Analysis of Student Performance in an Internship Program in a U.S. university

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Abstract

Supervisor evaluations of the on-the-job performance of 629 internship students, collected over a five-year timeframe, were analyzed. Students were evaluated on the following five general workplace attributes: reliability, interpersonal skills, communication skills, ability to handle stress, and attitude. Significance testing was used to determine areas of strength and weakness and trend analysis was used to determine areas of improvement and non-improvement. Based on this analysis, interpersonal skills was identified as an improving strength, reliability was identified as a non-improving strength, attitude and ability to handle stress were identified as improving weaknesses and communications skills was identified as a non-improving weakness.

Quality in Higher Education

What is quality? A simple enough question but unfortunately, one which may not have any answer or may have many answers. Quality is easier to identify and measure in some endeavors than in others. In a manufacturing, quality may be measured by whether a finished component has a diameter within certain dimensions or whether the viscosity of a fluid has desired properties. A common understanding of what one means by quality is likely to be achievable.

With regard to what constitutes quality in higher education, the focus has historically been on inputs rather than on outputs (Sims and Sims 1995). According to this traditional perspective, the quality of a school or program is determined primarily by its structural characteristics. Key indicators of a school’s quality have typically included things like average entrance exam scores, acceptance rates, faculty qualifications, endowments, library holdings and student/faculty ratios (Sims and Sims 1995).

Proponents of Total Quality Management (TQM) in higher education have challenged this traditional view by suggesting that quality needs to focus more on the outcomes of the educational process than on the inputs (Sims and Sims 1995). Specifically, it is proposed that quality should be defined as the extent to which the needs of a school’s stakeholders are satisfied by the outcomes of the educational process. Key stakeholders would include students, parents of students, faculty, employers of graduates, taxpayers, donors, and alumni (Sims 1995; Sims and Sims 1995). Thus, from this TQM perspective, quality would be determined by the extent to which a school’s graduates learned the things that their stakeholders believe they needed to learn. This TQM philosophy is what underlies the assessment movement in higher education (de Jager and Nieuwenhuis 2005; TQM in Higher Education Research Group 1993) and has been greatly responsible for...
helping shift the conception of quality away from a school’s resources and towards how well its students are achieving stated learning objectives.

Assessment

According to Allen (2004), assessment is defined as “an ongoing process designed to monitor and improve student learning (p. 5).” In an assessment process, academic programs define learning objectives for their students, make sure that these objectives are incorporated in their curriculum, measure the extent to which their students have attained these objectives and then make adjustments to their curriculum in order to improve the learning/performance of future students (Allen 2004). The popularity of assessment has grown substantially in recent years driven heavily by the demands of accrediting agencies (including the AACSB) and state governments who are seeking greater accountability from schools (Baker 2004; Center for the Study of Higher and Postsecondary Education 1992). This growth of assessment within higher education is seen as a very positive trend since it has brought many of the principles of quality control/TQM to the educational process (Elfner 1995; Ewell 1991; Sims 1995).

While this overall trend toward assessment is seen as positive, there are two areas of potential weakness in the assessment plans developed and implemented by many business programs. The first area of weakness is that assessment has had a tendency to be too internally focused (Lopez 2004). While programs will often seek input from external stakeholders when they are developing their learning objectives, these objectives are still heavily influenced by the priorities and biases of the faculty in the program (Lopez 2004). Once these objectives are developed, then it is the faculty who almost exclusively decide how these objectives will be covered in the curriculum, how the objectives will be assessed/measured, determine how well students have performed on these objectives and decide what alterations should made to the program in order to improve student performance. The assessment process would have greater validity if individuals external to the program (particularly those from industry) were allowed to have greater input and involvement throughout the entire process (Dugan 2004; Hernon 2004; Maki 2004). From a TQM perspective, employers are a very important customer of business school outputs (graduates) and therefore schools need to look for ways to more effectively interject employers’ needs and perceptions into the continuous improvement process (de Jager and Nieuwenhuis 2005).

The other area of weakness is an overemphasis on theoretical classroom learning at the expense of workplace application (Janesick 2001). Ultimately, many believe that the most important meta-objective for a business school is to prepare their graduates so that they will be able to meet the rigors of the workplace. Instilling within students the key theories and principles of the business academic literature is certainly a key part of this preparation. Most assessment plans do a good job measuring the learning of such traditional content. However, classroom learning alone is often insufficient in terms of adequately preparing students for the demands of industry (Kinnick and Walleri 1995, Janesick 2001). Success in the workplace is affected by a number of other non-content related factors for which traditional business school curricula are often not able to adequately prepare their students (Cook, Parker and Pettijohn 2004; Hymon–Parker and
Smith 1998). This would include such attributes as: getting along with co-workers and customers (Heppell 2004; Bingham and Drew 1999; Green 1989; Baker and Holmberg 1981), developing a strong work ethic (Heppell 2004; Green 1989; SAM Advanced Management Journal 1976), handling stress/pressure (Heppell 2004; Bingham and Drew 1999), meeting deadlines, keeping appointments (Green 1989), communicating effectively with others (Bingham and Drew 1999) and maintaining a positive attitude (Heppell 2004; Green 1989; SAM Advanced Management Journal 1976).

Students who graduate without developing these key attributes or understanding their importance will likely have much greater difficulty adapting to the demands of industry. As a result, it is believed that business programs that view the success of its graduates as its ultimate goal should seek to incorporate objectives related to these applied workplace performance skills into their curricula and assessment plans. A rather straightforward approach for accomplishing these goals is through internships.

**Internships**

According to Stretch and Harp (1991), an internship is “controlled experiential learning where a student receives academic credit while employed by an organization in a chosen area of interest (p. 67).” Research indicates that approximately 90 percent of colleges offer their students some type of for-credit internship or work-related learning experience (Cook, Parker and Pettijohn 2000; Gault, Redington and Schlager 2000). The primary reason for the popularity of internships is that they offer win-win-win opportunities for students, employers and schools. Students benefit from internships because the professional work experience makes them more marketable and helps them develop skills they would have difficulty acquiring in the classroom. Employers benefit from internships because they provide them with risk-free-trial access to potential future employees, and schools benefit from them because it helps strengthen their connections to the business community.

Another benefit is that internships offer schools is that they can be a very effective assessment vehicle. With regard to assessment methodology, an internship is considered a *performance* measure and as such is thought to be a more authentic than traditional paper and pencil classroom testing approaches (Allen 2004). The rationale for this judgment is given by the example that one can better evaluate one’s proficiency at playing the piano by observing their performance rather than by giving them a written test of their knowledge of the instrument. In this regard schools can place their students in various internships and have external industry people formally evaluate the students’ job performance. This feedback can be used to assess areas of strength and weakness. Changes can then be made to the school’s curriculum and/or preparation of students to improve workplace performance.

Using internships for assessment is particularly beneficial for business programs because they can provide a solution for both the “too much internal focus” as well as the “lack of practical application” weaknesses described earlier. With regard to the “too much internal focus” weakness, schools can address this by developing a formal quantitative evaluation form for internship supervisors to use in order to evaluate their intern’s job...
performance. Schools can aggregate the results across all of their interns in order to assess overall areas of strength and weakness. Using employer evaluations as assessment data, allows schools to effectively interject a variety of independent external viewpoints into their assessment process.

Internships also address the issue of “lack of practical application” by giving students an active learning experience in the workplace. Students are able to develop the various applied workplace skills they will need to enable them to make a smooth transition from the classroom to the world of business. Feedback from the aggregated evaluations can be used to revise the curriculum in order to improve student performance and meet employers needs and expectations.

Internships in a Global Context
As globalization becomes increasingly important, many U.S. firms are expanding internationally and the number of foreign firms operating in the U.S. is increasing. Hence, a good knowledge of international business practices is becoming increasingly important for job candidates. Often the best way to learn these practices is by working abroad, even for a short time.

Even if a permanent international position is not the goal of a student, the skills he/she learns abroad can be applied to jobs in the United States. Experiencing other cultures is an attraction for most people who decide to work abroad. Living in a new culture provides different perspectives and helps increase the understanding of others. And some see in international work a chance to share with others who do not have the high standard of living enjoyed in the United States.

As evidenced by the following, there are opportunities for U.S. students to obtain international internship experiences: “Even in the midst of a prolonged economic recession, many Japanese companies and organizations welcomed interns from the US, as well as other countries, to come to Japan to work for them for a period of six to 18 months. For many business organizations this was a novel experience undertaken for a variety of reasons including government incentives, the desire to have a native English speaker in the office, as part of the national push toward ‘internationalization’ in Japan, and in some cases out of a desire to introduce some potentially useful variation in well-established routines.” (Masumoto, 2004)

Overview of the Current Study
The current study presents an analysis of employer evaluations of 629 internship students collected over a five year period. Interns were evaluated by their internship supervisors based on their perceived performance across a number of general workplace attributes. The data were then analyzed in order to determine overall areas of strength and weakness with regard to student workplace performance. These findings should be of interest to those academics who seek to improve the quality of their graduates by better preparing students to meet the rigors of industry. In addition to the empirical findings, this study will also provide a model of process improvement for programs on how to use internships
to improve the level of preparation students receive with regard to the acquisition of applied workplace skills.

Background
The sample for the study was a census of all students who completed their required internship in the Marketing department of a medium-sized mid-western university during four different summer semesters and two fall semester within a five year timeframe. The internships were primarily in the areas of marketing, advertising, sales, logistics, hospitality and retailing. While the guidelines of the internship program required a paid internship, a few exceptions were allowed for internships in highly competitive disciplines that historically have not had to pay their interns (e.g., advertising and sports marketing). Internships were for a minimum of 480 hours (typically 40 hours a week for 12 weeks), and all were approved and supervised by the department’s internship director to ensure the job duties were rigorous enough to meet department standards.

Measures
Measures for the study were obtained from the supervisor evaluation form that was used as one part of the grading component for the internship course. The evaluation form was completed by each intern supervisor upon the student’s completion of their internship. The supervisor evaluation form was adapted from an instrument that was used by a major retailer to evaluate their own trainees. Given the differences in the types of internships into which students are placed, this form focuses specifically on the general workplace attributes which are relevant and applicable across all work assignments and not on characteristics specific to particular job positions. For grading purposes additional open ended evaluation questions were used to assess job performance with regard to activities specific to each internship.

With regard to the composition of the internship evaluation form, the instrument contains 16 items which are used to evaluate interns on five attributes. All items are measured on five point scales anchored by 0 = *Unsatisfactory Performance* and 4 = *Excellent Performance*. These performance attributes are as follows, with the specific evaluation items included in each:

*Reliability* - includes the following individual items: demonstrates dependability, meets deadlines, follows instructions, and assumes responsibility.

*Communication* - includes ability to express himself/herself when talking to others, and ability to state ideas clearly and effectively in written form.

*Positive attitude* – includes the following individual measures: demonstrates enthusiastic initiative in acquiring new skills, demonstrates willingness to work enthusiastically and consistently, and exhibits justified self confidence while retaining personal modesty.

*Ability to handle stress* – this includes the following: reacts calmly in critical situations, retains objectivity in emotional situations, and accepts criticism constructively.
Interpersonal skills - the individual items included in this measure are: demonstrates a pleasant business like attitude toward both customers and co-workers, exhibits respect and courtesy toward others, exercises patience when dealing with customers and coworkers, and seeks and respects the opinions of others.

Reliability analysis indicated that the coefficient alphas for these scales all exceeded .7, and thus were considered sufficiently reliable for further analysis (Nunnally 1978). Specifically, the coefficient alphas for the five scales were as follows: reliability = .86, communication skills = .77, positive attitude = .82, ability to handle stress .85, interpersonal skills .86.

Analysis 1: Means Analysis
A means analysis was undertaken in order to determine areas of overall strength and weakness with regard to the workplace performance of college students. Mean scores were calculated for each student on each of the five scales and then grand means were calculated across all students for each scale. An overall within subjects F-test was run to test whether the differences observed across the five grand means were significantly non-random. The hypothesis being tested was that the five scale means were not all equal, as expressed below:

H0: $\mu_R = \mu_{IS} = \mu_{PA} = \mu_{HS} = \mu_{CS}$
HA: The means are not all equal.

Where R = reliability, IS = interpersonal skills, PA = positive attitude, HS = handle stress, CS = communication skills, and $\mu$ represents the mean for each scale. The result of this test was significant at the 99% confidence level.

Given the significance of the overall within subjects F-test, individual paired t-tests were performed on a post-hoc basis for each pair of means. Ten paired t-tests were necessary to evaluate all possible pairs. For each test the hypothesis can be stated as:

H0: $\mu_i = \mu_j$
HA: $\mu_i \neq \mu_j$

Where i and j represent the measures R, IS, PA, HS, and CS as defined above. The results are reported in Table 1, with the attributes listed from strongest to weakest performance. At the 95% level of confidence, significant differences were found between 9 of the 10 pairs tested.
Table 1: Results of Analysis 1: 
Comparison of Scale Means and Results of Paired T-Tests of Significant Differences 
Within Subjects F test: $F = 107.497, p < .001$

<table>
<thead>
<tr>
<th></th>
<th>Mean $^1$</th>
<th>Reliability</th>
<th>Interperson. skills</th>
<th>Positive attitude</th>
<th>Handle stress</th>
<th>Comm. skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td>3.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal Skills</td>
<td>3.54</td>
<td>$t = 0.30$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive attitude</td>
<td>3.38</td>
<td>$t = 9.44**$</td>
<td>$t = 10.10**$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handle stress</td>
<td>3.28</td>
<td>$t = 12.63**$</td>
<td>$t = 15.28**$</td>
<td>$t = 5.56**$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication skills</td>
<td>3.22</td>
<td>$t = 14.66**$</td>
<td>$t = 15.48**$</td>
<td>$t = 9.44**$</td>
<td>$t = 2.91*$</td>
<td></td>
</tr>
</tbody>
</table>

$^10 = unsatisfactory performance; 4 = excellent performance$

* $p < .05$
** $p < .01$

The results indicate that students performed the best on the attributes of reliability and interpersonal skills (both were 3.55 on a scale of 4). These were the only scale means that were not significantly different. Attributes on which student workplace performance significantly lagged these top two were positive attitude (3.38), ability to handle stress (3.28) and communication skills (3.22). The means of these bottom three attributes all significantly differed from each other at the 99% confidence level. Thus, it is concluded that student workplace performance was strongest in the areas of reliability (demonstrating dependability, meeting deadlines, following instructions, assuming responsibility) and interpersonal skills (demonstrating a pleasant attitude toward others, exhibiting respect and courtesy toward others, exercising patience with others and seeking and respecting the opinions of others). The results also indicate that the areas of greatest weakness in terms of student workplace performance are in the areas of communication (both written and oral), ability to handle stress (reacting calmly in critical situations, retaining objectivity in emotional situations, accepting criticism constructively) and maintaining a positive attitude (demonstrating enthusiastic initiative in acquiring new skills, and demonstrating a willingness to work enthusiastically and consistently, and exhibits justified self confidence while retaining personal modesty).

Analysis 2: Trend Analysis
A time series analysis was also undertaken in order to track changes in the quality of student workplace performance over time. Since the underlying objective of any TQM initiative is continuous improvement, it is imperative that changes in the performance indicators be regularly monitored so that negative trends can be examined and addressed in a timely fashion. Thus this analysis is less about determining the areas of relative strength and weakness but rather is focused on determining the areas of improving and declining quality.
A line graph showing overall mean performance in each of the five scales is presented in Figure 1. As a benchmark, the overall mean for the five scales combined, equally weighted, was included. This overall mean is shown by the dashed black line in Figure 1.

Figure 1: Trend Analysis of student workplace performance over time

This graphic indicates how the overall mean student performance varies over time as well as how each category of performance varies. This is helpful in identifying areas where student performance is not improving or where there may even be danger signals that desired outcomes are dropping. Overall, the graphs indicate that after a decline between the first and second periods, the overall mean evaluation of students during their internships has been increasing somewhat steadily.

The results indicate the students have been performing relatively well in the area of interpersonal skills (see the red line) during their internships and that the mean evaluations have increased since the second period. On the other hand, reliability was identified in Analysis 1 as an area of overall strength based on its relatively high mean across the six observation periods; however, the time series indicates that this may be an
area of concern (see the green line). While the mean for reliability remains above the overall mean, its variability and recent decline suggests that this may need to become an area of greater emphasis in order to better prepare students for their internship (and ultimately permanent job) experiences.

Communication skills is the attribute area that is perhaps the most universally valued by employers (Spence 2004; Vice and Carnes 2001) and faculty alike (Hyman and Hu 2005). Unfortunately, an examination of the line graph for this characteristic shows that communication skills have not only been consistently rated low, but the trend shows very little indication of improvement. These results suggest the educational process may need to be revised in order to improve student workplace performance in this area. Finally this graphic also makes clear that while employer evaluations of ability to handle stress (maroon line) and positive attitude (blue line) are still areas of relative weakness, both are showing signs of improvement.

**Recommendations**

Based on the results of both the means analysis and the trend analysis, a 2 x 2 matrix was developed. Student performance on each of the five attributes was categorized as belonging to one of the following four quadrants: improving strength, improving weakness, non-improving strength and non-improving weakness (see Table 2).

Interpersonal skills was the only attribute classified as an improving strength. While performance in this area should still be monitored, the results do not indicate there is currently any need to make changes in the educational process in order to improve student quality on this attribute. The one non-improving strength was reliability. While student performance in this area has managed to stay above the overall mean, its variability is considered a cause for moderate concern. It is suggested that performance in this area may be improved simply by making this attribute a point of greater emphasis in the internship orientation process. This additional emphasis might include having the internship director recommend that internship students strive to be “early” rather than just “on time” with regard to meeting deadlines or arriving for work. This emphasis could be reinforced by having the internship director increase the weight given to this criterion in the determination of a student’s internship course grade.

**Table 2: Classification of attributes based on mean performance and trend**

<table>
<thead>
<tr>
<th></th>
<th>Improving</th>
<th>Non-Improving</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strength</strong></td>
<td>Interpersonal skills</td>
<td>Reliability</td>
</tr>
<tr>
<td><strong>Weakness</strong></td>
<td>Positive attitude</td>
<td>Communication skills</td>
</tr>
<tr>
<td></td>
<td>Handling Stress</td>
<td></td>
</tr>
</tbody>
</table>
Both ability to handle stress and positive attitude were classified as improving weaknesses. While overall student performance in these two areas was below average, both are exhibiting positive trends. Positive attitude in particular has improved to the point that in the last observation it approached the grand mean. By comparison, ability to handle stress showed both lower mean performance and less improvement. Unfortunately this is an attribute that is difficult to address through coursework or with other faculty interactions with students. However, it may be something that can be addressed through readings assigned to students in preparation for their internships. It may well be that making students aware that they need to be prepared to deal with stressful situations on the job and providing them with reference material containing potential coping behaviors and/or strategies for stress management will be sufficient to raise employer evaluations in this regard.

Finally, communication skill was classified as a non-improving weakness. As a result, improving student performance in this area should be given the highest priority. Strategies for improvement might include changing the curriculum to include more basic instruction on the proper use of written and spoken English. This curricular change might also be accompanied by a directive requiring or requesting that faculty increase the writing and public speaking assignments in their classes so as to give students more opportunities to develop/practice their communication skills. In addition, faculty might also be encouraged to place greater emphasis on the proper use of written and spoken language in their grading of assignments and to provide more detailed feedback to students with regard to their deficiencies in these areas.

It is helpful to think of the internship placement and evaluation process as shown in the flow presented in Figure 2. This figure describes the process flow that is being used to help monitor, control, and assure the success of the internship program.

**Discussion and Limitations**

The main purpose of this research was to analyze the general performance of students in the workplace in order to determine areas of relative strength and weakness. A secondary purpose was to demonstrate how assessment of internship data can be used to continuously improve the quality of a program’s graduates. The use of assessment to measure performance and guide a continuous improvement process is an important trend in business education since it helps put business schools in line with the TQM initiatives of industry and gets them away from the traditional use of “inputs” as the primary determinant of the quality of a program. Internships are an ideal vehicle for assessing student quality since they provide both a real world venue in which their performance can be examined as well as a set of independent “experts” to make these evaluations.
With regard to the results of the study, it is noteworthy that despite vast differences in internship assignments into which the 629 students in this study were placed, a consistent pattern of general workplace strengths and weaknesses could still be found in the aggregated evaluations. Analysis of these data clearly indicates that the key areas of improvement for this program are communication skills followed by ability to handle stress.
It should be pointed out that the key limitation of this study is that all of the students came from the same program and thus the strengths and weaknesses identified may only be reflective of this particular program’s educational process. However, three things may mitigate this limitation. First, the internship is a requirement in this program, and therefore the students examined in this study were not a “cherry picked” sample of the best, brightest and most determined (which often characterizes students who choose to do an elective internship) but rather represents a complete cross-section of abilities.

Second, the study focused on general workplace attributes that typically are not the focus of most business school courses and textbooks (including the program in the current study). As a result, the conclusions regarding relative strengths and weaknesses should be viewed at minimum as a heads up on the potential inherent weaknesses of the typical business curriculum.

Third, while the absolute performance of students would likely vary if this analysis were replicated at programs with either more or less selective admission policies than the one in the current study, this does not mean relative performance on these attributes would have differed. Thus while a program with more talented students might have produced higher means on these scales than those in the current study, there is nothing to suggest that the relative order of these means would have been any different.

References

Bingham, Rosie and Sue Drew (1999), Key Workskills. Hampshire, UK: Gower.


