group Comparison Report. A report that summarizes two soft skill assessments such as a pre -program assessment and a post-program assessment to show change over time. The report is used to directly measure change relative to desired learning outcomes.

Supplemental Assessment and Learner Evaluation Reports

Student Exit Survey Report. A summary report of the results from an optional student survey administered in conjunction with an Outbound Exam.

Grade Scale Report. A report based upon the school's exam results used to determine a school-specific grading scale for the Outbound Exam based on percentile scoring.

Aggregate Reports

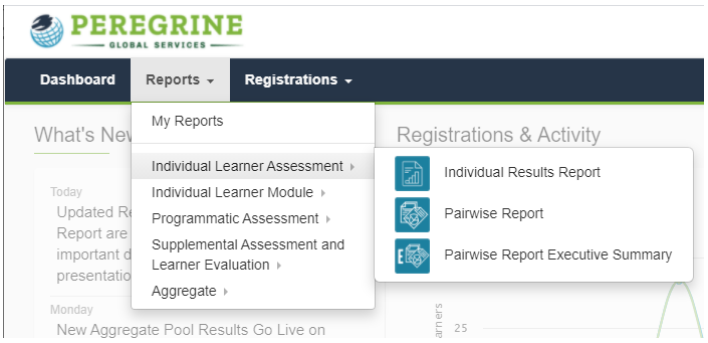
Aggregate Extraction Report. A report with the aggregate data in Excel format that can be used for additional data analysis.

Aggregate Schools Report. A listing of the schools included in each of the aggregate pools.

Generating Reports

Getting Started

From the Client Admin Dashboard, go to Reports. Select your report category and a report from the dropdown menu.



Using the Report Wizard

Use the numerated tabs of the Report Wizard to complete the steps for report generation:

STEP 1. Choose your **Assessment Period.** Assessment completion dates will fall within the range you choose. For the **Longitudinal Report**, you will choose 2 to 4 time periods. Choose your **Assessment Category**, i.e., Business (BUS). If you have report criteria saved, you can click **Load Report Criteria** now.

STEP 2. Select an **Academic Degree Level.** Select Your **Comparison Type** – Assessments is selected by default. Should you desire to run your report by Program or Cohort, you may choose one program or cohort at a time. If you do select more than one, all the data will be combined into one report. Comparison of program or cohort data can only be done using the Program or Cohort report.

STEP 3. Select one or more **Assessments.** Choose the exam(s) for which you want to see results. If your Comparison Type was Program or Cohort, you will select the program or cohort for which you want to see results.

STEP 4. Select your **External Benchmark(s).** You may choose one External Comparison for the Internal Analysis Report, and up to five External Comparisons for the External Comparison, Program or Cohort, and Longitudinal reports. Depending on the data available for your assessment type and academic degree level, the aggregate pool categories to benchmark against include educational accreditation agencies, program delivery modalities, general demographics, and regional accreditors.

STEP 5. Report Filters. The **Type of Registrants** will default to **Learner. Include ALL Exams** or select **Filter Exams Outliers by Completion Time.** Using the slider, you can select the range of exam completion times (in minutes) to include in your analysis. For example, only include exams where the completion time is between 30 and 300 minutes. By default, sub-topical information will be included in your report, if applicable. Toggle No if you do not want to include sub-topic data in your report.

STEP 6. Review your report information. If changes are needed to any section of the Report Wizard, click the **Edit** button to return and revise the exam criteria. You may **Save Report Criteria** for future reference and use. Note that this feature will save all criteria except for the date range. When returning to use saved report criteria, click Load Report Criteria on Page 1 of the Report Wizard, and enter the dates for the period you want to see data.

Select the format for your report:

- **PDF –** The most visually appealing format. All reports except the Individual Results Report and the Aggregate reports are available in PDF.
- **CSV (Excel) –** Use the Excel format to export your data to a spreadsheet.

PREVIEW REPORT. To preview the data in your selected report, click **Preview Report**. A new window will open and immediately display on your screen charts and tables containing the data in your report. To copy and paste any of the charts, tables, or other data, simply Right-click the image, and then select Save Image or Copy Image.

GENERATE REPORT. To generate your report, click **Generate Report.** A notification will appear: **Report Has Been Queued.** When your report is ready, a banner notification will pop up at the bottom of your screen: **Your report has finished processing.** number will also appear above the bell icon in the upper right corner of your screen. The drop-down menu on the bell icon will list your generated reports. Return to **Reports** on the Client Admin toolbar and select **My Reports.** Locate your report from the list of processed reports and click the **Download** button.

Report Wizard Variations

Pairwise Report. In Step 3, choose your desired Inbound and Outbound Exams to build a list of applicable learners to report against. Students will populate based on each selection you choose. In Step 4, choose from the list the students you want included in your report. The list will only include students who completed both the Inbound Exam and the Outbound Exam. Step 4 is omitted when running the Pairwise Executive Summary Report, as individual student data are not included in the summary.

Program or Cohort Report. In Step 2, select your **Comparison Type(s):** Programs or Cohort, Specializations, etc. Select your assessment Timeline: Inbound, Outbound, or both. Select an Academic **Degree Level.** In Step 3, **Choose your assessment.** (This choice is optional.) In Step 4, select one or more cohorts to compare from the list provided. Alternatively, **toggle YES for Group Cohort Comparison.**

Response Distractor Report. . With the Response Distractor Report, a Chi Square Test is used to determine significance. The standard for the report is $p < 0.05$. In **Step 6**, you have the option to choose a different level of significance, if desired.

For additional information on generating reports, please contact your Client Engagement Team via ClientServices@PeregrineGlobal.com.

Validity and Reliability

Assessment Services Test Bank Validity and Reliability

The programmatic assessment services provided by Peregrine Global Services are used to assess retained knowledge of students at the academic program level. School officials deploy these services to evaluate the effectiveness of their academic programs, identify areas for improvement, and demonstrate program outcomes to external stakeholders. Ensuring the ongoing validity and reliability of the assessment services is of upmost importance for our assessment services. These practices begin at the design stage, continue during the piloting phase, and are ongoing with the conducting of comprehensive quality reviews.

Validity refers to the extent to which the exam results are relevant and meaningful for the purpose of the exam, that is, to assess a student's retained knowledge of the program topics being assessed. Reliability refers to the extent to which the exam results are repeatable across different sets of participants, and therefore data sets can be compared over time.

Ensuring Validity and Reliability

Peregrine's assessment services incorporate the following design features that enhance both validity and reliability.

1. Exam scoring is 100% objective, using automated marking.
2. Each exam viewed by a student is unique using a random selection of questions from the test bank in random topic order.
3. Each response to a question is timed. Student activity is monitored: when the user navigates away from the exam screen, the screen fades and a [warning] message is shown.
4. Students are unable to copy/paste from the exam window.
5. Abandoned exams are excluded from summary reports.

In addition, the following specific practices are adopted. The exam services meet AICPA, Trust Services Criteria set forth in DC 200, 2018 Description Criteria for a Description of a Service Organization's System in a SOC 2® Report. This third-party auditing and reporting process is designed to provide reasonable assurance that Peregrine Global Services Corporation's service commitments and system requirements achieve the criteria relevant to security and availability set forth in TSP 100, 2017 Trust Services Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy (AICPA, Trust Services Criteria).

Ensuring Validity

The following measures are adopted when test banks are created:

- Topics and Subjects are selected to align with pertinent accreditation and/or certification requirements and related learning outcomes.
- The exam services are designed in consultation with accreditation agency officials.
- Test questions are created (and revised) by academic professionals with expertise in the relevant discipline.
- In order to ensure appropriate breadth of coverage and to enable specific learning outcomes measurement and reporting, questions are created to align with typically 4-8 Subjects for each Topic.

Once a new test bank is created, the service is piloted with clients to obtain feedback and confirm the design construct will meet the needs specific to the discipline of interest.

Client feedback is also continuously gathered and incorporated into the test bank quality review program.

Ensuring Reliability

Traditional methods for determining exam reliability are not applicable when a test bank is used to randomly generate unique tests for exam participants. In consultation with an external expert, Peregrine Global Services developed a methodology that relies upon multiple measures that collectively determines the reliability of the test bank and identifies specific questions for remediation. The measures are Item Difficulty, Item Discrimination, and Item Interchangeability. If a test bank question fails any one of the tests, the question is flagged for replacement or modification. Academic professionals are employed to revise questions and/or create replacements.

Item Difficulty refers to percentage of students who answer questions correctly. Data are generated by topic and for each individual question. The target Item Difficulty is 60 percent correct with an acceptable range of 35 – 80 percent. Questions which fall outside of this range are modified to make them less or more difficult as indicated by the data.

Item Discrimination refers to how well a question distinguishes between those students with more knowledge (higher overall exam scores) from those with less knowledge. Two measures are used: Discrimination Index and Point-Biserial Correlation.

For a given question, the Discrimination Index compares the scores of students with high overall test scores with students with low overall test scores. The scale is -1 to +1, with higher values indicating that a given question better distinguishes between high and low performing students. A value of ≥ 0.20 is considered acceptable.

Point-Biserial Correlation is equal to the Pearson's Correlation Coefficient between the scores on the entire exam and the scores on a specific question. A score of ≥ 0.10 is considered acceptable. Questions that fail either of the discrimination criteria are replaced.

Question Interchangeability refers to the ability to substitute a question in the test bank with another without significantly affecting the total score that an individual would receive on the exam. This is determined using Cohen's Effect Size d, calculated based on a two-tailed t-test comparing the total score for all students who had that question in their exam versus the total score of the students who did not have that question in their exam. The scale is 0-1.0 and a score of < 0.20 is considered acceptable. Questions that fail the interchangeability criteria are replaced.

Reference

Oedekoven, O. O., Napolitano, M., Lemmon, J., & Zaiontz, C. (2019). Determining test bank reliability. *Transactional Journal of Business, 4 (Summer 2019)*, 63-74.

Glossary of Terms

Exam Specific Terminology

Abandoned Exam. An exam that had the 48-hour time limit elapse or the 3 access attempts were exceeded. 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 individual results, not in the reporting or analysis.

Cohort. A group of students based upon a demographic factor such as specialization, campus location, program start date, etc.

Content of the exam. The Exam Summary document contains the list and descriptions of topics, subtopics, and subjects with a couple sample questions.

Exam. Includes all selected topics to assess a specific program. Each topic has 10 questions included within an exam, randomly selected from a validated test bank. Inbound and Outbound Exams are generated from the same test bank of questions.

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

Mid-point Exam. A student exam administered halfway in the student's program that measures the student's knowledge level at the middle of their academic program.

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

Program. A program is comprised of core, required and elective courses that lead to awarding of a degree.

Statistical Terminology

Coefficient of Determination (R^2). Coefficient of determination, R squared, is a statistical measure of how well the regression line approximates the real data points. An R^2 of 1 indicates that the regression line perfectly fits the data.

Frequency of Questions Correct. For the Outbound Exam, the frequency of questions correct is calculated for each subject within a topic. The formula is: (Number of Questions Correct / Number of Questions Offered) * 100. To provide a relative index for understanding these data, an average of questions correct is shown for the aggregate pool selected for the Internal Analysis Report. To see the comparisons for other pools, the Internal Analysis Report can be re-run with a different pool selected.

Mean Completion Time. The average time, in minutes, to complete the exam. Mean completion time is also shown for each topic.

Percentage Change. The percentage change between two scores. For Inbound and Outbound testing, the percentage change is calculated using the following formula: (Outbound Score / Inbound Score) - 1.

Percentage Change Comparison. The percent difference between the school's percentage change between Inbound and Outbound Exam results and the aggregate pool's percentage change between Inbound and Outbound Exam results. The percentage change comparison represents a relative learning difference between the specific school and demographically similar schools.

Percentage Difference. The percentage difference between a school's Outbound Exam results and the aggregate, calculated using the following formula: Aggregate Score – School Score.

Percentile. Percentiles are shown within the topic and 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 Internal Analysis Report. The percentile benchmarks indicate to what level an average score is needed in order to be at the 80th, 85th, 90th, or 95th percentile, which school officials can subsequently use for academic benchmarking and for setting performance targets.

A **percentile** rank is the percentage of scores that fall at or below a given score and is based on the following formula: ((NumValuesLessThanScore + (0.5 * NumValuesEqualScore)) / TotalNumValues) * 100. 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.

The **percentile benchmark** values are calculated using the Empirical Distribution Function with Interpolation based upon the Excel Function of PERCENTILE.INC (array,k). This function uses the following formula: (n-1)p=i+f: the letter i is the integer part of (n-1)p, f is the fractional part of (n-1)p, n is the number of observations, and p is the percentile value divided by 100. The percentile benchmark is the required score of questions correct to be at a specific percentile value (80th, 85th, 90th, or 95th) and is based on interpolation.

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 to 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.

Assessment Terminology

Academic Level. The academic degree level of the program: associate, bachelors, masters, and doctoral.cables

Aggregate Pools. The aggregate pool is the data set used for external benchmarking and comparisons and is based on the results from institutions included in the selected pools. The various aggregate pools are defined as follows:

- **Pools Based on Program Delivery Modality:** Traditional, Online, and Blended.
- **Pools Based on Location:** Outside-US, Regional/Country, and Inside the US.
- **Pools Based on Institutional Characteristics:** Privately owned, Publicly owned, HBCU, Faith-based, and others.
- **Pools Based on Degree Type:** MBA, MA, MS, MHA, and MPA.
- **Pools Based on Accrediting Agency Affiliation:** AACSB, ACBSP, AMBA, IACBE, and others.

Assessment Period. The date range for the report, which includes all the exams completed 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, semi-annual, or quarterly. School officials determine the assessment period.

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

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 topic.

External Comparison Report — George Fox University

Assessment Period:

January 1, 2024 - November 20, 2024

Academic Level/Assessment Solution

Masters Business Administration

Aggregate

ACBSP Region 7 (Western Council)

TOGETHER, WE BELIEVE WE CAN CHANGE THE WORLD

PEREGRINE GLOBAL SERVICES

Peregrine Global Services develops values-based leaders and provides higher education assessment, educational, and support services. We combine technical ability with expert consulting to provide organizations the information and resources they need to accomplish their goals.

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