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# Open and Distance Education Systems: do they enhance Graduates' Soft Skills? The results from 2009 Universitas Terbuka Tracer Study

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## Abstract

The vision and mission of Universitas Terbuka (UT) is to become a highly qualified open and distance education institution and to provide higher education access to all communities. Graduates of UT are expected to acquire adequate knowledge, hard skills and soft skills. Soft skills play important roles in the world of work. The aim of this article is to describe: (1) whether the open and distance education systems are capable of providing graduates with soft skills, (2) how soft skills are acquired during the period of study, and (3) how are the range of soft skills acquired by graduates and required by stakeholders at work. This article uses 2009 UT tracer study, which employed survey and in-depth interviews to selected respondents and stakeholders. 2.417 pairs data (graduates and stakeholders) were analysed. The rating scales were from 1 (very poor) to 4 (excellent). The attributes analysed were personal, interpersonal and situational skills. The results show that learning systems that are based on individual learning and tutorial did provide graduates with soft skills. Graduates and stakeholders perceived interpersonal skills as fair. In general, soft skills required at work were time management, self-confidence, problem solving, creativity and team-work.

**Keywords:** graduates; interpersonal skills; ODL; personal skills; situational skills; soft skills; stakeholders

## Introduction

Indonesia is an archipelago country consisting of 17.508 islands streching from Sabang, in the most western part to Merauke, the most eastern. Indonesia has 7 major islands, separated by big oceans. There are many barriers in education access and equality when geographical situation of Indonesia is concerned due to not only space but also human resources and time. On one hand, the people are encouraged to pursue higher education but on the other hand, access is very limited. Another thing worth mentioning is that most of teachers in Indonesia are urged to pursue higher degrees mostly without leaving their responsibilities due to shortage of teachers in many places in Indonesia. Establishment of Universitas Terbuka (UT) is Indonesian government's solution to solving the problem.

UT is the state institution that organizes open and distance education. The system does not require classroom interaction but utilizing media, such as printed (modules) and non-printed materials (various media). This enables students who resides far from UT learning facilties to still access learning by utilizing appropriate learning materials. The meaning "open" suggests that there are no restrictions to age, previous education, period of study, period of registration, examination frequencies (Anonim, 2013). UT provides learning opportunities and learning assistance service to anybody without time barriers. Open and distance education system has enabled UT to reach all communities in the most remote areas which are categorized as the most outskirt and the least privileged. To date, UT has 37 representative offices all over Indonesia. These representative offices are known as Distance Learning Units of UT. The locations of representative offices are shown in Figure 1.

**Figure 1: Distance Learning Units in Indonesia**

As a higher education institution, UT is required to produce graduates with certain capabilities, such as knowledge and field-related competencies. Higher education graduates must be independent and competitive on the job market. Higher education graduates should not only master hard skills but also soft skills to be productive and competent. Education is supposed to provide graduates with a set of skills that will enable them to develop and adapt to the work places. UT as education institution should be able to produce graduates with adequate hard skills and soft skills to be able to exist and be competent at work.

This article is aimed at describing: (1) whether the open and distance education systems are able to equip students with soft skills, (2) how graduates rate their soft skills that they acquired during the study period at UT based on the graduates and stakeholders' perceptions, and (3) the level of soft skills required by graduates and those by stakeholders at workplaces.

## Review of Related Literature

Soft-skill is a non-technical competence that refers to personal characteristic. Nikitina & Furuoka (2013) wrote that soft skills cover all aspects of generic skills, including cognitive elements that are related to non-academic skills. Soft skills needed by graduates at workplaces are: leadership, stress management, willingness to be put into further education and training, analytical skills, team-work, team management, target or goal oriented, communication skills, presentation skills, English mastery, and project management (Wahl *et al.*, 2012). Soft skills are a person's power to change or to overcome many work problems and serve as indicator to determine the graduates' promptness to get employed. Ketter (2011) states that soft skills required by stakeholders in employment are social quotient, collaboration, communication, listening, adaptive thinking, creativity, communication, problem solving, critical thinking, leadership and team-work. Abduwani (2012) classifies soft skills into three groups: personal, interpersonal and situational. Figure 2 shows Abduwani's soft skills (2012).

Soft skills masteries of UT graduates are the essence of competence which is a must and valued through application of learning process. Learning model at UT is synergized following the Figure 3 scheme. Figure 3 shows that independent learning and tutorial play important roles in the UT learning activities. Independent learning is the major pillar of open and distance education system (Ratnaningsih, 2013). Furthermore, Ratnaningsih explained shapes students' learning independent behaviour.

Independent learning allows an individual to arrange their learning activities. They can manage time or place of study and which modules to learn and utilizes any kind of sources needed to
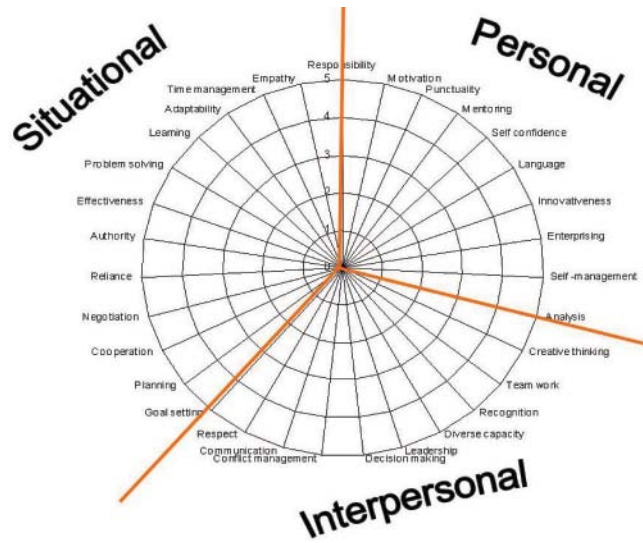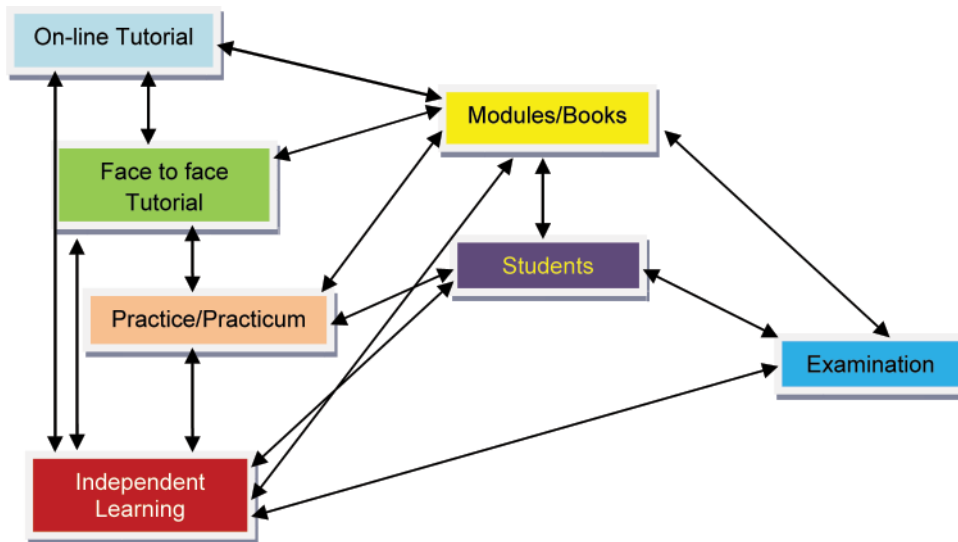
**Figure 2: Soft Skills** *classification*



**Figure 3: Learning Model at UT**

facilitate their accomplishment in study. This method shapes an individual's capacity in learning management, high responsibility, competence in making use of learning sources (Tahar & Enceng, 2006). Pertiwi and Sadjati (2012) also showed that soft skills needed by UT Agribusiness study program graduates were communication, team-work, leadership and problem solving. These skills were achieved by accommodating courses with practices in the curriculum.

Another UT learning component to facilitate student learning is tutorial. It allows students to achieve certain competencies, such as, willingness, the ability to observe, think, shape their attitude towards science and technology concepts (Anonim, 2001). Other benefits of tutorials are increasing students' ability to interact between themselves and with the tutors, thinking skills, class management, communication, discussion, presentation and team-work (Anonim, 2001). Krovi and Sulek (2001) also emphasise that tutorial helps students develop general analytical skills in decision making. In reality, decision making calls for qualitative and quantitative approaches in problem

solving. UT facilitates students with several learning services for different kinds of student needs: face to face tutorial, on-line tutorial, written tutorial, radio tutorial, and telephone tutorial. The most used tutorials are face to face tutorials and on-line tutorials.

Provision of different kinds of tutorials is needed because UT students come from various background, ages, level of education, socio-economic status, geographical situation and available learning facilities. Zulkabir and Thaib (2003) stated that tutorials increased students' abilities in independent learning and certain skills. Research related to the tutorial method and independent learning have been done, among others, by Darmayanti *et al.* (2011) and Tahar and Enceng (2006).

2008 UT Tracer Study result (Listyarini *et al.*, 2010) showed that most of UT graduates admitted that UT helped them in increasing their knowledge in IT and communication. This is proven true because UT facilitates its students through much media. Besides, on-line tutorial has been proven beneficial, especially for those working as teachers who would share their knowledge and skills in their teaching and learning activities.

There are, however, several barriers in tutorials, faced by students and tutors alike (Pardede *et al.*, 2008; Yuliana & Winata, 2009). Pardede *et al.* (2008) have done some research about these barriers and stated that students experienced difficulties in account activation, initiation in on-line tutorial, dealing with tutors who could not carry their roles as study guide, and schedules. Yuliana & Winata (2009) supported the finding by proving that internet access is low due to geographical condition.

## Methodology

Data used is from 2009 UT Tracer Study, collected from selected respondents by utilizing question-naires and interviews. Respondents were graduates taken from the UT database. Populations were all UT graduates from 1998 to 2007. Total sample analysed were 2.417 pairs of data (graduates and stakeholders). Sample data per faculty is in Table 1.

Table 1 shows that most of the respondents (graduates and stakeholders) were from the Faculty of Education. Therefore, analysis in this article will be grouped into Education and Non-Education (Economics, Social and Political Sciences, and Math and Natural Sciences). Variables analysed are soft skills attributes needed by graduates, in the literature, such as, among others, self confidence, leadership, communication skill, presentation skill, writing skill, analytical skill, negotiation, problem solving, creativity, stress management, time management, team-work, work coordinating skill, and English proficiency.

Data were analysed through quantitative and qualitative analysis. Quantitative data were gathered from the respondents' questionnaires in the form of every attribute analysed. Qualitative data were gathered from the results of interviews, transcribed and grouped into the kinds of questions for

**Tabel 1: Sample respondents according to faculties**

| No. | Faculty | Frequency | Percentage (%) |
|-----|---------|-----------|----------------|
| 1. | Economics | 178 | 7.4 |
| 2. | Social and Political Sciences | 277 | 11.5 |
| 3. | Education | 1826 | 75.5 |
| 4. | Math and Natural Sciences | 136 | 5.6 |
| | **Total** | **2.417** | **100.0** |

during the interviews, based on interview guidelines specially designed for this purpose. In discussion, quantitative data were elaborated with qualitative data to get a comprehensive and thorough analysis.

Soft skills needed by graduates at workplaces is ranked through significance analysis technique, measured with Relative Importance Index, RII with the following formula:

$$RII = \frac{\sum W}{AN} \qquad (1)$$

where W is the weighting given to each soft skill by the respondents (ranging from 1 = very poor to 4 = excellent), A is the highest weight (ie. 4 in this case) and N is the total number of respondents. Significance rate of stakeholder soft skills ware measured by Relative Competence Index, (RCI) with the following formula:

$$RCI = \frac{\sum W}{AN} \qquad (2)$$

## Results and Discussion

Discussion in this article is divided into 3: UT teaching and learning process, soft skills perception (according to graduates and stakeholders), and soft skills rates needed by graduates and demanded by stakeholders at workplaces.

### *UT Teaching and Learning Process*

UT teaching and learning process refers to the model presented in Figure 3. The strongest point of this system is in independent learning and tutorial (Figure 4).

Figure 4 shows that independent learning was experienced by education or non-education graduates and it contributed significantly to the teaching and learning processes (good and very good). Ratnaningsih (2013) argued that other contributions through independent learning are self-confidence (77.60%), independence (75.99%), self-development (73.64%), and creativity (60.96%). Paul (1990) and Candy (1991) stated that distance education students were conditioned to practice their independent learning skills during study and this proved to improve their skills and brought it to their respective workplaces.

UT teaching and learning systems were specially designed to give freedom to students in selecting and determine their own time in registration, study time, looking from learning sources, study techniques and exam schedules (Anonim, 2013). Learning control is therefore in the hands of the students. For this purpose, however, students must have initiative, independence, and study regularity (Guglielmino & Guglielmino, 2003).
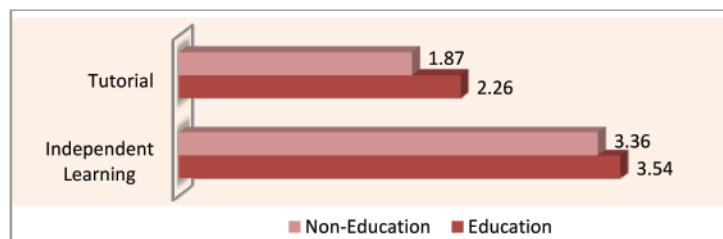


**Figure 4: Contributions of Tutorial and Independent Learning in Teaching and Learning Process**

Sugilar (2000) said that UT students had a full study control and high study attention and these have contributed to a high readiness to independent learning. Students valued participation (enrollment and engagement) in distance education because it contributed to high teaching and learninig control and positively related to students' readiness in independent learning. Ratnaningsih (2013) found that both graduates and stakeholders perceived that graduate independence in workplaces were good and very good. The average rates that graduates and stakeholders gave to independences were 65.90% and 63.61%, respectively.

Graduates, however, felt that tutorial contributed a little during the study process due to the limited variety between 1990 and 2000. Face to face and on-line tutorials were highly chosen by students although there were barriers in the implementation, e.g. tutor acted as lecturers not facilitators, dominant method of lecturing that gave an impression of regular classroom activities (Karuru, 2004). Barriers of the on-line tutorial have limited infrastructure facilities, limited internet access, low participation and low tutor responsiveness (Pardede *et al.*, 2008; Yuliana & Winata, 2009).

Graduates, however, appreciated the positive impact of tutorials. The following were the results from the interviews:

- *"Independent learning, books and tutorials made me independent and increased myself confidence; independent tasks also improved self confidence. We read and answer questions all by ourselves. We can study wherever we want." (a graduate-Padang).*
- *"For me tutorials help a lot. Face-to-face tutorials help us better understand [a course]. I remember, it was Mr. X who explained clearly a Statistic course." (a graduate-Samarinda).*
- *"Here I increased my knowledge in social sciences, and also my classroom action research. The UT modules are used to solve problems in my classroom." (a graduate- Medan).*
- *"As elementary school teachers, I was greatly helped by tutorials and lab practice in computer sciences. Elementary school teachers must also increase their capacity in globalization of the internet as part of the technology advances. Unfortunately, my school has not yet been facilitated with the internet." (a graduate-Samarinda).*
- *"The results of UT learning programs are used as a foundation to utilize technology and learning materials at school. UT shaped myself confidence and its learning media can serve as a foundation of attitude in learning." (a graduate-Bandar Lampung).*
- *"…before I enrolled at UT, I studied at ITB, Math major, stopped at 5th semester. I wish I had known UT before I enrolled at ITB. I did not like regular classes, too restricted. I am a lazy person. I dropped out, Ma'am. I like distance education which has no time barrier. I freely choose when to study, so flexible but at the same time I was forced to learn independently; independent in many things." (a graduate-Denpasar).*

The above were in line with Krovi & Sulek (2001) and Anonim (2001) which argue that tutorials help students develop their general analytical skill in decision making. UT learning processes foster independence, responsibility, self confidence, innovation, and ability to solve problems. In other words, open and distance education system is capable of equipping students with soft skills. Student competence, however, plays an important role in increasing their independence skill: a beneficial starting asset in distance education learning activities.

### *Description of UT Graduate Soft Skills*

Soft skill attributes analysed in this article cover: self confidence, leadership, communication skills, presentation skills, writing skills, analytical thinking, negotiation, problem solving, creativity, stress management, time management, team-work, work coordinating ability and English. The 14 soft skill
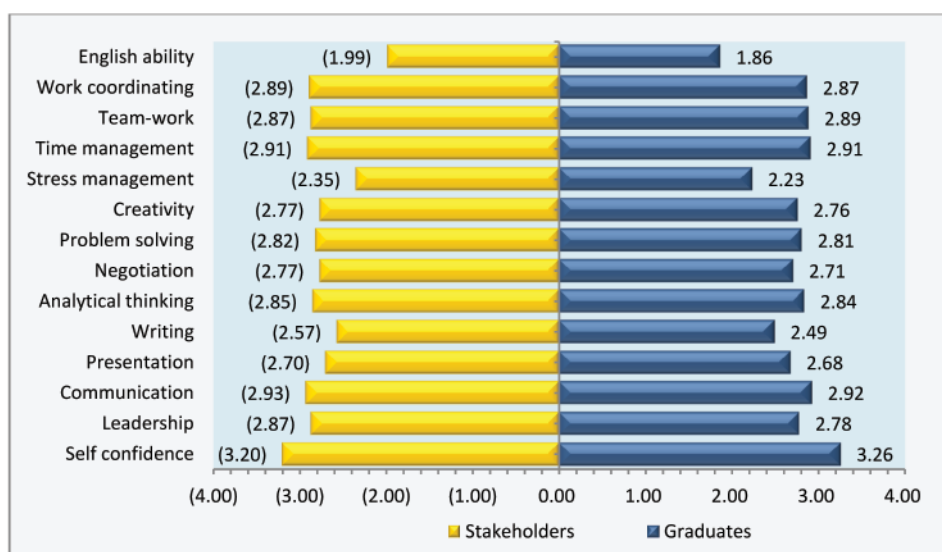
**Figure 5: Graduate Soft Skills according to graduates and stakeholders**

attributes are grouped into: personal skills, interpersonal skills and situational skills (Abduwani, 2012). Personal skills cover: self-confidence, analytical thinking, presentation skill, writing skill and English. Interpersonal skills cover: leadership, communication skills, creativity and team-work; while situational skills cover: time management, stress management, negotiation, problem solving and work coordination.

Descriptions of soft skills are defined according to the perceptions of the graduates and the stakeholders. Analysis of several attributes based on perception are shown in a form of pyramid figure (Figure 5). The figure shows that distance education contributes positively to soft skills acqui-sition, and the highest contribution is to self confidence (3.26). This means, distance education which promotes independent learning contributes positively to self confidence. Self confidence is one of the important aspects in work related soft skills (Abduwani, 2012). Yani *et al*. (2012) stated that 71% agribusiness graduates developed self confidence while studying at UT while Ratnaningsih (2013) argued that graduates' self confidence were developed during their study periods (77.60%).

Other soft skills that contribute to the graduates are: communication skills, time management, team-work, and project management. Soft skills evaluation according to graduates and stakeholders were not significantly, proven by a rather symmetrical figure 5. However, soft skills were graded low: English proficiency, stress management and report writing. Stakehoders confirmed English proficiency as low. The interviews with stakeholders of both education and non education groups emphasized the low English proficiency of UT graduates. Figure 5 shows that contributions of distance education in general to graduate soft skills were assessed as fair, with a tendency towards good (between 2.68–2.93).

Abduwani's soft skills grading (2012) according to graduates and stakeholders are presented in Figure 6 which shows that UT distance education system provided graduates, from education and non education groups with personal skills, interpersonal skills, and situational skills. Interpersonal skills were graded as higher than the other two, i.e. Education graduates by 2.84 and non-education by 2.87; education stakeholders by 2.86 and non-education by 2.86. Personal skills contributed lower compared to the other two due to low English proficiency.
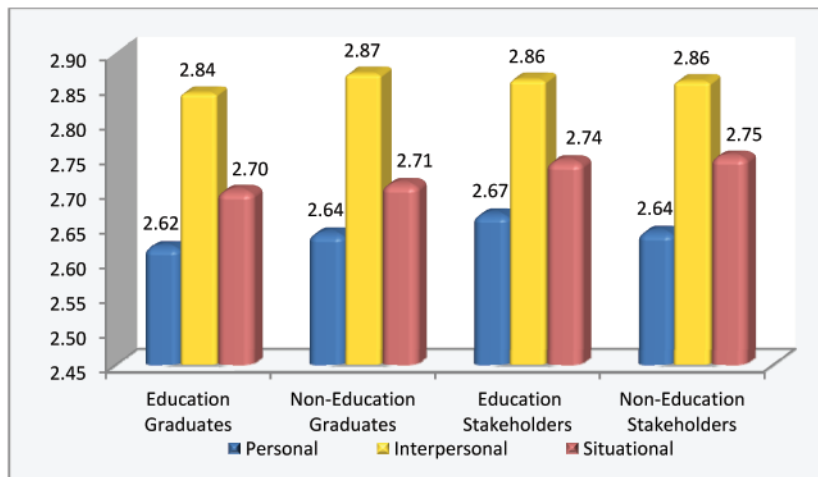
**Figure 6: Categorization of Teaching and Learning contribution to soft skills according to graduates and stakeholders**

### Soft Skills Rank Needed by Graduates and Stakeholders at Work

To find out about the rank of soft skills needed by the graduates and stakeholders at work, Relative Importance Index (RII) and Competence Relative Index (CRI) were used. The pyramid graphic of soft skill ranks for the education group according to the graduates and stakeholders are presented on Figure 7 and the non-education group in Figure 8.

Figure 7 shows that of the top 5 soft skills needed by the education graduates at work are time management, self confidence, problem solving, and team-work, and also work coordination. This was emphasized in Wahl *et al.* (2012) which stated that soft skills needed at work are ranked as follows, English proficiency, time management, team-work, communication skills, project coordinat-ing capacity and analytical skills. Graduates and stakeholders of the education group were not
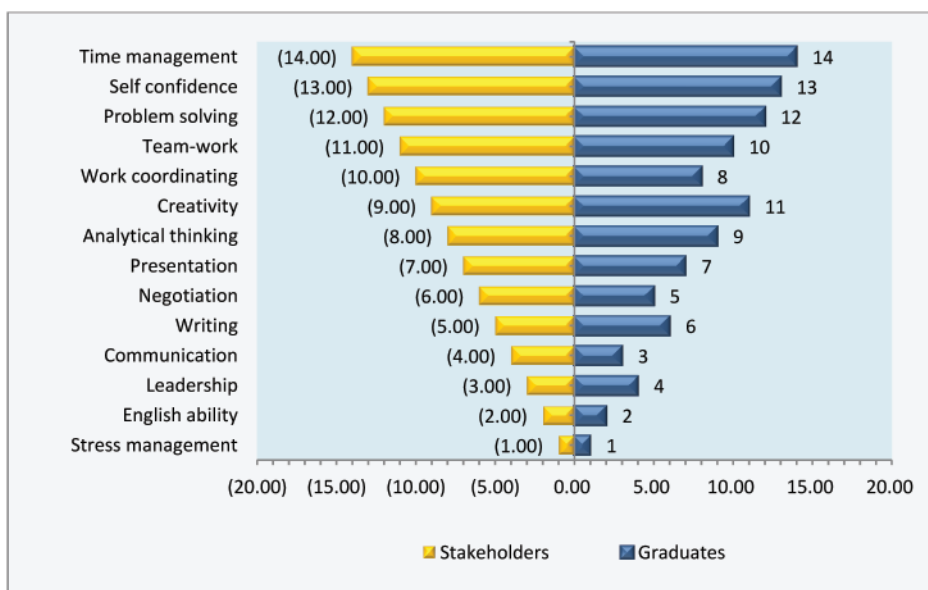


**Figure 7: Soft skills rank of Education graduates according to graduates and Stakeholders**
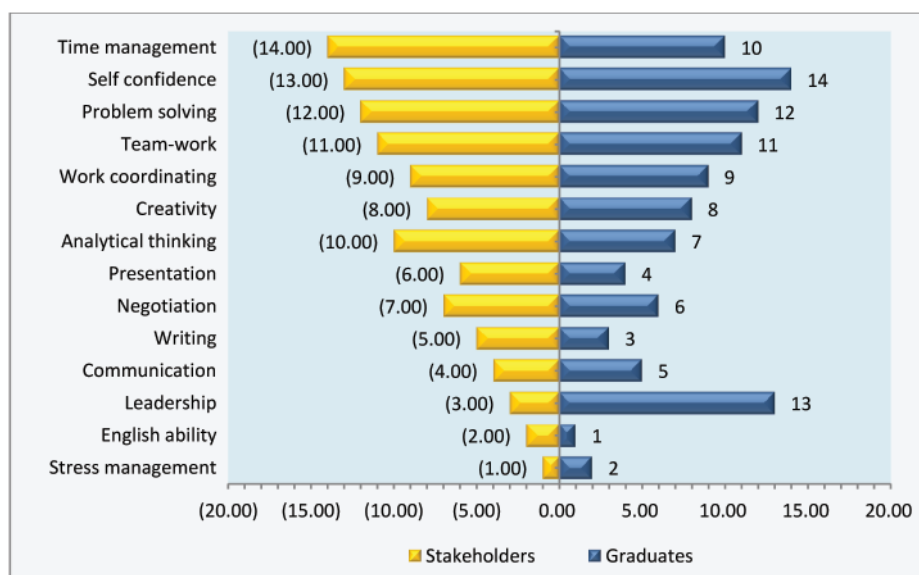
**Figure 8: Soft skills rank of Non-Education graduates according to graduates and Stakeholders**

significantly in line with it. Shakir (2009) formulated 23 dominant soft skills attributes at work and listed 7 important soft skills that are needed to be embedded within the curriculum.

For the non-education group, soft skills rank needed by the graduates and stakeholders were slightly different. Figure 8 shows that of the top five soft skills of the graduates are self confidence, leadership, problem solving ability, team-work and time management. This was perhaps because in general many non-education group graduates were promoted to higher positions after completing their studies at UT (35%). They worked in government and private sectors (Tim Tracer Study, 2009).

Based on stakeholders' evaluation, the top five soft skills ranks of non-education graduates were: time management, self confidence, problem solving ability, team-work and analytical thinking. Both evaluations were in line with the result of research Ketter (2011) about job seekers' character ranks demanded by the job market.

## Conclusion

Open and distance education learning system is proven to have improved students' soft skills. This is made possible through implementation of a series of learning processes, i.e. independent learning and tutorials. Several soft skill attributes among others, independence, responsibility, self confidence, creativity, ability to solve problem, communication and time management were developed during their learning process.

UT learning activities contribute to meaningful soft skills acquisition. Graduates and stakeholders evaluated that UT graduates' interpersonal skills were as good or better compared to the other two skills, i.e. personal and situational skills, but graduates and stakeholders also agreed that English proficiency of UT graduates was still low.

The list of soft skills needed at work according to UT graduates from the education group were: time management, self confidence, problem solving, creativity and team-work; those needed by stakeholders were, among others, time management, self confidence, leadership, problem solving, team-work and work coordination. For the non-education graduates the importance of soft skills needed were self confidence, leadership, problem solving, team-work and time management.

Stakeholders' top five soft skills of non-education graduates were time management, self confidence, problem solving, team-work and analytical thinking.

## Acknowledgements

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