

2017-2018 Employee Evaluations Report

July 2, 2018

Date of study: April-May 2018

Purpose: To determine which aspects of student employment need improvement and analyze students' connections between academics and work.

Background Information (optional)

For this report, please note the following definitions:

- **Supervisor:** a full-time area head who evaluates student employees
- **Student Manager:** a student employee with a supervisory or managerial role
- **Student Associate:** a student employee with no supervisory or managerial role

Methodology

The supervisors of each area filled out evaluation forms for every student employee who had worked at the Reitz for at least one semester, and employees were asked to complete self-evaluations using the same forms.

- **Responses:** 51 supervisor evaluations, 64 self-evaluations
- **Forms:** Participants were asked to rate the employee's performance and explain their reasoning for each of 6-7 categories. There were two types of forms, one for student managers and one for student associates.
- **Categories:**
 - Quality of work ("Quality")
 - Attitude, Professionalism, & Customer Service ("Professionalism")
 - Environment, Community, & Collaboration ("Environment")
 - Dependability & Honorability ("Dependability")
 - Initiative & Personal Development ("Initiative")
 - Provision of Supervision ("Supervision") (*only for student managers*)
 - Overall Assessment ("Overall")
- **Ratings:** The scale is shown below. The corresponding numbers (1-5) were assigned later for analysis. If participants checked two consecutive values, these were coded as halfway between the corresponding numbers (e.g., selecting both "meets" and "exceeds" was coded as 3.5).

1. Far Below Requirements	4. Exceeds Requirements
2. Below Requirements	5. Far Exceeds Requirements
3. Meets Requirements	
- **Comments:** For analysis, explanations for every category were assigned a score on a scale of 1 to 5, with 1 meaning very negative and 5 meaning very positive. See the Appendix for a rubric with specific parameters.
- **Limitations:** While the evaluation forms included factors to consider for the ratings and comments, there was no standardized rubric for supervisors to follow. This may account for some of the differences between supervisor evaluations and self-evaluations, and it may make it difficult to compare scores among different areas.

Performance Indexes

A **performance index (PI)** was calculated for each student. This is simply the average of all ratings and comment scores from the supervisor’s evaluation. PIs are on a scale of 1 to 5, with 1 meaning poor and 5 meaning perfect. It is important to note that these indexes should not be used to judge individual performance, but rather as a means of quantitatively establishing general trends between job performance and other variables.

1. Standardized Performance Indexes

Each supervisor has a different style of rating and commenting, so some areas generally have harder evaluations than average and others have more lenient evaluations. To account for these differences in evaluation style among areas, a **standardized performance index (Std-PI)** was calculated for each employee according to the following formula:

<p>Variables:</p> <p>μ = overall average PI for all employees (3.92) σ = overall standard deviation for all employees (0.5) x_i = employee’s raw PI \bar{x}_a = average PI of the employee’s area $\hat{\sigma}_a$ = standard deviation of the employee’s area n_a = number of evaluations from that employee’s area</p>	<p>Initial Formula:</p> $\text{Std-PI} = \mu + \sigma \left(\frac{x_i - \bar{x}_a}{\hat{\sigma}_a / \sqrt{n_a}} \right)$ <p>Rescaling:</p> $\text{Std-PI} = \left(\frac{\text{StdPI}}{20} + 1 \right) \times 2.5$
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Standardizing PIs caused 12 employees to bump up to the next quintile and 12 employees to bump down a quintile. Standardizing PIs also normalized the distribution and centered it around 3.00, as shown below in Figure 1.1 and Figure 1.2.

Figure 1.1: Histogram of Standardized Performance Indexes

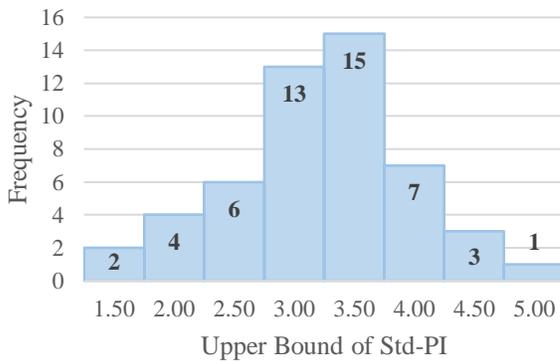


Figure 1.1: Histogram of the distribution of standardized performance indexes. The number at the top of each column indicates the number of student employees whose Std-PI is in that range. The horizontal axis labels indicate the upper bound of the bar; for example, the bar labeled 3.50 shows that 15 employees had a Std-PI greater than 3.00 and less than or equal to 3.50.

Figure 1.2: Summary Statistics for Standardized Performance Indexes

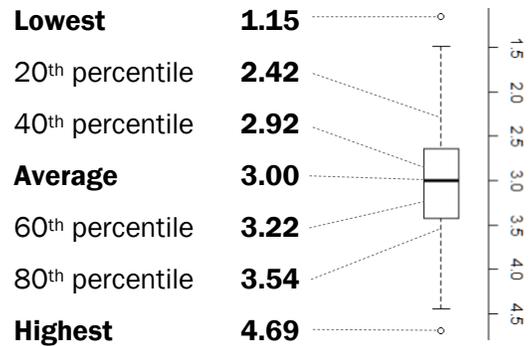


Figure 1.2: Boxplot and table with summary statistics of Std-PIs.

2. Comparing Supervisor Evaluations and Self-Evaluations

A **self-rated performance index** (Self-PI) was calculated for each employee based on their self-evaluation. This was calculated with the same procedure as supervisor evaluations. Likewise, each Self-PI was standardized into a **standardized self-rated performance index** (Std-Self-PI) according to the same formula as supervisor evaluations.

A. Overall Differences

Overall, most employees were actually slightly more critical of themselves than their supervisors were, as displayed below in Figure 2.1. Given possible biases in self-evaluations, these statistics are not sufficient to conclude that employees are generally underconfident of their performance. However, it is still useful to note that employees tend to evaluate themselves more modestly than their supervisors.



Figure 2.1: Graphical display of the percentage of employees who rated themselves less critically than their supervisors did vs. more critically. One employee had the exact same Self-PI and PI.

B. Differences by Category

Categorical performance indexes were also calculated for each employee—the average of the rating and the comment score for each category. These were then used to determine which categories may have disconnect between supervisors and employees in expectations and performance. *Two-sample t-tests* were run for each category to compare categorical performance indexes between supervisor evaluations and self-evaluations.

Category	Difference	Visual	P-value	Statistical Significance
Initiative	-0.11		0.07	Employees are overconfident
Supervision	0.40		0.10	Employees are self-critical
Professionalism	0.29		0.11	<i>Not statistically significant</i>
Overall	0.16		0.33	<i>Not statistically significant</i>
Environment	0.09		0.85	<i>Not statistically significant</i>
Quality	0.12		0.88	<i>Not statistically significant</i>
Dependability	0.10		0.95	<i>Not statistically significant</i>
Average	0.00		0.34	<i>Not statistically significant</i>

Figure 2.2: Table with differences in ratings between supervisor evaluations and self-evaluations. The *Difference* column shows the average categorical performance index from supervisor evaluations minus the average categorical performance index from self-evaluations. A positive value means supervisors generally rated their employees higher than the employees did. A value of 0 indicates that supervisors and employees are overall in agreement. The *P-value* column shows the significance level of the t-test, and the *Statistical Significance* column indicates if the samples are significantly different. For significance, $\alpha = 0.10$ was used due to the relatively small sample size and high expected variability.

In general, employees tend to be more critical of their performance than their supervisors are. This was statistically significant for only one category, Provision of Supervision, but its significance is minimal. The Initiative and Personal Development category is the only category in which supervisors were more critical than the employees were, to a slightly stronger degree of statistical significance than the Supervision category.

3. Associations between Performance and Categorical Variables

Std-PIs were crossed with employees' majors and types of positions to test if there were relationships between these factors and performance.

A. Major Cluster

Each employee's self-reported major was categorized into one of six clusters. An ANOVA test comparing Std-PIs among the six clusters showed that no cluster stood out with significantly different performance than any other cluster. Two-sample t-tests were also run for each cluster to compare its performance with all other clusters collectively, which yielded the same results.

Communication: Advertising, Communication Sciences & Disorders, Marketing, Public Relations	3.18	6 employees 0.65 std dev
Arts & Humanities: Art History, Classical Studies, Fine Arts, Graphic Design, History, Photography	3.10	11 employees 0.47 std dev
Math & Science: APK, Biology, Computer Science, Environmental Science, Health Science, Horticulture, Microbiology, Nursing, Statistics, Sustainability	3.10	9 employees 0.89 std dev
Social Sciences: Economics, Food & Resource Economics, Health Education and Behavior, Political Science, Psychology, Sociology	2.93	10 employees 0.84 std dev
Business: Business Administration, Business Management, Information Systems, Sport Management	2.90	7 employees 0.91 std dev
Engineering: Aerospace, Biomedical, Civil, Computer, Electrical, Environmental, Industrial, and Mechanical Engineering	2.74	6 employees 0.86 std dev

Figure 3.1: Bar graphs comparing Std-PIs among major clusters. The orange bars include the cluster and all majors in that cluster. The gray bars include the average Std-PI on the left, the number of students in that cluster, and the standard deviation of Std-PIs in that cluster (std dev).

B. Type of Position

Student managers tended to have slightly higher Std-PIs than associates, but not to a statistically significant degree. This is likely because student managers usually start as associates and may be promoted. Student managers also have higher expectations.

Managers: Any student employee with a managerial or supervisory role	3.23	14 employees 0.61 std dev
Associates: Any student employee without a managerial or supervisory role	2.90	35 employees 0.46 std dev

Figure 3.2: Bar graphs comparing Std-PIs between student managers and student associates. The orange bars include the position type and average Std-PI for that type. The gray bars include the number of students of that type and the standard deviation of Std-PIs of that type (std dev).

4. Associations between Performance and Numerical Variables

Std-PIs were crossed with four numerical variables to test if there were correlations between these variables and performance.

A. Correlations

Correlations were calculated to compare performance with each of the following variables:

Variable information has been redacted.

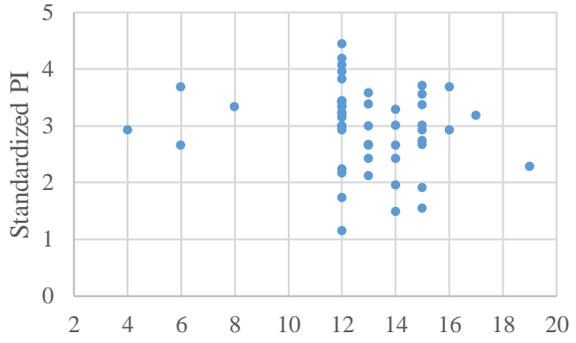
VARIABLE	CORRELATION	COEFF.	-1.0	INVERSE	0.0	DIRECT	1.0
Variables have been redacted.	Moderate, inverse	-0.312					
	Very weak, inverse	-0.075					
	Very weak, direct	0.063					
	Weak, direct	0.166					

Figure 4.1: Table with correlations and correlation meters displaying the strength of the relationship between four variables and Std-PI. A negative correlation coefficient indicates there is an inverse relationship: as the variable increases, Std-PI decreases. Likewise, a positive correlation coefficient indicates a direct relationship: as the variable increases, so does Std-PI. The farther away from 0 the coefficient is, the stronger the relationship is.

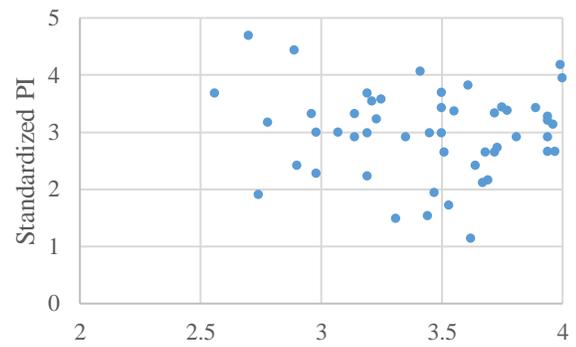
B. Scatterplots

The next page contains scatterplots comparing each of these variables to Std-PI.

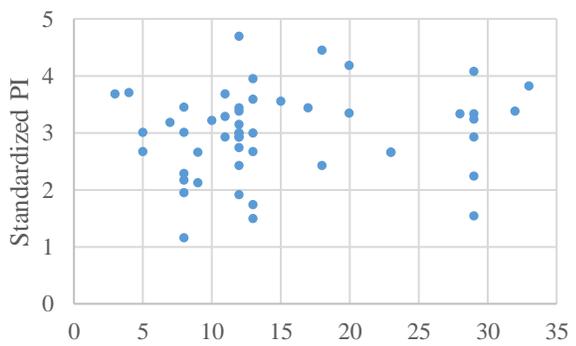
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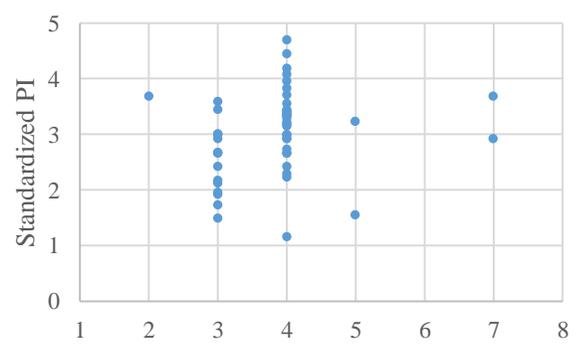
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Academic and Career Connections

Employees were asked to respond to two open-ended questions. The first question, about academic connections, asked: *How does your current coursework and job intersect? In what ways can you apply skills, lessons, or theories from classes to work?* The second question, about career connections, was at the end of the evaluation and asked: *How is your job aiding the development of skill sets that will help you in your career pursuits?*

5. Identifying Connections

Unlike the previous year, most employees were able to identify at least one connection with academics, whether that be applying skills and lessons from class to work or applying skills from work to classes.

51 (73.9%)

Identified an academic connection



65 (94.2%)

Identified a career connection



Figure 5: Graphical displays of the percentage of employees who identified a connection between academics and work and employees who identified a connection between work and career.

6. Skill Connections

For each question, employee responses were tracked by recording which keyword skills the employee identified. These skills were then grouped by which of the seven categories in the evaluation the keywords most closely corresponded to. Some skill keywords could have fit into more than one category, but each skill was only counted in the one category that it fit the best in.

A. Skills by Category

Figure 6.1 below shows how many times each category's skill keywords were reported and whether they were reported as academic connections, career connections, or both.

Figure 6.1: Skills reported gained from job, by category

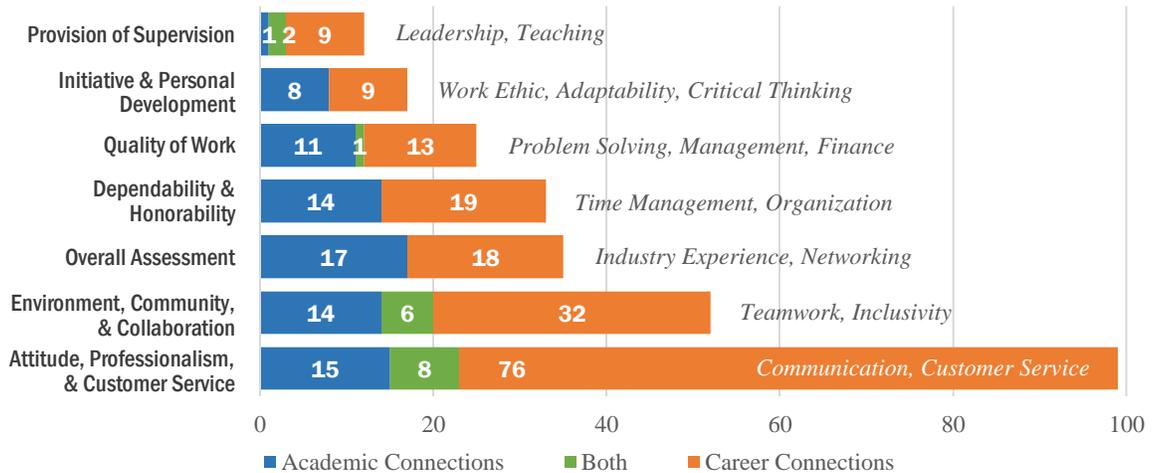


Figure 6.1: Number of skill keywords identified by employees regarding connections between academics and work or between work and career. The most commonly reported skills in each category appear to the right of each bar.

B. Associations between Skill Categories and Performance

In the previous year, there were two clusters of skills that employees identified using in their jobs that had moderate associations with performance indexes. This year, only one skill cluster was even roughly associated with performance. Employees who identified more skills in the Attitude, Professionalism, & Customer Service category, either as academic connections or career connections, tended to have higher performance indexes. This is a weak correlation but it is evident when categorizing employees by quintile:

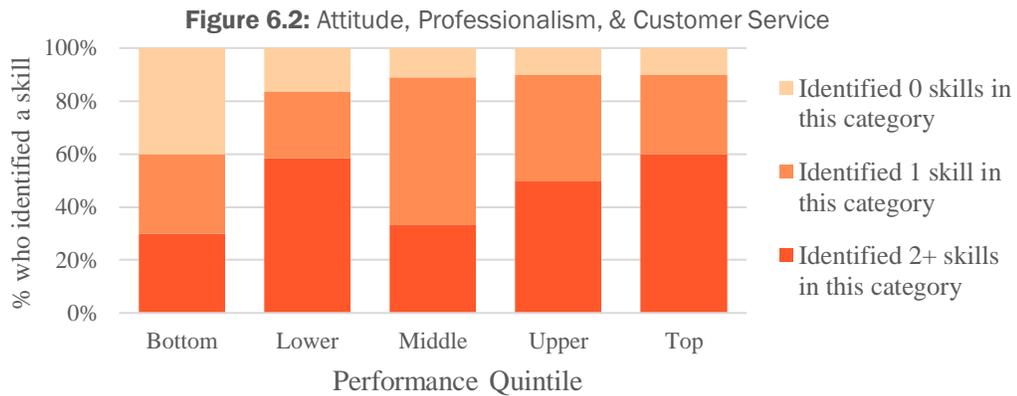


Figure 6.2: Stacked bar graph of standardized performance index quintile broken by whether students identified skills in the Professionalism category, which includes communication, customer service, people skills, speaking, listening, and similar skills.

In general, employees who recognize that they are gaining skills such as communication and professionalism tend to have better performance.

Suggestions from Employees

At the end of the evaluation was an optional question: *What opportunities can the Reitz Union provide to support you as you develop as a person and in your career?* There were 22 responses, 13 of which contained specific suggestions for expanding resources that the Reitz can provide to student employees. Below are the top responses. The numbers in parentheses indicate how many employees offered suggestions of that type.

Professional development workshops (3)

Host forums with job search advice, resume critiquing, interview preparation tips, internship search assistance, and other career resources

Networking opportunities (3)

Hold networking events; establish an alumni network on LinkedIn or Facebook

Collaboration with Multicultural & Diversity Affairs (2)

Offer trainings on cultural awareness; spread word of MCDA events

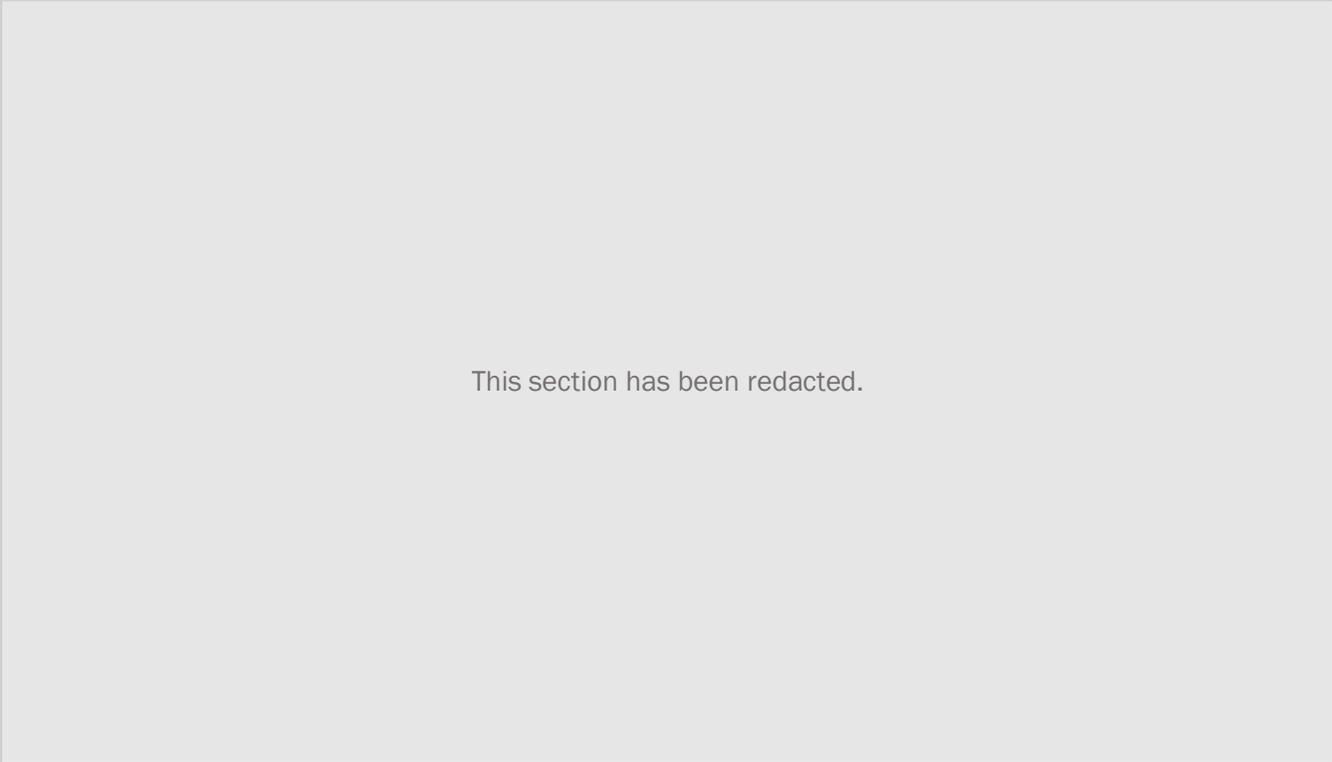
More small trainings throughout the year (2)

Hold trainings on customer service, conflict resolution, management skills, billing operations, advanced event logistics, and room capabilities

Leadership opportunities (2)

Provide more management duties to student employees

Key Takeaways



Appendix: Rubric for Scoring Comments

This rubric was used to convert the qualitative comments for each of the 6-7 categories on the evaluations into quantitative measures of how critical or complimentary the comments were. Employees tended to have different types of commentary than their supervisors, so a different scale was necessary for comparisons of supervisor and self-rated performance indexes to be appropriate.

Scale for Supervisor Evaluation Comments

1. No compliments, only critiques
2. More critical than complimentary
3. Roughly equal compliments and critiques
4. More complimentary than critical, and matches one of the following criteria:
 - Little to no criticism
 - If there is criticism, supervisor indicates that it is understandable or has a minimal effect on job performance
 - Critiques are framed as suggestions for the future rather than specific criticisms
 - Compliments are standard and not especially enthusiastic
5. Fully complimentary, no critiques, AND matches one of the following criteria:
 - Especially enthusiastic language
 - Lists an especially high amount of compliments
 - Cites positive feedback from other employees or guests
 - Makes superlative comments in comparison to other employees
 - Mentions an award or honor the employee received for excellent work

Scale for Self-Evaluation Comments

1. Especially self-critical
2. Matches one of the following criteria:
 - More critical than positive
 - Only lists self-critiques, but critiques are minor and brief
3. Roughly equal positives and critiques
4. More positive than critical, and matches one of the following criteria:
 - Little to no critiques
 - If there are critiques, employee explains how they have improved or believes that these have a nominal effect on job performance
 - Positives are standard and not especially enthusiastic
5. Fully positive, no critiques, AND matches one of the following criteria:
 - Expresses sincere enthusiasm for an aspect of the job
 - Lists an especially high amount of good practices
 - Cites positive feedback from other employees or guests