Longitudinal Analysis Report

Embry-Riddle Aeronautical University - Worldwide Campus

Time Span 1: 7/1/2013 - 6/30/2014
Total Tests = 0
Outbound = 0

Time Span 2: 7/1/2014 - 6/30/2015
Total Tests = 0
Outbound = 0

Time Span 3: 7/1/2015 - 6/30/2016
Total Tests = 0
Outbound = 0

Time Span 4: 7/1/2016 - 6/30/2017
Total Tests = 26
Outbound = 26
Total n = 26 tests.

Academic Level: Masters

Aggregates: ACBSP (US) - Accreditation Council for Business Schools and Programs.
ACBSP Region 3 (Southeastern Council)
Course: LGMT 691 Logistics and Supply Chain Management (LSCM) Capstone
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Longitudinal Comparison: Total

- Outbound Exam: 59.7%

Aggregates:
- Outbound ACBSP (US) - Accreditation Council for Business Schools and Programs = 55.52%
- Outbound ACBSP Region 3 (Southeastern Council) = 60.93%

Date Range: 7/1/2016 - 6/30/2017
Counts: 26
Regression Analysis: Total

Outbound Exam Scores

Regression Analysis:
R² 0.00
Longitudinal Comparison: Business Ethics

![Bar chart showing business ethics performance]

Aggregates:
- Outbound ACBSP (US) - Accreditation
- Council for Business Schools and Programs: 56.24%
- Outbound ACBSP Region 3
- Southeast Council: 8.08%

Date Range: 7/1/2016 - 6/30/2017
Counts: 26
Regression Analysis: **Business Ethics**

![Regression Analysis Graph](image-url)

**Regression Analysis**

\[ R^2 = 0.00 \]
Longitudinal Comparison: Business Integration and Strategic Management

![Graph showing the comparison between different categories of business integration and strategic management. The blue bar represents the Outbound Exam, and the percentages indicate the performance for various aggregates, including ACBSP (US) and other regional councils. The data range from 7/1/2016 to 6/30/2017.]
Regression Analysis: Business Integration and Strategic Management

Regression Analysis

R2 0.00
Longitudinal Comparison: Economics

Outbound Exam

Aggregates
- Outbound ACBSP (US) - Accreditation
- Council for Business Schools and Programs - 54.26
- Outbound ACBSP Region 3 (Southeastern Council) - 80.69

Date Range: 7/1/2016 - 6/30/2017
Counts: 26
Regression Analysis: Economics

Regression Analysis

R² 0.00

Outbound Exam Scores

7/1/2016 - 6/30/2017
Longitudinal Comparison: Economics: Macroeconomics

![Bar Chart]

- Outbound Exam

**Aggregates**
- Outbound ACBSP (US) - Accreditation
- Council for Business Schools and Programs - 54.04
- Outbound ACBSP Region 3 (Southeastern Council) - 60.35

**Date Range**
- 7/1/2016 - 6/30/2017

**Counts**
- 26
Regression Analysis: Economics: Macroeconomics

Regression Analysis

R^2  0.00

Date Range: 7/1/2016 - 6/30/2017

Exam Scores

[Graph showing exam scores with a single data point]
Longitudinal Comparison: **Economics: Microeconomics**

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Percent Score

7/1/2016 - 6/30/2017

### Aggregates

- Outbound ACBSP (US) - Accreditation
- Council for Business Schools and Programs - 54.53
- Outbound ACBSP Region 3
- Southeastern Council
  - 61.13

### Longitudinal Comparison: Economics: Microeconomics

- **Date Range**: 7/1/2016 - 6/30/2017
- **Counts**: 26
Regression Analysis: **Economics: Microeconomics**

Regression Analysis

![Graph showing regression analysis results](image-url)

Regression Analysis

- \(R^2 = 0.00\)
Regression Analysis: Management

Regression Analysis

R² 0.00

Outbound Exam Scores

7/1/2016 - 6/30/2017
Longitudinal Comparison: Management: Operations/Production Management

![Diagram showing longitudinal comparison for Management: Operations/Production Management]

- Outbound Exam

- Aggregates:
  - Outbound ACBSP (US) - Accreditation
  - Council for Business Schools and Programs: 62.90
  - Outbound ACBSP Region 3
  - Southeastern Council: 57.93

Date Range: 7/1/2016 - 6/30/2017
Counts: 26
Regression Analysis: Management: Operations/Production Management

Outbound Exam Scores

7/1/2016 - 6/30/2017

Regression Analysis

R² 0.00
Longitudinal Comparison: Quantitative Research Techniques and Statistics

![Graph showing data for Quantitative Research Techniques and Statistics](image)

**Aggregates**
- Outbound ACBSP (US) - Accreditation
- Council for Business Schools and Programs: 51.89
- Outbound ACBSP Region 3 (Southeastern Council): 57.14

**Longitudinal Comparison: Quantitative Research Techniques and Statistics**

- **Date Range**: 7/1/2016 - 6/30/2017
- **Counts**: 26
Regression Analysis: **Quantitative Research Techniques and Statistics**

![Graph showing regression analysis results]

**Regression Analysis**

\[ R^2 = 0.00 \]
Glossary of Terms

Abandoned Exam. An exam that had the 48 hour time limit elapse. 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.

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

Aggregate Pools. The aggregate pool is the data set 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 basis, 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 campus. The program is delivered in 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 sessions.
3. **Blended.** The program is delivered to students using a combination of online and campus-based instruction and/or the program is delivered in 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 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 outside of the United States. Program delivery is usually campus-based; however, the aggregate pool includes some blended programs and online programs.
2. **Regional/Country.** Includes colleges and universities 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. **Inside the US.** Includes all US-based schools and programs.

Pools Based on Institute Characteristics

1. **Large Private.** This aggregate pool includes large, privately owned universities within the United States.
2. **HBCU.** Includes colleges and universities that are designated as Historically Black Colleges and Universities.
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.

Masters-level Pools Based on Degree Type

1. **Masters-MBA.** Includes programs that are designed as Masters of Business Administration.
2. **Masters-MS.** Includes programs that are designed as Masters of Science.
3. **Masters-MA.** Includes programs that are designed as Masters of Arts.
4. **Masters-MHA.** Includes all assessments under the Health Care Administration.
5. **Masters-MPA.** Includes all assessments under Public Administration.

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 of 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, semi-annual, or quarterly. School officials determine the assessment period.

Coefficient of Determination (R2) denoted R2 and pronounced R squared, is a statistical measure of how well the regression line approximates the real data points. An R2 of 1 indicates that the regression line perfectly fits the data.

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

Exam. Includes all of the 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 correct is calculated for each subject within a topic. The formula is: (Number of Questions Correct / 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 Internal Analysis Report. To see the comparisons for other pools, the Internal 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, that measures the student's knowledge level at the beginning of their 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 topic.

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

\[
\text{(Outbound Score / Inbound Score)} - 1.
\]

Percentage Difference. The percentage difference between a school's outbound student results and the aggregate, calculated using the following formula:

\[
\text{Aggregate Score – School Score.}
\]

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 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.

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

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

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

Subtopic. For the topics of Economics and Management, there are identified subtopics. For the topic of Economics, the subtopics are Macroeconomics and Microeconomics. For the 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 3 questions correct for the subtopic of Human Resource Management is a score of 66.66%, 3 out of 4 correct on Organization Behavior is 75% and 1 out of 3 on Operations/Production Management is 33.33%. The total Management topic score, however, is \(2/3 + 3/4 = 6/10\) 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 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.

Understanding and Using the Report

The formulas used for percentile calculations are shown within the glossary of terms. Two statistical artifacts could appear on your reports where the percentile rank seems “off” when compared to the calculated values for the percentile benchmarks.

1. **Statistical Artifact #1**: Due to the use of different formulas used to calculate the school’s percentile rank and the required scores for specific benchmarks, the school’s rank is less than or higher than the required score for a percentile benchmark, usually by a factor of 1 percentile value. When calculating the percentile rank, we use the school’s score and simply calculate the percent of scores that are at or below that score. When we calculate the percentile benchmark, we use an interpolation function to determine the required score for a specific percentile. Therefore, we use two different formulas for the percentile values: the first concerns the score and how many at/equal to the given score and the second an interpolation to calculate the desired score. Both use the same distribution list of scores, arranged in sequence from low to high. When we developed the distribution tables, we used 5 decimal points. When we calculated the benchmarks, we also calculated to 5 decimal points. We show, however, two decimal points in the table.

2. **Statistical Artifact #2**: Due to sample size limitations and rounding, the school's rank is less than the required score for a higher percentile benchmark. The lower the number of exams in the pool, the more these situations will occur. For example: the school score is 56.52% and the 85th percentile is 56.52. In this case, both calculations are correct; the issue concerns sample size. With only 586 questions offered in the pool, we have a distribution sample of 15 values. When we do the rank calculation (the 81st), it comes out “low” due to the sample size and the values within the distribution. When we do the calculations of the benchmarks (interpolation), the actual 85th benchmark to 5 decimal places is 56.52377, but rounds to 56.52 in the table. The school’s...
score of 56.52 and the full number is 56.52173 (52/92 correct). The school’s value is below the benchmark of 56.52% for the 85th Percentile, but due to rounding, it looks like the school’s score should be at the 85th percentile.