

Performance of Teaching and Learning Technology Internship Students as Perceived by Their Trainers

Talal S. Amer Ali M. Ibrahim
College of Education, Sultan Qaboos University, Muscat, Oman

Abstract

The purpose of this descriptive study is to evaluate the performance of teaching and learning technology students of the College of Education, Sultan Qaboos University during their internship experience. Trainers of the interns rated them on 15 items of performance as displayed in the questionnaire of the study. The internal consistency of the questionnaire was significantly high (.96). It was observed that the general level of performance of the interns was high (a mean of 4.40 out of 5) and the ratings of the individual items of performance ranged from 4.04 to 4.59. However, no gender significant differences were observed in the global ratings of males and females. Apart from this, it was found that 2014 cohort interns performed better than earlier cohorts (before 2014). The study reveals other significant findings such as location of internship (public or private sector) did not affect performance of interns. Similarly, type of institution (educational or non-educational) was not a significant factor of performance, however, interns in non-educational institutions performed better (though not significantly) than interns in educational institutions). Interns with higher GPAs outperformed their colleagues with lower GPAs.

Keywords: Internship evaluation, supervisors' ratings of interns, teaching and learning technology

Introduction:

Internship or extended-practicum is a vital and highly-valued component of pre-service teacher preparation programs (Ralph, 2005, Bukaliya, 2012). According to Narayanan, Olk and Fukami (2010), an internship is placement of a student in an organization for a term with a faculty supervisor, a site supervisor. The prerequisite for internship is that the student must have earned some credit towards the degree. Internships often bridge the gap between concepts learned in traditional academic settings and methods and the workplace (Wesley & Bickle, 2005). Hence, internships help student-interns confirm their academic and employment choices, and provide contacts useful for gaining employment (Jackson & Jackson, 2009). In teaching and learning technology programs, in particular, the goals of the internship experiences focus on providing interns with opportunities to apply technological concepts, techniques, and skills. Interns are expected to be proficient in technical report writing, and oral communication with their colleagues. Group-working skills are also important and should be manifested in internship practices. Hence, it is essential that prospective teachers perform adequately in internship experiences.

Studies have been conducted to evaluate the performance of prospective educators (students from other disciplines) on internship experiences in light of factors such as grade point average, gender and motivation. In the USA, Kelly and Koonce (2012) conducted a study in which they investigated the correlation between cumulative grade point average (CGPA) of educational leadership graduate students and internship mentor's assessment. The instrument used for evaluating internship success consisted of 24 items rated on a Likert scale. The participants of the study were 90 educational candidates who had completed their program of training. The sample was considered a purposeful sample which revealed a weak positive Pearson's correlation (.014) between these two variables.

Ralph (2005) conducted a study; the purpose of which, was to examine the final evaluations of 17 cohorts of teacher candidates (n=374) in a college of education in Canada after they had completed their extended-practicum. The evaluation was based on nine instructional categories. The data was analyzed according to a number of factors among which were: year of internship (before 1996, and 1996 or after), and gender of the intern. The evaluations of the nine categories were based on a three-point rating scale. Means and standard deviations were calculated. The results of the study indicated that interns who had completed the practicum in 1996 or later had slightly better evaluations for six of the nine teaching skills than interns who completed the practicum before 1996. The authors explained these differences by suggesting that they relate to the changes adopted in the pre-service program. Similarly, as regards the gender of interns factor, minor differences between males and females were observed. Evaluation results revealed slightly higher means favoring female interns in eight of the nine teaching categories. ANOVA tests indicated that in four of these categories (i.e. lesson planning, unit planning, questioning and methods), differences were statistically significant. Many authors believe that gender differences in academic achievement (if they ever exist), are mostly modest (e.g. Blanks and Thompson, 1995).

Bukaliya (2012), in Zimbabwe, surveyed 50 interns from the faculties of Science and Technology and Applied Social Sciences. The researcher's results showed that the majority of the students preferred the

attachment program because it exposed them to the real expectations of the world of work. There was a general agreement that internships are beneficial since they provide interns with practical experiences and boost their motivational levels. Interns felt that the duration of internship (i.e. one semester) was short. Some respondents reported that many organizations do not have qualified staff who can effectively and efficiently contribute to successful internship experiences.

Friedman (2014), in USA, conducted a study to identify elements of effective internships (e.g. ability to communicate, take action independently, etc.) through site supervisor's observation while assessing interns. The study was intended to understand intern effectiveness from the supervisors' perspective. The researcher hypothesized that skills and attributes such as communication, work ethic, decision-making skills, adaptation to change, ability to learn new tasks quickly and the ability to apply the new technology are important elements of supervisors' overall assessment interns. The sample was a group of 173 supervisors who provided data for the study in the form of intern evaluations at the conclusion of the internship. The interns were from different disciplines. Their average GPA was 3.10 out of 4. Using a five-point Likert scale, supervisors rated the interns on 19 items of performance in addition to an item of overall performance. Descriptive statistics and regression analysis were used to determine the relative influence of each performance item on the item of overall assessment. Average ratings of the items ranged from 4.22 to 4.59 out of 5. A significant amount of variance (78%) was accounted for by the items. Five items: effective communication, self-direction, learning new duties quickly, completing high quality assignments promptly and showing enthusiasm and interest, registered a significant relationship with the overall assessment of performance.

The purpose of the current study is to evaluate the performance of teaching and learning technology students at Sultan Qaboos University during their internship experiences. The roles of a number of factors in this performance are investigated. These factors include: location of internship (public sector or private sector), type of internship location (educational or non-educational), gender of trainer, gender of student, year of internship, and GPA.

Research Questions:

- (1) What is the level of performance of internship students as perceived by their trainers?
- (2) Are there any differences in performance which are attributed to the location of internship (General sector or private sector)?
- (3) Are there any differences in performance which are attributed to the type of internship (educational or non-educational)?
- (4) Are there any differences in performance which are attributed to the gender of internship trainer?
- (5) Are there any differences in performance which are attributed the gender of the student?
- (6) Are there any differences in performance which are attributed to the year of internship (2014 or before 2014)? (In 2014 internship locations were increased and varied inside and outside the Sultanate of Oman. Moreover, the minimum numbers of credit hours completed before starting internship experiences were increased from 75 to 83 hours.)
- (7) Are there any differences in performance which are attributed to the GPA levels of students (high and low)?

Method

The study was a descriptive field survey of the trainers of teaching and learning technology students doing internship at Sultan Qaboos University students. Trainers rated the interns on 15 items of performance as displayed in the questionnaire which is described in the Instrument section below.

Population and sample

The population of the study consisted of two different sub-groups: candidates in teaching and learning technology and their internship trainers/mentors. The subgroup of students was comprised of all the students who completed their internship in the period 2012-2014. The trainers group consisted of all the trainers of the first group in the period 2012-2015. The sample of students consisted of 97 students (47 males, 50 females).

Instrument

The "Mentors" Survey for Evaluating the Internship Students of Educational Technology" was developed specifically for this study (See Table 1). It included 15 items of performance in which interns were evaluated. These items were adapted from the available relevant literature and similar instruments (e.g. Amer and Ismail, 2014). Ratings were made on a five-point Likert-type scale with 5 being "very good" and 1 being "poor. The internal-consistency reliability of the questionnaire as measured by Cronabach's alpha was 0.96 indicating a very high level of reliability.

Findings

Data were analyzed using the SPSS statistical package. Means, standard deviations, and the *t*-tests were

employed to answer the research questions of the study as discussed below.

Question 1 *What is the level of performance of internship students as perceived by their trainers?*

Table 1 below indicates that the average overall performance of the students in the internship program was 4.40 out of 5, which is considered a high level of performance. The ratings of the individual items ranged from 4.04 to 4.59 which are similar to the results reported by Barry (2014). As is clear from the table, “Interest in work” was the best-rated item, while the ability to write reports was the lowest-rated item. This finding lends support to the recommendation suggested by Amer and Ismail (2014) in their study on the evaluation of the internship program as perceived by supervisors and interns at College of Education, Sultan Qaboos University. Based on the responses of participants, as outlined in Table 1, the authors recommend that more attention needs to be given to develop technical report writing skills of the interns.

Table (1) *Means and standard deviations of ratings of performance of internship students ranked in descending order (N=97)*

Rank	No.	Item	Mean	Standard Dev.
1	2	Interest in work	4.59	0.75
2	6	Ability to work within groups	4.58	0.76
3	12	Ability to achieve	4.52	0.78
4	11	Self-confidence	4.52	0.77
5	9	Interest in searching for information	4.46	0.77
6	8	Interest in acquiring experiences and skills	4.46	0.78
7	14	Verbal communication ability	4.43	.78
8	10	Observing working hours in training location	4.42	1.00
9	1	Technological efficiency	4.41	0.80
10	4	Initiative in accomplishing duties	4.38	.86
11	3	Accuracy in presenting assigned work	4.33	0.85
12	13	Judgment and decision-making	4.28	0.83
13	15	Ability to communicate in writing	4.27	0.91
14	5	Quality of work	4.26	0.79
15	7	Ability to write reports	4.05	1.01
Total		Overall rating	4.40	0.66

Question 2 *Are there any significant differences in performance which are attributed to the location of internship (Public sector or private sector)?*

If we look at the information in table 2, there is no significant difference between those doing their internship in the private sector from those doing it in the public sector. However, we can say that those who completed their internship in the public sector performed slightly better in terms of overall items of performance.

This could be attributed to the fact that some public sector locations, especially in the areas of petrol, natural gas and aluminum are characterized by high discipline in attendance and continuous observation of all working staff and/or trainees. Hence, probably interns do not waste time of training, and exploit all of it in acquiring experiences and skills.

Table (2) *T-test results for differences between ratings of performance of students taking their internship in public and private sectors*

Sector	N	Mean	Std. Dev.	t-value	p-value
Public	77	4.43	0.55	0.78	.44 (N. S.)
Private	20	4.25	1.00		

Question 3 *Are there any significant differences in performance which are attributed to the type of internship location (educational or non-educational)?*

When investigating this question using *t-test*, results revealed non-significant difference between the overall performance of interns who completed their internship in educational institutions and those who completed it in non-educational organizations. Nevertheless, interns in non-educational organizations were perceived to perform better (but not significantly) than those in educational institutions (mean = 4.50 compared to a mean of 4.14). It might be argued that non-educational institutions have relatively more facilities for varied work experiences than educational institutions.

Moreover, some non-educational institutions are basically competitive organizations especially those working in the fields of petrol, natural gas, aluminum, and information systems and thus always aim at improving their products and services which will reflect on its revenues. Hence, these institutions work within certain frameworks and strict regulations that guarantee proper infrastructure and technological facilities. They also provide logistical support that helps these organizations to achieve their objectives. This reflects on the performance of all staff and trainees.

Table (3) *T-test results for differences between ratings of performance of students taking their internship in educational and non-educational institutions*

Type of institution	N	Mean	Std. Dev.	t-value	p-value
Educational	27	4.14	0.90	1.95	0.06 (N.S.)
Non-educational	70	4.50	0.52		

Question 4 *Are there significant differences in performance of students which are attributed to the gender of internship trainer?*

Trainers, in this study, were both males and females. The objective of this question was to investigate whether there are any differences in performance between students who were trained and rated by males and those who were trained and rated by females. It was observed that male trainers were slightly more lenient in their evaluation of performance than female trainers. However, the t-test (as depicted in Table 4) revealed that this apparent difference between the means of the two groups was not significant.

This result is in agreement with the observation of the university supervisor (who is also the principal investigator of the current study) that most female trainers concentrate on the execution of the training programs and they regularly observe the performance of trainees and register their attendance. Female trainers were strict regarding these issues. Moreover, female trainers were prompt in completing evaluation forms and sending them to the university supervisor.

Table (4) *T-test results for differences between ratings of performance given by male and female trainers*

Trainer's gender	N of students trained	Mean	Std. Dev.	t-value	p-value
Male*	72	4.45	0.60	1.29	0.20 (N. S.)
Female*	25	4.25	0.82		

*Each trainer had a number of students

Question 5 *Are there any significant differences in performance which are attributed the gender of the student?*

It is clear from table 5 that, although males performed slightly better than females in overall items of performance, the difference is not statistically significant. This finding is in conformity with the observation conviction of many other authors (Blanks & Thomson, 1995; Lefrancois, 1999) that gender differences in academic achievement (if they ever exist) are mostly minor. However, in the present study, males were significantly rated higher than females in "writing reports" (means= 4.47 and 4.08, $t= 2.14$, $p= 0.035$).

This result could be attributed to the fact that some trainers assign some administrative tasks to interns- especially males. In one location an intern was appointed as director of section for one week. In addition to that some interns were asked to conduct workshops for groups of employees within staff development programs. Such tasks require preparation of written reports.

Table (5) *T-test results for differences between ratings of performance of male and female students*

Student's gender	N	Mean	Std. Dev.	t-value	p-value
Male	47	4.43	0.82	0.46	0.65 (N. S.)
Female	50	4.37	0.49		

Question 6 *Are there any differences in performance which are attributed to the year of internship (2014 or before 2014)?*

Two groups of interns were compared in overall performance, 2014 cohort, and cohorts before 2014. T-test results (shown in table 6) revealed that the average overall performance of 2014 interns was significantly better than the average performance of earlier interns.

Table (6) *T-test results between ratings of performance of students taking their internship in 2014 and before 2014*

Year	N	Mean	Std. Dev.	t-value	p-value
2014	49	4.61	0.41	3.30	.002 (Sig.)
Before 2014	48	4.18	0.80		

This result can be due to the fact that new internship locations were added during summer of 2014. These locations had more technological facilities and allowed more chances for application and practice. These locations included the Middle East College of Information Technology in Knowledge Oasis which provided chances for actual field training in private and public institutions. Another location was the Public Authority for Radio and Television which prepared a program for interns that allowed them to participate in program preparation and production and other technical skills. A third location was the United Arab Emirates University Library Deanship which provided interns with additional skills and experiences other than those acquired from Sultan Qaboos University libraries. In addition to these, some improvements and developments in training programs for interns had occurred in some locations such as the Department of Content e-learning of the

Ministry of Education and a number of information technology departments in the Ministry of Regional Municipalities and Water Resources.

Question 7 Are there any differences in performance which are attributed to the GPA levels of students?

GPA (which ranges from 0 to 4.0) indicates the overall average of performance of students in a course work. When the students were grouped into two levels of GPA (i.e. 3 or higher and less than 3), *t*-test results (which are shown in table 7) revealed a significant difference between the two groups in favor of higher GPA group. This finding is expected and supports the validity of internship rating or vice versa. However, Kelly et al. (2012) found a weak insignificant positive Pearson's correlation (0.014) between evaluation of rating success (using a Likert-type scale) and CGPA. This could be the result of insufficient variation in both variables since it is well-known that Pearson's method under-estimates correlation between variables when variability is insufficient in both variables or in one of them. In the current study students were categorized on the basis of GPA into two contrasting groups and the *t*-test was used instead of Pearson's correlation coefficient.

This result can be explained by the fact that students with high GPA are usually more disciplined than others with regard to attendance in lectures, workshops within and outside the university and internship training. They are also more responsible in accomplishment of tasks assigned to them promptly, making use of the information, experiences and skills provided to them and applying them whenever they find a chance.

Table (7) *T-test results between ratings of performance of students with high GPA and low GPA*

GPA range	N	Mean	Std. Dev.	t-value	p-value
3.00 – 4.00	64	4.51	0.49	2.39	.02 (Sig.)
Less than 3.00	33	4.18	0.88		

Conclusion and Recommendations:

This section briefly summaries the findings, in form of conclusion, and makes some suggestions as follows: Although the current study revealed that trainers of interns rated the global performance of these interns positively. We suggest that university supervisors should be involved in the rating of performance of interns through frequent field visits to these interns and close observations. Since there was a tendency among trainers to assign high ratings consistently to their interns, multiple categories of raters will provide more authentic evaluations. More attention should be given to developing the skills of report-writing among students since the results of the current study revealed that this was least-rated item of performance.

Since the results of the study revealed that interns in educational institutions were rated lower than interns in non-educational institutions, internship should be conducted in educational institutions with adequate technological facilities and efficient trainers.

References

- Amer, T. S. & Ismail, O. H. (2014). An evaluation of the internship program at the College of Education, Sultan Qaboos University, Muscat. *International Journal of Humanities and Social Sciences and Education*, 1(10), 5-10.
- Blanks, S. & Thompson (1995). *Educational psychology for teachers in training*. New York: West Publishing.
- Bukaliya, R. (2012). The potential benefits and challenges of internship programmes an ODL institution: A case for the Zimbabwe Open University. *International Journal on*
- Friedman, Barry (2014). Site Supervisors' assessment of student interns. Available at: <http://dx.doi.org/10.2139/ssrn.2514483>
- Jackson, R., & Jackson, M. (2009). Students' assessment of a semi-directed internship program. *Journal of Geography*, 108(2), 57-67.
- Kelly, M.D. & Koonce, G. L. (2012). The relationship between student grade point average, principal internship mentor's assessment scores and school leaders licensure assessment scores. *The Journal of Human Resource and Adult Learning*, 8(2), 1-9.
- Lefrancois, G. (1999) *Psychology for teaching* (10th ed.). Belmont, CA: Wadsworth.
- Narayanan, V., Olk, P. & Fukami, C. (2010). Determinants of internship effectiveness: An exploratory model. *Academy of Management Learning & Education*, 9(1), 61-
- New Trends in Education and Their Implications. 3(1), 188-133.
- Ralph, E.G. (2005). Factors affecting teacher-candidates' practicum evaluation. *Journal of Teaching and Learning*, 3(2), 29-46
- Ralph, E.G. (2005). Factors affecting teacher-candidates' practicum evaluation. *Journal of Teaching and Learning*, 3(2), 29-46.
- Wesley, S., & Bickle, M. (2005). Examination of a paradigm for preparing undergraduates for a career in the retailing industries: Mentors, curriculum, and an internship. *College Student Journal*, 39(4), 680-691.