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Independent learning skill, competence and job performance of graduates of Universitas Terbuka: Perceptions of graduates and supervisors

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Abstract

Open and distance education institutions such as Universitas Terbuka (UT) encourage independent learning among its students, which hopefully will lead to the ability of self-learning in the workplace. This is important so that graduates will meet the requirements of competence and performance in their job. Employer perception is imperative in assessing characteristics of independent learning skill, competence and performance in line with job requirements. This paper describes the perception of graduates and their immediate supervisors about competence and independent learning skill acquired during study which impacted on their job performance. The study finds that UT's graduates have adequately met the requirements needed in the workplace in terms of independent learning skill, competence and job performance.

Introduction

Independence is an important attribute to one's personality. It is important in the learning process and it is also a key achievement factor in studies and career. On the other hand, in Open Distance Education (ODE), the notion of independent learning evolves. It is a learning strategy that fosters self-improvement through planned independent study by students under the guidance of an instructor. Independent learning empowers and teaches students to learn by themselves (William, 1995). Learners become motivated and trained in their responsibilities as well as in their learning ability (Broad, 2006).

In ODE as well as in Universitas Terbuka (UT), which adopts lifelong learning, student motivation and independent learning are necessary and they play an important role. According to Aspin and Chapman (2000), lifelong learning is the development of human potential through a continuously supportive process which stimulates and empowers individuals to acquire all the knowledge, values, skills, and understanding they will require throughout their lifetimes, and to apply them with confidence, creativity and enjoyment in all roles, circumstances and environment. Independent learning is related to adult learning. Knowles (1990) lists the characteristics of adult learning as independence, responsibility, integrity, rational and innovativeness. These attributes are also important in problem solving competencies (Munthe, 2003). Competence is the ability to perform any job function according to certain standards. Munthe (2003) explains that competence is a basic student's ability in terms of knowledge, skill and attitude.

Independence is closely related to the competencies required in the workplace. According to Rainsbury et al. (2002), skills required of graduates are computer literacy, customer service orientation, teamwork and co-operation, self-confidence and willingness to learn. Skills most sought after by employers are communication skills, integrity/honesty, interpersonal skills, motivation/initiative, strong work ethics, teamwork, computer skills, analytical skill, flexibility, adaptability, and detail-oriented. Ruben and DeAngelis (1998) have described the personal competencies needed to succeed in the workplace as positive attitude, motivation, flexibility/adaptability, integrity, problem solving, decision making, analysis, high grade point average (GPA) and loyalty. In addition, communication competencies include public speaking, teamwork and ability to work under pressure.

Job skills acquired during previous study will affect job performance. McCormick and Tiffin (1980) state that the performance is the quantity, quality and time spent in performing their duties. Garavan and McGuire (2001) suggest additional aspects to be considered in the assessment of job performance, which are loyalty, work result, honesty, discipline, creativity, teamwork, leadership, personality, initiative, skills and responsibility. Leblebici (2012) has classified aspects of performance as quality of work, honesty, initiative, attendance, attitude, cooperation, reliable job related knowledge, responsibility and utilisation of skills.

Some basic skills required on the job can be developed during the learning process in the university. Therefore, a university must provide sufficient knowledge and skills and develop attitudes for students to be ready to enter the workplace after graduation. One way to obtain information about the performance of graduates from their employers is through tracer study. Tracer study is an assessment of the impact of a programme or project, so the effectiveness of programme components can be identified. The tracer study is to evaluate the educational outcomes that can be used for refinement and quality assurance of higher education institutions concerned (Schomburg, 2003).

In 1984, the Indonesian president opened UT to widen the accessibility of higher education to all, and to solve the problem of quality in teachers, especially elementary school teachers. With the opening of UT, many teachers and non-teachers enrolled to further their studies. This high enrolment is due to the flexibility in time, place, and pace, and reasonable fees charged by the university (UT's Tracer Study, 2008). As of June 2011, the number of active students at UT is 576,265 (www.ut.ac.id). Until 2009, a total of 770,257 students have graduated from UT (Universitas Terbuka, 2009).

UT conducted a graduate tracer study for its undergraduate and master's degree programmes in 2008 and 2009. The study covered 23 study programmes. Some aspects examined in the tracer study were related to independence and competence as well as the performance of graduates. This paper will describe the perception of graduates and their immediate supervisors as a representative of employers to the learning independence gained during their study at UT, graduates' competencies in the job and their overall performance in the workplace.

Method

This analysis is based on data from the UT tracer study conducted in 2009 involving graduates and their immediate supervisors. To elaborate, the data obtained through questionnaires and interviews were from selected samples of graduates and supervisors representing the employers.

The population in this study was all graduates of UT from 1998 to 2007. This period was selected because (1) current address of graduates were the same as in the UT database, (2) curriculum at the time of their graduation was relatively similar to the current curriculum, and (3) during that period, it was expected that there were some changes in both performance and careers of graduates in the workforce. The sample of respondents was selected randomly. The number of questionnaires sent to the graduates was 57,044. Details of the faculty sample are presented in **Table 1**.

No.	Faculties	Number of Sample	Percentage (%)
1.	Faculty of Education and Teacher Training (FKIP)	37,605	65.92
2.	Faculty of Economy (FEKON)	8,712	15.22
3.	Faculty of Social and Political Sciences (FISIP)	8,891	15.59
4.	Faculty of Mathematics and Natural Sciences (FMIPA)	1,836	3.22
	Total	57,044	100.00

Table 1 Number of samples as percentage of population

The distribution of samples was representative of all faculties. Most of UT's students were teachers enrolled in the Faculty of Education and Teacher Training. Hence, it was not surprising that the majority of UT graduates were from the Faculty of Education and Teacher Training. The variables of this study are independence, competence and performance of graduates from the perspective of graduates and employers. Indicator of variables studied was independence, responsibility, integrity, analytical thinking and innovativeness. In addition, the variable of competence focused on interpersonal competence and communication competence. Indicators of interpersonal competence are integrity, problem solving, decision making and GPA while communication competence indicators are public speaking, teamwork and ability to work under pressure. Indicators of performance variables are honesty, discipline, teamwork, leadership, initiative, attitude and responsibility.

Data analysis was carried out quantitatively and qualitatively. Quantitative data obtained from the questionnaire are in the form of frequencies and percentages of some aspects of which became the focus of the study. Qualitative data were collected from interviews. The qualitative analysis was done to enrich the overall findings. Additionally, statistical analysis using nonparametric statistical test (Wilcoxon test) was performed to see if there was a difference in the perception between graduates and employers. Alpha level used was 0.05.

Result and discussion

From mail distributed questionnaires, 17.24% were returned and 10.74% were analysed. The number of questionnaires that can be analysed is presented in **Table 2**.

No.	Faculties	Questionnaires		
		Delivered	Returned	Percentage (%)
1.	Faculty of Education and Teacher Training (FKIP)	37,605	4,471	11.89
2	Faculty of Economy (FEKON)	8,712	496	5.69
3.	Faculty of Social and Political Sciences (FISIP)	8,891	938	10.55
4.	Faculty of Mathematics and Natural Sciences (FMIPA)	1,836	221	12.04
Total		57,044	6,126	10.74

Table 2 Number of questionnaires analysed

Table 2 shows that the highest rate of returned questionnaire is obtained from the Faculty of Mathematics and Natural Sciences. Questionnaire return rate is very dependent on the suitability of the respondents' address. The exact matches of graduate-employers were paired, and about 2,417 pairs were analysed.

Graduate profile

From the analysed data, it was found that there were more male than female graduates, except for the Faculty of Education and Teacher Training. Detailed numbers and percentages for each faculty are described in **Table 3**.

Most of the undergraduate students of the Faculty of Education and Teacher Training have diplomas from UT's diploma programme for elementary school teachers. For the other three faculties, the background education was senior secondary schools (Universitas Terbuka, 2009).

No.	Faculties	Sex		Prior Education			
		M	F	High school	Non degree prog.	Bachelor degree	Master's degree
1.	Faculty of Education and Teacher Training (FKIP)	1,993 (44.58%)	2,478 (55.42%)	939 (21.00%)	3,484 (77.92%)	46 (1.03%)	2 (0.04%)
2.	Faculty of Economy (FEKON)	367 (73.99%)	129 (26.01%)	343 (69.15%)	123 (24.80%)	26 (5.24%)	4 (0.81%)
3.	Faculty of Social and Political Sciences (FISIP)	722 (76.97%)	216 (23.03%)	794 (84.65%)	123 (13.11%)	19 (2.03%)	2 (0.21%)
4.	Faculty of Mathematics and Natural Sciences (FMIPA)	165 (74.66%)	56 (25.34%)	121 (54.75%)	93 (42.08%)	7 (3.17%)	0 (0.00%)

Table 3 Distribution of respondents according to sex and prior education

It was known that similar to other ODE institutions, most students have jobs before entering UT. This is confirmed in the tracer study that 92.51% of graduates have been employed before entering UT. When asked about the institution which employed them, about 69.72% answered. Graduates who are civil servants comprised 49.99%. This is understandable since the highest percentage of graduates is teachers. The rest are working in private sectors.

No.	Faculties	GPA of Graduates (percentage)		
		< 2.75	2.75 – 3.00	> 3.00
1.	Faculty of Education and Teacher Training (FKIP)	77.52	14.54	7.94
2.	Faculty of Economy (FEKON)	91.94	5.44	2.62
3.	Faculty of Social and Political Sciences (FISIP)	96.59	2.35	1.07
4.	Faculty of Mathematics and Natural Sciences (FMIPA)	81.90	9.95	8.14

Table 4 Distribution of respondents according to Grade Point Average (GPA)

Table 4 shows that percentages of the graduates' GPAs are mostly less than 2.75. Thus, the possibility of bias in the analysis of the data can be minimised as the respondents in this research do not comprise the high achievers.

Learning independence

Learning independence is indicated by aspects of independence, responsibility, integrity, analytical thinking and innovativeness. **Table 5** describes the analysis of these five aspects according to the graduates' perception and that of their immediate supervisors or employers.

Aspects of Independence	N/A		Very Poor		Poor		Good		Very Good	
	E	G	E	G	E	G	E	G	E	G
Independence	6.88	2.20	0.02	0.04	6.63	0.66	54.53	65.35	31.94	29.51
Responsibility	0.02	3.68	0.13	0.06	2.00	0.77	59.81	57.74	35.10	37.74
Integrity	6.57	5.91	0.00	0.00	0.07	0.04	58.29	57.82	35.07	36.23
Analytical thinking	5.68	7.10	0.13	0.06	4.39	7.23	70.13	72.45	19.68	13.16
Innovation	2.56	5.75	0.44	0.17	7.72	10.01	75.31	76.12	13.96	7.95

Table 5 Perceptions of employers and graduates concerning graduate independence aspects (percentage)
Note: E = Employers and G = Graduates

It shows that generally graduates and employers alike perceived the five aspects of UT's graduate independence as good and very good. The average values for all aspects which were considered good according to graduates and employers are 65.90% and 63.61% respectively, while the average values for all aspects which were considered very good are 24.92% and 27.15% respectively. There is no significant difference at alpha of 0.05 between graduates and employers' perception about the independence aspects. The Wilcoxon's non-parametric statistical test result is shown in **Table 6**.

	Independence	Responsibility	Integrity	Analytical thinking	Innovation
Z	−5.700[a]	−2.955[a]	−6.300[a]	−4.169[b]	−12.603[b]
Asymp. Sig. (2-tailed)	.000	.003	.000	.000	.000
a. Based on negative ranks b. Based on positive ranks c. Wilcoxon Signed Ranks Test					

Table 6 Wilcoxon Test of the graduates and employer's independence aspect

Other aspects of independence such as analytical thinking and innovativeness were demonstrated by UT's graduates while carrying out the job. From several interviews with UT graduates who are teachers, it showed that they were able to overcome some teaching problems with their innovativeness. For example, in chemistry or biology lessons that require laboratory work, if tools and materials were not available at school, they adapted and used local tools and materials that could easily be obtained. Thus, despite a lack of adequate learning facilities, learning occurs.

Characters of independence among UT's graduates were confirmed by the results of UT Tracer Study (2008). According to the study, the benefits of studying at UT include increasing self-confidence (77.60%), independence (75.99%), self-development (73.64%) and creativity (60.96%). Paul (1990) and Candy (1991) argue that students studying at ODE institutions are conditioned to develop the ability to learn independently and, thus, they tend to succeed on their job because they bring the habit of independent learning into the workplace.

Competence and performance of graduates

Competencies presented covered aspects of interpersonal and communication competencies as expressed by Puliam (2008), Ruben and DeAngelis (1998), and Teichler (1999). **Table 7** presents the results of descriptive analysis of the percentages of answers from employers and graduates with regard to both aspects of competence. Aspects of interpersonal competencies that were examined include integrity, problem solving, conceiving ideas, ethics and norms obedience, and GPA. Explanation of the earned graduate GPA was presented separately from the other four aspects of interpersonal competence, because it used different categorisation and was obtained from different sources.

Aspects of Competencies	N/A		Very Poor		Poor		Good		Very Good	
	E	G	E	G	E	G	E	G	E	G
A. Personal competencies										
Integrity	6.57	5.91	0.00	0.00	0.07	0.04	58.29	57.82	35.07	36.23
Problem solving	6.97	7.55	0.19	0.13	3.48	4.39	68.26	74.77	21.10	13.16
Conceiving ideas	7.46	9.00	0.06	0.04	8.19	13.70	66.92	69.39	17.37	7.86
Ethic and norms obedience	7.83	5.22	0.00	0.00	0.02	0.35	54.30	54.05	37.86	40.39
B. Communication competencies										
Public speaking	7.61	7.81	0.13	0.52	8.39	15.81	67.74	66.00	16.13	9.87

Teamwork	10.38	13.58	0.00	0.06	0.27	1.47	60.56	66.98	28.79	17.91
Ability to work under pressure	13.80	10.94	2.72	7.30	21.31	27.21	57.35	50.07	4.81	4.48
Negotiation skills	6.65	7.68	0.19	0.65	7.55	13.61	70.26	68.97	15.35	9.10
Internet/ computer skills	9.22	8.19	2.18	4.89	28.71	28.50	47.40	51.32	12.48	7.09
English (spoken)	10.90	8.44	12.44	21.80	41.80	41.53	31.59	27.40	3.27	0.83

Table 7 Perceptions of employers and graduates concerning graduate competency aspects (percentage)
Note: E = Employers and G = Graduates

Both graduates and employers perceived that personal and communication competencies of UT's graduates were good and very good. The average value for the personal competence shows that graduates are perceived as good (64.01%) and very good (24.41%), while their employers are perceived as good (61.94%) and very good (27.85%). Assessment of perception between graduates and employers were not significantly different statistically at the alpha level of 0.05. This can be demonstrated from the results of non-parametric analysis against both answers (**Table 8**).

	Integrity	**Problem solving**	**New ideas**	**Ethics**
Z	−6.300[a]	−11.722[a]	−11.089[a]	−6.868[a]
Asymp. Sig. (2-tailed)	.000	.003	.000	.000
a. Based on negative ranks b. Wilcoxon Signed Ranks Test				

Table 8 Wilcoxon Test for employers and graduates concerning personal competency aspects of the graduates

In regards to academic performance, UT graduates generally have a GPA less than 2.75 (**Figure 1**).

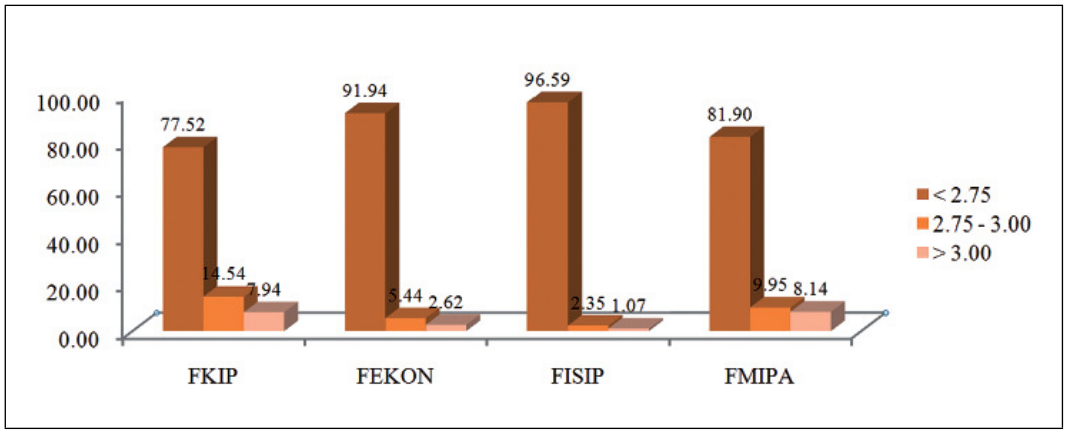

Figure 1 Distribution of GPA in four faculties

It shows that the average UT graduate who obtained a GPA less than 2.75 in four faculties is 86.99%. This is in line with the findings of a previous study (Darmayanti, 2002) that the UT student learning achievement is very low. Several studies revealed that the low performances were due to some constraints such as personal and institutional factors. UT students tend to schedule their studies irregularly, and they also have financial limitation and job commitment (Nugraheni & Pangaribuan, 2006). Institutional factors include scarcity of learning material and difficulties in understanding the learning materials, since the language used in the learning materials were sometimes not very clear and there are some typing errors (Sunaryo, 2005).

In addition to personal competence, other competencies such as communication competence were examined. Aspects of communication competence include public speaking, teamwork, working under pressure, negotiation skills, internet/computer skills and English language fluency. Almost similar to the personal competence, communication competence of UT graduates was considered good and very good by both graduates and employers (**Table 9**). However, fluency in English is considered poor and very poor by the graduates as well as by their employers. The ability of UT graduates to communicate in English is still very low. There was no significant difference in the perception of graduates and employer concerning this matter as indicated by the Wilcoxon statistical test which has asymptotic significance value of less than 0.05.

	Public speaking	Teamwork	Working under pressure	Negotiation skills	Internet/ Computer skills	English (spoken)
Z	−7.721[b]	−9.798[a]	−2.230[a]	−13.280[a]	−3.453[a]	−5.252[a]
Asymp. Sig. (2-tailed)	.000	.000	.026	.000	.001	.000
a. Based on negative ranks b. Based on positive ranks c. Wilcoxon Signed Ranks Test						

Tabel 9 Wilcoxon Test of the graduates and employers concerning personal competency aspects

Performance is the quantity, quality and time spent in performing tasks (Cormick & Tiffin, 1980). Aspects of graduate performance presented in this paper are honesty, discipline, teamwork, leadership, responsibility, attitude, cooperation and time management (Garavan & McGuire, 2001 and Leblebici, 2012). The result of descriptive analysis related to these aspects are presented in **Table 10**.

Graduate's Work Performance Aspects	N/A		Very Poor		Poor		Good		Very Good	
	E	G	E	G	E	G	E	G	E	G
Honesty	5.76	6.28	0.00	0.00	0.02	0.04	58.45	59.44	35.77	34.24
Discipline	6.45	5.28	0.00	0.00	0.08	0.04	57.86	58.03	35.61	36.66
Teamwork	10.38	13.58	0.00	0.06	0.27	1.47	60.56	66.98	28.79	17.91
Leadership	7.46	5.68	0.17	0.19	5.53	3.72	77.27	74.15	9.57	16.26
Attitude	4.55	4.45	0.01	0.02	6.57	0.61	55.77	66.83	33.10	28.09
Time management	7.34	12.50	0.00	0.04	2.80	4.44	70.67	64.02	19.19	19.00
Punctuality	2.24	5.06	0.00	0.02	1.74	3.77	64.41	65.35	31.61	25.80
Work quality	2.32	5.24	0.00	0.00	0.66	1.62	72.73	79.21	24.29	13.93

Table 10 Perceptions of employers and graduates concerning graduate work performance aspects (percentage)
Note: E = Employers and G = Graduates

Table 10 shows that performance of graduates is mostly valued as good and very good by both graduates and employers. On average, graduates valued their performance as good (66.75%) and very good (23.99%), while their employers also valued graduate performance as good (64.71%) and very good (27.24%). There was no significant difference statistically from the Wilcoxon test with asymptotic significance value less than 0.05. This is in line with the result found in the previous tracer study of 2008. The study results revealed that the employers valued graduate performance as good and excellent, with average values of 57.74% and 7.10% respectively. Graduates assessed their performance as good and very good, with the average values of 63.86% and 2.90% respectively.

Relation of independence with competence and performance (in aspects of problem solving and time management) has been expressed by Guglielmino and Guglielmino (1995). They revealed that people with a high degree of independence are those who can set the time and have a positive self-concept. The concept of positive individuals in turn can affect one's personality in dealing with life's problems.

The study results of Wahyuningsih and Ratnaningsih (2004) about graduates and their colleagues revealed that society's view of the quality of UT graduates was quite good and similar to other state universities. In addition, they also said that UT has helped improve performance in the workplace, although not all performance showed in the job is entirely a result of instruction at UT. Individual commitment to the job is still the key role. However, UT has contributed to a self-learning society so much so that its graduates can take their independent learning habit into the workplace.

Conclusion

Independence in learning plays a very important role in the learning process. Students who are independent tend to endure well in their studies. They eventually complete their studies due to the ability to learn independently. Students studying at an ODE institution such as UT are conditioned to develop the ability to learn independently and, thus, they tend to succeed in their job because they take the habit of independent learning into the workplace.

The ability of independent learning of UT's graduates in the workplace was very well rated by both employers and graduates. The personal and communication competencies were also considered very well by both employers and graduates, although graduates' GPA was low. As a whole, their job performance was well valued by both employers and graduates. This is the most important finding, since employers' view is imperative for graduates' success on the job.

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