

What is “Normal” in Faculty Norming Reports?

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Ratings of faculty by students provide feedback that enables faculty to improve/adapt their teaching styles. The inevitable comparisons of results among classes by both faculty and administration are fraught with risks of false conclusions if the comparisons are not valid. Brightman (2005), in discussing the importance of mentoring faculty, pointed out the importance of confining comparisons to like groups (e.g., core vs. elective courses, freshman vs. senior-level courses, and courses within and outside one’s major). While these demographic variables may be one source of distinguishing characteristics of norm groups, we believe there are other sources, namely teaching-related and non-teaching-related factors. This paper reports on a study conducted by Peterson et.al. (2008) within a large school of business to determine the most salient variables to be used to compose norm groups for faculty norming reports. Results indicate the need for different norming reports for faculty that enable appropriate comparisons of student ratings. This paper stresses how such reports can be used by administrators to guide faculty in improving pedagogical delivery as well as for assessment in personnel decisions.

INTRODUCTION

Brightman (2005) discusses the importance of mentoring faculty to improve teaching and student learning. He contends that to establish a good mentoring system aimed to assist in retaining junior faculty and prevent “burnout” by senior faculty there must be two factors in place, “(1) a valid and reliable student evaluation instrument and (2) a meaningful norming report.” He opines that many institutions employ rating instruments that lack validity and reliability and, even worse, do not display norming reports. He states, and we most certainly concur, that “It is unfair to compare a faculty member teaching a required core class (sophomore-level class in statistics) with another faculty member teaching a senior-level elective course or

graduate course in decision support systems.” He then outlines what must be found in a valid and reliable rating system and in a norming report.

Using Brightman’s suggestions as a guide, Peterson, et.al., (2008) initiated a study to understand those factors affecting student evaluation of faculty in a business school that would lead to a better assessment of results of the student-faculty evaluations and enable this feedback to provide appropriate advice and guidance to faculty as well as to provide appropriate input to the dean and provost for personnel decisions. In particular, this paper stresses how norming reports can be developed and used by administrators to guide faculty in improving pedagogical delivery as well as for assessment in personnel decisions.

LITERATURE REVIEW

Over the years much research has been done on student-faculty ratings. Prior to business school faculty getting interested in the research related to the students’ assessment of faculty, other disciplines such as social sciences have exhausted this topic. The current literature can be grouped into four categories: (1) the usefulness of students’ rating by the administration (Costin, et.al., 1971) and seeking alternate means such as peer evaluation, administrative ratings, etc. (Greenwood and Ramagli, 1980), (2) the factors influencing students’ ratings, (3) the relationship of student learning and ratings, and (4) the impact of students’ ratings on faculty’s behavior in conducting the course. The focus of the Peterson, et.al. (2008) paper was to understand the factors that might be influencing the ratings and thus we will mainly discuss the previous work related to this category.

Costin, et.al. (1971) presented a comprehensive review of the research related to the evaluation of college teaching by students. The topics covered included reliability of student ratings. Their review covers close to 120 research papers reporting the findings of studies involving almost every conceivable factor that might be considered to have a role in determining students’ ratings of the faculty. These factors are as follows:

Teaching Related Factors

Research (French, 1957; Crawford and Bradford, 1968; Costin, 1968; Pohlmann, 1975) into what students consider the qualities of the most effective teachers indicates that such teachers displayed: (1) thorough knowledge of the subject, (2) genuine interest in teaching the material, (3) and able to create interest in students for the subject, (4) well planned and organized lectures that were clear and understandable in explanation and relevant examples, and (5) flexible and caring for students’ needs. While there is no debate on these factors being good measures of teaching, it is sometimes argued if students can be objective enough to give honest ratings without being influenced by the other non-teaching related factors (discussed next).

Non-Teaching Factors

Since there are so many of these factors, Peterson, et.al. (2008) classified them into five categories: those related to grading, those related to the attributes of teachers, those related to the attributes of students, those related to the attributes of the course, and those related to environmental factors -- the so-called extraneous factors such as class size, shape of classroom, equipment available in the classroom, etc.

It is a long-standing belief among professors that “easy does it”. Zangenehzadeh (1988) concludes that student ratings have resulted in changing teachers’ grading behavior. Bacon and

Novotny (2002) found a positive correlation for hypothetical teachers at the undergraduate level but not at the graduate level. However, many other research studies (Costin, et.al., 1971) point otherwise. At best, there is a weak correlation and the effect (of higher grades) gets confounded by other factors.

Factors related to student attributes include their class status (i.e., freshman, sophomore, junior or senior), gender (Wilson and Doyle, 1976; Myers and Dugan, 1996; Ward, et.al., 1999), major, grade expectations and cultural background – “a measurable difference among US and Eastern Country students in their perception of teachers’ classroom instructional behavior” (Burba, et.al., 2001), achievement, perception of gain in knowledge, interaction with teachers, and knowledge about the dispositions of the rating results (Driscoll and Goodwin, 1979; Small and Mahon, 2005).

Among the teachers’ attributes influencing the ratings are teacher’s position/rank, expectations, experience/training, communication skills and age (Blackburn and Lawrence, 1986).

Course characteristics as influencers of students’ ratings have been studied by Aigner and Thum (1986) and by Paswan and Young (2002).

Extraneous factors as influencers of students’ ratings have been investigated by Crittenden, et.al. (1975); Hamilton (1980), and Frey (1976).

BACKGROUND FOR STUDY DEVELOPMENT

Faculty at Montclair State University typically teach three courses per semester and are evaluated by students in each course. Participation in the student-faculty evaluation process is contractual (required) for all untenured faculty, adjuncts, and tenured faculty intending to be considered for promotion or salary range adjustment. Other senior tenured faculty members are asked to participate on a voluntary basis and the majority of them do. Faculty members distribute the evaluation forms in any class session they choose in the last two weeks of the semester.

The School of Business at Montclair State University uses a student-faculty evaluation instrument containing ten questions measured on a five-point Likert scale. The faculty receives their average ratings on these ten questions along with the overall simple average of all ten questions. This feedback from the student evaluations are distributed to the faculty early in the following semester, well after the grading for the current semester is over.

Figure 1 provides the key components of the ten-item evaluation instrument utilized for obtaining students’ responses on 5-point Likert Scales using letters A to E which are then converted to the values 1 to 5 (A or 1 being the best rating score). A computer program compiles the responses in each class and provides the simple average rating on each of the ten items as well as an “average of the ten averages.” The administration provides these eleven summary ratings to each faculty for each course in which the student ratings are obtained. Averages closer to 1.0 are considered truly outstanding.

FIGURE 1

STUDENT EVALUATION INSTRUMENT COMPONENTS

- Course Number
 - Semester
 - Year
 - Instructor's Name
 - Student Assigned Ratings of Instructor on each of Ten Items:
(1=Strongly Agree, 2=Agree, 3=Uncertain, 4=Disagree, 5=Strongly Agree)
- Q1. Instructor demonstrates importance/relevance of subject*
- Q2. Instructor encourages critical thinking*
- Q3. Instructor has well-planned presentation*
- Q4. Instructor demonstrates enthusiasm in teaching the subject*
- Q5. Instructor provides clear explanations*
- Q6. Instructor encourages student participation/expression*
- Q7. Instructor is readily accessible to students*
- Q8. Instructor provides appropriate evaluation of student performance*
- Q9. Instructor should be recommended to a friend*
- Q10. Instructor delivers the course with a level of excellence one should expect*
- Overall (a computed "average of the averages")*

A data base containing the aforementioned ratings for all faculty participants in the Management and Information Systems Department (355 class sections) was created over several semesters and evaluated for reliability and validity (Peterson, et.al., 2008).

FACTORS PERTAINING TO STUDENT ASSESSMENT OF FACULTY

Peterson et.al., (2008) then investigated specific research hypotheses regarding student ratings of faculty by semester (fall vs. spring), by course session (day vs. evening), by type of faculty (adjunct vs. full-time), by course level (freshman, sophomore, junior, senior, graduate), by course focus (quantitative orientation, systems orientation, theory and practice orientation), as well as by course type (major required, elective, core required).

As Brightman (2005) emphasized, a meaningful norming report must be available (Cohen, 1980; Frey, 1973) in addition to a valid and reliable rating instrument in order for administrators and supervisors to be able to properly assist faculty in improving pedagogical delivery as well as make decisions regarding faculty reappointment, tenure, and promotion. Based on extensive exploratory and confirmatory statistical analyses, Peterson et.al., (2008) uncovered four factors which led to the development of appropriate sets of norming reports (see Figure 2) that permit legitimate comparisons of individual faculty member's course ratings with others for the same course, same course session, same course level, same course focus, and same course type.

A SET OF CUSTOMIZED NORMING REPORTS

In past semesters faculty in the Management and Information Systems department at the B-school received the results of the previous semester's course evaluations as a packet that consisted of, for each course: (1) a single sheet listing the evaluation item and the corresponding

mean for each of the ten items along with a “mean of the means;” (2) a simple summary table of the individual responses to each question; (3) an ordered array of the overall mean rating of each course taught in the department; and, (4) a stem and leaf display of these same overall mean ratings. The latter two items were an attempt to help faculty compare their results to those obtained by other department colleagues.

Based on the research discussed herein, the development of customized sets of norming reports (see Figure 2) greatly expand the evaluation information available to the faculty by providing detailed data to allow comparisons of one faculty’s single course results to other groups of scores obtained by similar “normed” groups. For example, in Figure 2 the ten reports represent ten different comparisons: Report 1 compares the results obtained for a particular faculty member in a particular course section in one semester to results received by all faculty teaching that same course in that semester. Report 2 compares the results obtained for a particular faculty member in a particular course section in one semester to results received by all faculty teaching that course over this and previous semesters. Reports 3 and 4 provide comparisons by session within the particular semester (Report 3) and for this and previous semesters (Report 4). Similarly, Reports 5 and 6 provide comparisons by course level for both the current semester and previous semesters. Reports 7 and 8 show these results by course focus and Reports 9 and 10 demonstrate these results by course type.

Within each report the faculty member is provided with useful statistics. In Report 1, for example, column two (“Evaluation”) shows the mean rating for this individual on each of the items, columns three and four respectively list the item means and standard deviations (“STD”) for all faculty in the norm group, in this case all faculty teaching that particular course that semester. Column five lists the corresponding item z scores, the deviations from the expectations relative to the standard deviations. Lastly, column six identifies the percentile of the faculty member’s z score on each item in comparison to the norm group. Thus, for example in Report 1 looking at item 1 (“Q1”), this faculty member’s resulting class score was in the 66th percentile, some 34% below the best possible score in the norming group.

Figure 2 provides the set of ten norming reports for a faculty member teaching INFO 375, a junior-level, required, quantitative core business course in operations management taught during the day session. Individually and collectively the reports may reveal strengths, weaknesses, potential opportunities (strengths) or liabilities (weaknesses) as well as provide an overall sense of the ratings of the faculty member vis-à-vis the norm group. The percentile data are the easiest to understand and use as each number provides an indication of the faculty member’s results relative to the norm group on a particular item. In interpreting Figure 2 we focused on the items that were higher or lower relative to the other percentiles in each of the reports.

Q1. Instructor demonstrates importance/relevance of subject

The faculty member’s evaluation results are decidedly in the “middle of the pack” on Q1 (57th – 65th percentile) except in Reports 3 and 4 (Session) where faculty member’s results compare quite unfavorably (29th – 39th percentile) to all other daytime faculty being rated—either for the current semester or for previous semesters. There is an issue here in that the faculty member seems not to connect the subject to the daytime students. Intervention—perhaps bringing in a guest speaker from industry—might be in order.

Q2. Instructor encourages critical thinking

Evaluation scores for this item compared to the various norm groups are consistently better (62nd – 81st percentile). Encouragement of critical thinking is a definite strength for this faculty member.

Q3. Instructor has well-planned presentation

The faculty member does not stand out—good or bad—on this measure. Daytime students in the current semester rated this faculty member low (33rd percentile), but this was not consistent across semesters.

Q4. Instructor demonstrates enthusiasm in teaching the subject

This result is similar to Q3 except that day students within and across semesters rated this faculty member lower than colleagues.

Q5. Instructor provides clear explanations

This faculty member's results are inconsistent on this measure with six "average ratings" across the ten comparisons, two higher ratings (Course and Focus, across semesters) and one lower rating (Type, across semesters). It seems that this faculty member compares favorably with respect to providing clear explanations compared to other instructors of this course and other instructors of all quantitative courses in most semesters—but not in the current semester. The chair and other administrators should monitor this item to confirm this supposition.

Q6. Instructor encourages student participation/expression

The faculty member is higher than average on this measure compared to faculty teaching quantitative courses, but not compared to any other norm group. There may be a kernel of strength in the faculty member's encouragement of student participation that could be expanded.

Q7. Instructor is readily accessible to students

Here, the faculty member is average, although Course rating for this semester was high. Again, the fact that students in the Course would provide a high rating is encouraging in terms of the potential to turn this attribute into a strength.

Q8. Instructor provides appropriate evaluation of student performance

This faculty member's evaluations compared to the various norm groups are consistently low. Evaluation of performance is a weakness. The faculty member should be advised to seek help in finding more appropriate and, perhaps timely, measures of student performance.

Q9. Instructor should be recommended to a friend

For the most part, students would neither recommend nor not recommend this faculty member to their friends compared to recommending faculty in other norm groups. Given the importance of word-of-mouth marketing for courses, being "middle of the pack" is really a weakness that needs to be corrected.

Q10. Instructor delivers the course with a level of excellence one should expect

This faculty member's ratings on this measure were consistently low in comparison to any of the norm groups. This indicates a serious weakness—perhaps a fatal flaw--on the part of the faculty member. Teacher behaviors that lead to a higher level of excellence must be implemented immediately.

Overall

This faculty member's ratings on this "average of the averages" range from the 67th percentile (Report 8) to the 37th percentile (Report 3). Ratings for both Session norm groups were low across the semesters. Perhaps the implementation of some of the above suggestions will help the faculty member improve the overall rating.

CONCLUDING REMARKS AND MANAGERIAL IMPLICATIONS

For the individual faculty member and for administration alike the norming reports provide a means of assessing class evaluation results both within and among semesters by comparing individual results to various norm groups. In the example above, the 66th percentile rating on Q1 ("demonstrating the importance and relevance of the subject matter") might be a catalyst for self-reflection and/or discussion with administration as to what instructor behaviors to modify to change that rating in future evaluations. Comparisons of the results for this item across the various norm groups provide additional insights into behaviors that might impact future results.

REFERENCES

- Aigner, D. J. & Thum, F. D. (1986). On Student Evaluation of Teaching Ability. The Journal of Economic Education, 17, (4), 243-265.
- Bacon, D. R. & Jenny Novotny, J. (2002). Exploring Achievement Striving as a Moderator of the Grading Leniency Effect. Journal of Marketing Education, 24, (1), 4-14.
- Blackburn, R. T. & Lawrence, J. H. (1986). Aging and the Quality of Faculty Job Performance, Review of Educational Research, 56, (3), 265-290.
- Brightman, H. J. (2005). Mentoring Faculty to Improve Teaching and Student Learning. Decision Sciences Journal of Innovative Education, 3, (2), 191-203.
- Burba, F. J., Petrosko, J. M. & Boyle, M. A. (2001). Appropriate and Inappropriate Instructional Behaviors for International Training. Human Resource Development Quarterly, 12, (3), 267-283.
- Centra, J. (1979). Determining Faculty Effectiveness: Assessing Teaching, Research, and Service for Personnel Decisions and Improvements. San Francisco: Jossey-Bass.
- Centra, J. (1982). Determining Faculty Effectiveness. San Francisco: Jossey-Bass.
- Cohen, P. (1980). Effectiveness of Student-Rating Feedback for Improving College Instruction: A Meta-Analysis of Findings. Research in Higher Education, 21, 321-341.
- Costin, F., Greenough, W. T. & Menges, R. J. (1971). Student Ratings of College Teaching: Reliability, Validity, and Usefulness. Review of Educational Research, 41, (5), 511-535.
- Crawford, P. L., & Bradshaw, H. L., Perception of Characteristic of Effective University Teachers: A Scaling Analysis. Educational and Psychological Measurement, 28, 1079-1085.

Crittenden, K. S.; Norr, J. L. & LeBailly, R. K. (1975). Size of University Classes and Student Evaluation Teaching. The Journal of Higher Education, 46, (4), 461-470.

Driscoll, L. A. & Goodwin, W. L., (1979). The Effects of Varying Information about Use and Disposition of Results on University Students' Evaluations of Faculty and Courses. American Educational Research Journal, 16, (1), 25-37.

French, G. M. (1957). College Students' Concepts of Effective Teaching Determined by an Analysis of Teacher Ratings. Dissertation Abstracts, 17, 1380-1381.

Greenwood, G. E., & Ramagli, Jr., H. J., (1980). Alternatives to Student Ratings of College Teaching. The Journal of Higher Education, 51, (6), 673-684.

Hamilton, L. C. (1980), Grades, Class Size, and Faculty Status Predict Teaching Evaluations. Teaching Sociology, 8, (1), 47-62.

Myers, D. J. & Dugan, K. B. (1996), Sexism in Graduate School Classrooms: Consequences for Students and Faculty. Gender and Society, 10, (3), 330-350.

Paswan, A. K. & Young, J. A. (2002). Student Evaluation of Instructor: A Nomological Investigation Using Structural Equation Modeling. Journal of Marketing Education, 24, (3), 193-202.

Peterson, R.L., Berenson, M.L., Misra, R.B., & Radosevich, D.J. (2008). An Evaluation of Factors Regarding Students' Assessment of Faculty in a Business School. Decision Sciences Journal of Innovative Education, in publication.

Pohlmann, J. T. (1975). A Description of Teaching Effectiveness as Measured by Student Ratings. Journal of Educational Measurement, 12, 49-54.

Small, J. & Mahon, S. (2005). New Evaluation Form, 'Same Old Attitude? A Study of Perceptions of The Lecturer Evaluation Process. Journal of Eastern Caribbean Studies, 30(2)75-90.

Ward, S. P., Cook, E. D., Ward, D. R. & Wilson Jr., T. E. (1999). The Effect of Student Gender on Perceptions of Instructor Behavior and Teaching Effectiveness in the Upper Level Accounting Classroom. Journal of Accounting and Finance Research, 7, (3), 15.

Wilson, D. & Doyle, Jr. K. O. (1976). Student Ratings of Instruction: Student and Instructor Interactions. The Journal of Higher Education, 47, (4), 465-470.

Zangenehzadeh, H. (1988). Grade Inflation: A Way Out. The Journal of Economic Education, 19, (3), 217-226.

FIGURE 2 NORMING REPORT SAMPLE

Faculty Name: Dr. XXX
 INFO 375 Semester Spring 07
 Sector 9
 # of students 39
 # of students participating 34
 % of participating students 87.20%

of students in course in all semesters 112
 # of students participating n/a
 % of participating students n/a

This Semester
Report 1

	Mean of All Evaluation	STD of INFO 375	Z Value	Percentile
Q1	1.41	1.50	0.22	65.2%
Q2	1.31	1.48	0.27	73.9%
Q3	1.48	1.58	0.36	61.3%
Q4	1.38	1.44	0.13	67.9%
Q5	1.55	1.70	0.34	67.0%
Q6	1.38	1.42	0.12	62.2%
Q7	1.48	1.57	0.14	73.6%
Q8	1.66	1.65	0.25	48.0%
Q9	1.48	1.60	0.43	61.1%
Q10	1.59	1.57	0.33	47.0%
Overall	1.47	1.55	0.24	62.7%

Course
(INFO 375)
All Semesters
Report 2

	Mean of All Evaluation	STD of INFO 375	Z Value	Percentile
Q1	1.41	1.52	0.28	65.2%
Q2	1.31	1.52	0.32	74.6%
Q3	1.48	1.65	0.40	66.3%
Q4	1.38	1.45	0.29	59.2%
Q5	1.55	1.78	0.36	65.7%
Q6	1.38	1.49	0.31	64.4%
Q7	1.48	1.61	0.26	68.7%
Q8	1.66	1.67	0.31	50.9%
Q9	1.48	1.66	0.47	64.6%
Q10	1.59	1.59	0.34	50.3%
Overall	1.47	1.59	0.30	65.5%

Report 3

	Mean of All Evaluation	STD of All Daytime Faculty	Z Value	Percentile
Q1	1.41	1.32	0.17	28.9%
Q2	1.31	1.37	0.19	62.2%
Q3	1.48	1.39	0.21	32.8%
Q4	1.38	1.30	0.17	30.6%
Q5	1.55	1.49	0.29	42.2%
Q6	1.38	1.38	0.23	49.9%
Q7	1.48	1.47	0.28	48.9%
Q8	1.66	1.53	0.28	32.0%
Q9	1.48	1.40	0.26	38.7%
Q10	1.59	1.35	0.22	14.1%
Overall	1.47	1.40	0.21	36.5%

Session
(Day)
Report 4

	Mean of All Evaluation	STD of All Daytime Faculty	Z Value	Percentile
Q1	1.41	1.35	0.23	39.4%
Q2	1.31	1.43	0.24	69.6%
Q3	1.48	1.48	0.29	50.1%
Q4	1.38	1.33	0.26	43.1%
Q5	1.55	1.57	0.35	52.7%
Q6	1.38	1.46	0.29	60.6%
Q7	1.48	1.51	0.26	53.8%
Q8	1.66	1.57	0.34	39.1%
Q9	1.48	1.48	0.39	50.1%
Q10	1.59	1.43	0.28	27.9%
Overall	1.47	1.46	0.27	48.3%

Report 5

	Mean of All Evaluation	STD of 300 level	Z Value	Percentile
Q1	1.41	1.48	0.52	55.5%
Q2	1.31	1.54	0.57	65.7%
Q3	1.48	1.60	0.63	57.7%
Q4	1.38	1.44	0.51	55.0%
Q5	1.55	1.69	0.59	59.2%
Q6	1.38	1.47	0.47	57.4%
Q7	1.48	1.59	0.47	59.3%
Q8	1.66	1.63	0.57	48.1%
Q9	1.48	1.62	0.69	57.8%
Q10	1.59	1.56	0.65	48.2%
Overall	1.47	1.56	0.55	56.5%

Level
(300)
Report 6

	Mean of All Evaluation	STD of 300 level	Z Value	Percentile
Q1	1.41	1.42	0.38	51.1%
Q2	1.31	1.51	0.42	68.9%
Q3	1.48	1.59	0.48	58.8%
Q4	1.38	1.41	0.40	53.0%
Q5	1.55	1.65	0.46	58.2%
Q6	1.38	1.48	0.38	60.6%
Q7	1.48	1.60	0.43	60.9%
Q8	1.66	1.65	0.52	49.2%
Q9	1.48	1.58	0.56	57.1%
Q10	1.59	1.53	0.49	45.1%
Overall	1.47	1.54	0.43	56.5%

**Focus
(Quantitative)**

Report 7

	Mean of All Quantitative		STD of Quan.	Z Value	Percentile
	Evaluation	Courses	Courses		
Q1	1.41	1.44	0.18	0.19	57.5%
Q2	1.31	1.48	0.19	0.87	80.9%
Q3	1.48	1.54	0.27	0.22	58.7%
Q4	1.38	1.43	0.16	0.28	61.1%
Q5	1.55	1.70	0.28	0.52	69.9%
Q6	1.38	1.48	0.15	0.68	75.3%
Q7	1.48	1.55	0.18	0.41	65.9%
Q8	1.66	1.62	0.27	-0.14	44.4%
Q9	1.48	1.60	0.35	0.35	63.7%
Q10	1.59	1.51	0.25	-0.32	37.4%
Overall	1.47	1.54	0.19	0.33	62.9%

Report 8

	Mean of All Quantitative		STD of Quan.	Z Value	Percentile
	Evaluation	Courses	Courses		
Q1	1.41	1.48	0.24	0.27	60.8%
Q2	1.31	1.52	0.27	0.77	78.0%
Q3	1.48	1.60	0.35	0.35	63.8%
Q4	1.38	1.45	0.28	0.26	60.4%
Q5	1.55	1.79	0.36	0.67	75.0%
Q6	1.38	1.58	0.28	0.69	75.6%
Q7	1.48	1.59	0.25	0.45	67.3%
Q8	1.66	1.66	0.32	0.00	49.9%
Q9	1.48	1.69	0.45	0.47	68.1%
Q10	1.59	1.56	0.31	-0.09	46.6%
Overall	1.47	1.59	0.28	0.43	66.6%

**Type
(Required)**

Report 9

	Mean of All Required		STD of All Required	Z Value	Percentile
	Evaluation	Courses	Courses		
Q1	1.41	1.48	0.25	0.27	60.5%
Q2	1.31	1.52	0.22	0.95	82.8%
Q3	1.48	1.55	0.28	0.27	60.6%
Q4	1.38	1.44	0.20	0.32	62.5%
Q5	1.55	1.72	0.31	0.55	71.0%
Q6	1.38	1.50	0.21	0.57	71.6%
Q7	1.48	1.61	0.30	0.42	66.4%
Q8	1.66	1.64	0.28	-0.07	47.2%
Q9	1.48	1.63	0.38	0.39	65.0%
Q10	1.59	1.53	0.30	-0.20	41.9%
Overall	1.47	1.56	0.24	0.37	64.4%

Report 10

	Mean of All Required		STD of All Required	Z Value	Percentile
	Evaluation	Courses	Courses		
Q1	1.41	1.44	0.24	0.11	54.3%
Q2	1.31	1.50	0.22	0.87	80.9%
Q3	1.48	1.55	0.26	0.28	60.8%
Q4	1.38	1.41	0.24	0.11	54.4%
Q5	1.55	1.70	0.30	0.50	69.3%
Q6	1.38	1.52	0.25	0.55	71.0%
Q7	1.48	1.59	0.27	0.41	65.8%
Q8	1.66	1.62	0.29	-0.15	44.0%
Q9	1.48	1.60	0.41	0.31	62.1%
Q10	1.59	1.52	0.27	-0.26	39.8%
Overall	1.47	1.55	0.24	0.30	61.8%