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# Assessing Graduate Employability Skills: Implications for Quality in Higher Education

By

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## Abstract

*The study was conducted at Mekelle University to examine whether the training programs enable graduates to develop the required employability skills. It was also meant to study the actual practices of graduates in the world of work. To examine whether the training at the university enables students to develop the required employability skills, first year students and graduating class students were tested using the graduate skills assessment instrument. Employers in selected firms and former graduates of the university were also asked in relation to their experiences of the use of employability skills. Program catalogues of selected faculties were also content analyzed. It was found that first year students' performance in the graduate skills assessment test was significantly higher than the graduating class students. Former graduates working in selected firms also indicated that although they regularly use problem solving and job related vocational skills, they have not developed these skills during their college experience. Similarly, employers revealed that their employees lack problem solving and job related skills. The contents of the program catalogue do not clearly specify a set of graduate skills that should be acquired by graduates at the completion of their studies. The need to revise the training programs and to work in collaboration with business and industry is thoroughly discussed.*

**Keywords:** employability skills, graduate attributes, graduate skills assessment, university-industry linkage

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## **Introduction**

University education is not only about presenting discipline specific contents and issuing degrees to students. It is also about providing opportunities in such a way that students can develop the knowledge and skill that enable them to solve problems creatively. Their experiences should equip them with the ability to be lifelong learners once they are out there in the world of work. With the ever increasing pressure from employers for graduates equipped with skills appropriate to the demands at work, universities in many countries are introducing graduate attributes into their curriculum (Curry and Sherry 2004). Many universities provide descriptions of the expected graduate profiles in program catalogues. These profiles are variously described as graduate skills, employability skills, or transferability skills. Employability skills are central to occupational competence in all sectors and at all levels. They are defined as skills required not only to gain employment, but also to enable prospective employees provide appropriate services in their careers.

There is a difference in interpretation of what employability skills or graduate attributes constitute. Some regard these skills as generic since they are expected to be developed by all graduates irrespective of their field of study. They are understood as the general skills, knowledge and abilities, beyond the discipline content knowledge, that university graduates have gained during their tertiary studies. They are even described as ‘skills developed in one situation that can be transferred to another situation’ (Curry and Sherry 2004). Barrie (2004) argues that graduate skills are expected to be mastered after students complete their studies and they are not necessarily related to specific courses. An observation by employers also supports the fact that graduate skills are generic to all disciplines since a survey

conducted in Australia revealed that the skills identified as critical to employability are consistent across different work settings (ACCI 2002). However, others argue that these skills are also strongly influenced by the disciplinary culture in which they are taught. For instance, Jones (2009) argues that in some disciplines the nature of the skill acquired is specific to the field of study (for example, medicine, engineering, and teaching). Whether graduate skills are outcomes of specific courses or the cumulative effect of college experiences, students should be provided with the opportunity to develop these skills if they are to be successful in the world of work.

Although academics agree on the importance of graduate skills, there is a difference in perception with regards to how they should be taught and assessed. For instance, Barrie (2007) stated that some academics believe that it is not the responsibility of a university to teach these skills. They suggested that universities can only provide remedial support if students have not already developed the skills. For others these skills should be taught using a different module purposefully designed to develop required skills. Still others believe that these skills are integrated and taught in the process of teaching subject based courses. A different belief by some academics states that it is students' active engagement in the process of learning that enables them to develop these skills. This goes in line with the study conducted by Ballantine and Larres (2007) in which students indicated that they were able to develop generic skills as a result of their involvement in cooperative learning environment.

More emphasis is given these days to develop the expertise to work in an uncertain world that requires, among other things, the graduate's adaptability, flexibility, and creativity to solve problems. An assessment by

Yorke and Harvey (2005), for instance, revealed that nearly half of the graduate recruitment in the UK was not based on academic qualification, i.e. graduates are screened based on whether they have mastered the required employability skills, irrespective of their field of study. In response to this demand, emphasis is given to embed employability skills both as means of producing graduates who can secure employment and as source of evidence on the quality of the training (Bath, Smith, Stein, & Swann 2004).

In Ethiopia, some attempts have been made by the Higher Education Relevance and Quality Agency (HERQA 2005) to design graduate skills, otherwise called subject benchmarks, in consultation with experts selected from various universities. Most of the universities have also revised their curriculum and conducted consultative meetings with stakeholders selected from private and governmental organizations, although the required graduate attributes have not been properly identified and addressed in the improved curriculum. At Mekelle University, certain departments implement work placements and practical attachment programs as means of enabling students develop the required graduate skills. In these programs students were placed at work as a requirement in certain fields. Even under these limited opportunities for skill development, it is not clear whether the placement is intentionally designed to assist students acquire certain desired skills. What is more, there is no clear communication with the industry in relation to the nature and type of experience students should be provided with and the support from the people at work. Assessment is not done following student work placement, thus there is no way of checking whether students have actually developed the desired skills as a result of their experiences at work.

This study was conducted to find out if there are clearly stated types of employability skills in the different programs at the university. It has also assessed whether or not graduates were able to develop these skills as a result of their experiences in the university. The types of employability skills former graduates and senior students have developed have also been examined. The difference in graduate skills test performance between first year and graduating class students were also examined.

## **Methodology**

### **Participants**

Three different groups participated in the survey. One of them was students selected from two faculties at Mekelle University. The other two groups were employees and employers selected from governmental and non-governmental firms in Tigray Regional State. A total of 278 students (150 first year and 128 graduating class students) were randomly selected from the College of Science and Technology and College of Business and Economics. From the world of work, five institutions were selected from two towns in the region. Managers and heads of these business and service giving firms as well as former graduates of Mekelle University were involved in the survey.

### **Instruments**

#### **The Graduate Skills Assessment**

The graduate skills assessment (GSA) is an objective measure of undergraduate students' generic skill levels (Hambur, Rowe, & Luc 2002). Items included in three out of the five areas of the graduate skills assessment sample questions were considered. The test contained items that evaluate students' skills in problem solving, critical thinking and interpersonal

understanding. There were a total of 18 questions (6 of them evaluating problem solving, 6 questions for critical thinking, and 6 for interpersonal understanding). The overall performance was computed out of the sum of the three scores. Problem solving subscale addressed comprehension in generally applicable everyday problems that reflect the ability to identify, analyze, interpret, translate problems, and apply solutions. The *critical thinking* subscale examines students' skills in reflective thinking, the ability to develop arguments, evaluate, assess, and judge. The *interpersonal understanding* subscale deals with understanding the features of interpersonal relationships that include working collaboratively, identifying individual differences and the features that could affect team performance. The items were written in Amharic and the contents replaced by local examples to reduce confounding error due to lack of comprehension.

### **Employee and Employer Questionnaires**

The employee questionnaire was designed to assess the work experiences of former graduates of Mekelle University. The main focus of the questionnaire was on whether or not the skills used by employees in the word of work have actually been provided during their college experiences. Respondents were expected to provide a description of the nature of the tasks they regularly conduct at work, the types of skills they employ, and whether these skills have been developed in the university. They were also required to identify which of the skills they believe are well developed and which ones need to be developed further.

The employer questionnaire focuses on gathering employer feedback on the graduate attributes they considered to be most important at work. It was also meant to obtain employer feedback on the extent to which graduates

from the University demonstrated the skills and attributes required at work. The survey was also a means of building closer relationships between the university and key employers in the locality. Thus, the contents of this questionnaire gave more emphasis to the experiences of the employers in relation to the skills the employees have been implementing at work situation. In addition to assessing the skills, the questionnaire also has items that refer to the experiences in the firm exercised in relation to developing required skills through providing on the job training.

### **Documentary analysis**

The study has also assessed the program catalogue of the two faculties involved in the study. As the purpose of the study was to assess the experiences related to graduate skills, it was mandatory to check whether the training programs have clearly identified list of skills expected to be mastered by their students. It was also necessary to examine whether or not there is a clearly stated teaching and assessment framework specifically related to graduate attributes.

## **Results**

### **Graduate skills assessment test results**

Independent samples t-test was employed to examine the observed mean differences in performance in the three areas of graduate skills tested. Results indicated that mean value of problem solving skill ( $M = 3.43$ ,  $SD = 1.32$ ) among first year students is significantly higher than the value among senior students ( $M = 3.03$ ,  $SD = 1.45$ ),  $t(274) = 2.35$ ,  $p < .05$ ). Similarly, mean value of critical thinking skill ( $M = 2.87$ ,  $SD = 1.32$ ) among first year students is significantly higher than the value among senior students ( $M =$



2.44, SD = 1.33),  $t(274) = 2.67, p < 0.05$ ). However, there was no significant difference in interpersonal understanding between the two groups,  $t(247) = .22, p = 0.82$ . The average performance for the two groups also revealed that mean score of first year students ( $M = 8.88, SD = 2.50$ ) is significantly higher than the value for senior students ( $M = 8.14, SD = 2.85$ ),  $t(274) = 2.28, p < 0.05$ ).

**Table 1: Independent samples t-test for graduate skills assessment test between first year and graduating class students**

Skills	Mean difference	df	t	Sig. (2-tailed)
Problem solving	.395	274	2.35	.019*
Critical thinking	.430	274	2.67	.008*
Communication	-.041	274	-.22	.821
Overall performance	.737	274	2.28	.023*

### Employer Survey

A total of 34 employers responded to the survey, out of which 26 of them were selected from private firms while 8 of them were from governmental organizations. Nearly three quarters of the respondents (i.e. 73 percent) work as managers or heads of their respective organizations. Their academic qualifications include such fields as engineering, management, accounting and economics. Asked whether or not they are involved in recruiting employees, nearly half of them (47%) replied they occasionally do, while nearly a third of them (29 %) stated that it is the duty of the human resource department and they are not involved as such. Only a small proportion of the respondents (17%) are directly involved in these types of activities. A significant majority of the respondents have also cited that they

have criteria both for professional qualifications and employability skills in their respective organizations.

### **Employers’ observations of employees’ skills**

The managers of the selected firms were requested to describe the skills they believe are critical to a new graduate assuming an employment in their respective organizations. Their responses revealed that there is more or less similar belief in the types of skills required for success at work. Interpersonal and computational skills have relatively lower values as compared to the others. Communication, problem solving, and vocational skills were more frequently mentioned as the required skills. Employers were also requested to provide a description of their observations of which of these skills are already developed and which ones are deficient among the employees in their firms. Their replies indicate that interpersonal skills are relatively more developed than the other skills. However, they have indicated that problem solving skill is not well developed among their employees, followed by vocational and job specific skills.

**Table 2: Employee skills as reported by employers**

Required Skills	Skills already developed		Skills that need to be developed	
	Counts	Percentage of responses	Counts	Percentage of responses
Communication skills	10	17.24	12	13.39
Problem solving skills	6	10.34	23	28.05
Interpersonal skills	15	25.86	9	10.97
Critical thinking skills	9	15.51	11	13.41
Vocational or job specific skills	8	13.79	12	14.63
GIS skills	2	3.44	11	13.42
Computational skills	8	13.79	5	6.11
Total responses	58	100.00	81	100.00

## **Alumni Survey**

One of the items in the employee questionnaire refers to the types of tasks they perform regularly. A quarter of them mentioned that they have to produce reports of one sort or another and discuss it with colleagues. They also mentioned that most of the work they regularly perform is related to analyzing a problem and providing solutions, working closely with customers, and using math and computer skills. Although the employees were from different fields of study, the fact that they described similar tasks in their respective work situations indicates that the world of work requires more of the soft skills than the discipline specific vocational skills. Their replies indicated that graduates from various fields conduct similar tasks at work than is commonly assumed.

## **Recruitment Criteria**

The employees were requested to indicate the criteria used in their organizations when recruiting new applicants. Entrance exam that also addresses certain competency skills was more frequently mentioned as one of the recruitment criteria the employees experienced, followed by their university performance indicated in college GPA. Results indicated that emphasis is given to assessing certain competency skills up on entering an organization, although the nature of the entrance exam and the types of skills are not examined. It is a requirement for these tests to have a very high predictive validity so that applicants with high score on entrance exam would also have outstanding performance at work.

### **Self report of employees' skills**

The employees have indicated that they use communication skills (25.49%), followed by problem solving skills (19.12%) and vocational skills (17.16%) more frequently than the other skills. They were requested to tell which among these skills they believe were more developed during their college experience and which ones were not yet developed. Their replies indicated that they believe their communication skill was relatively well developed during college, whereas their problem solving skill was not well developed. They also mentioned that they are deficient in vocational as well as computer skills. Results indicate that although the employees reported they regularly apply problem solving and other vocational skills in the world of work, they believe these skills are not well developed.

### **Recruitment and employment criteria**

Table 3 combines the responses from employees and employers related to their experiences on the criteria used in recruitment and promotion decisions in their respective organizations. Their replies indicate that most of the firms give more weight to qualities other than mastery in the graduate skills when recruiting as well as promoting employees. In both cases, qualification, entrance exam, and work experience are given more priority. Although both groups mentioned that graduate skills significantly contribute to their day-to-day work, most of the organizations do not give emphasis to these skills when recruiting or promoting employees. This implies that workers are being assigned to do jobs without adequately assessing their mastery of required skills they regularly use at work. They are recruited and even promoted using criteria that are not necessarily related to the nature of the work they accomplish.

**Table 3: Employees' and employers' ranking of recruitment and promotion criteria**

Criteria employed	Employee Ranking		Employer Ranking	
	Recruitment	Promotion	Recruitment	Promotion
Qualification	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>
Entrance exam	2 <sup>nd</sup>	--	3 <sup>rd</sup>	--
Work experience	5 <sup>th</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>
Leadership skills	8 <sup>th</sup>	3 <sup>rd</sup>	7 <sup>th</sup>	3 <sup>rd</sup>
Communication skills	3 <sup>rd</sup>	5 <sup>th</sup>	6 <sup>th</sup>	6 <sup>th</sup>
Problem solving skills	4 <sup>th</sup>	4 <sup>th</sup>	4 <sup>th</sup>	4 <sup>th</sup>
Interpersonal skills	7 <sup>th</sup>	6 <sup>th</sup>	8 <sup>th</sup>	5 <sup>th</sup>
Critical thinking skills	6 <sup>th</sup>	7 <sup>th</sup>	5 <sup>th</sup>	7 <sup>th</sup>

### **Documentary Analysis**

Our analysis of the contents of the improved curriculum at the college of Business and Economics was conducted based on models related to the contents of a university curriculum. Bennett, Dunne, and Carre (1999) proposed a model of course provision in higher education which included five elements: disciplinary content knowledge; disciplinary skills; workplace awareness; workplace experience; and generic skills. Another model developed by Pool and Sewell (2007) presented the key components to be addressed in a university curriculum, which include subject knowledge, generic skills, emotional intelligence, career development learning, and work experience. In both models, generic skills are indicated as one of the major components of a university curriculum. Our observation revealed that the three departments have indicated certain skills that can be regarded as generic attributes, although more emphasis is given to discipline specific knowledge

At the department of Accounting and Finance, the need for graduates to develop analytical skills, communication, and computer skills, as well as leadership ability are cited as components of the required graduate profile. The program objective at the department of Economics do not state much, other than computer and research skills, in relation to skills development. Similarly, at the department of Management graduates are expected to possess abilities in rational decision making, problem solving, taking initiatives and being innovative in the field. However, in all the departments it is not clearly stated in the curriculum how these skills will be taught and assessed. Bhaerman and Spill (1988) suggest what they call the competency based approach as a preferred strategy to teach employability skills which include formulating competency statements, structuring the teaching/learning environment, and evaluating the development of the skills. The descriptions provided in these departments do not, however, clearly state the required competency standards in the skills area. The teaching and assessment strategies are not also appropriate for evaluating skills

### **Discussion and Implications**

The study was an assessment of graduate skills among students and employees. A number of data sources have been used, which include differences in test performance in selected graduate skills between first year and senior students, as well as employees' and employers' experiences in relation to the use of these skills in the world of work. Results indicated that for the two colleges considered university experience did not contribute to skills development since first year students performed better than graduating class students. However, an assessment of the experiences at work revealed that former graduates of the university apply certain skills at work and they

believe they have developed these skills at the university. The responses from the employers have also revealed that their employers displayed certain skills at work, although they also mentioned that some of the skills were not well developed. An examination of the curriculum in the two colleges has also indicated that certain skills are mentioned as requirements in the profiles of the graduates, although no detailed description is provided in relation to how these skills are integrated into the training programs and how they will be taught and assessed.

The difference in graduate skills test performance between first year and graduating class students revealed unprecedented results. Anyone would assume that students having university experience perform better in the same types of 'generic skills' related tests. Barrie (2004) also noted that graduate attributes are expected to be developed among university graduates as a result of their experience. However, against common sense and practical observations, first year students performed significantly higher than their senior counterparts. Although the result would seem to defy any explanation, one possible reason could be the fact that the training at the university does not give emphasis to the development of generic attributes among students. Initial differences among the two groups of students cannot also be overruled as possible causes for the difference. The higher scores among first year students could possibly be because these students have recently taken similar aptitude test in the Ethiopian Higher Education Entrance Qualification Examination (EHEEQE). They have been reading and exercising similar types of questions in preparation for the national exam, whereas the senior students were focusing on the discipline specific knowledge.

Our findings go in line with the observation made by Harvey (2005), which stated the absence of clearly stated criteria related to graduate skills to

be used during employee screening. Harvey argued that although employers are interested in hiring graduates who can adapt to a new environment and work on various tasks in addition to their field of study, they do not apply adequate criteria when recruiting people who satisfy whatever is required. In our study, although both employers and employees identified skills believed to be useful at work, most of these skills were not considered when selecting or promoting employees. Part of the reason could be the difficulty on the side of the employers to design measures that can adequately evaluate the applicants' mastery of problem solving, critical thinking, or any of the other required skills. It is much easier for the employing organizations to write a list of questions that can evaluate knowledge in specific areas than to design items that examine an applicants' creativity or innovative approach to a problem situation. It is also possible that the people who conduct the screening or promotion may not have the mastery of the required skills themselves. Some observations also revealed that the employers' perception of whether the applicant fits into the position is given more weight during employee selection than the specific skills (Coverdill and Finlay 1998). Thus, in the absence well developed skills assessment exam, employers could resort to other subjective measures unrelated to the nature of the task to be accomplished.

Similar to the trend in other universities, where graduate skills are being embedded on specific subjects (Harvey, 2005), our assessment of the curriculum in the colleges considered revealed that students are expected to develop the skills as a result of their involvement specific fields of study. In this approach, students develop the skills while learning technical and disciplinary knowledge. The problem with embedding graduate skills into the curriculum is, there is lack of harmony among the various programs and



certain essential skills may be overlooked. The curriculum in the selected colleges gives more emphasis to content knowledge. The skills are briefly mentioned in simple statements and no detailed description is provided in relation to how they should be taught and assessed.

Findings of the study revealed that both employers and employees believe certain skills were already developed when the graduates assumed work, although they were deficient in others. There are inconsistent results in the literature as far as the impact of university on skills development is concerned. Some of these studies indicated that graduates believe their university experience was helpful in some way in their day to day practices at work (e.g. Wiata 2006). Whereas others state that some of the basic skills such as communication, teamwork skills, problem solving and analysis may not be developed at university even when appropriate environment is provided (Crebert et al. 2004). They reasoned that university courses can only support certain discipline specific attributes, which may not necessarily be generic. The other broader attributes, they suggest, have to be developed in the world of work through experiential learning.

Still others argue that universities can help students develop generic attributes provided that their teachers receive the required support and resources, such as integrating these skills into curriculum, providing students with work placements, and exposure to professional settings. Universities can also offer opportunities for students to develop these skills through participation in extracurricular activities. What is more, fieldwork, industry-based learning, work placements and internships are all methods universities have used to equip students with knowledge of current workplace practices. Relevant work experience provided to college students has a positive impact on employability (Commonwealth of Australia (2007). Given the limited

opportunities provided to teachers involved in the study, it is hardly surprising that the graduates for the university expressed lack of mastery of certain required skills.

There is a need for the university and the industry to work in close collaboration both in identifying required employability skills and assisting students develop these skills. Experiences from Australia indicate that most universities have well established links with industry representatives and business leaders. These representatives have a direct say in redesigning training programs based on the needs of the market. The industries also offer work placement for up to 25 percent of training students are expected to accomplish. Professional associations also influence the development of generic or employability skills (Commonwealth of Australia 2007). In the Ethiopian higher education context, however, there is limited or no clearly established link between university and industry. The experience at Mekelle University is that only selected colleges have the tradition of providing work placement to their students, although it is not conducted in consultation with the industry. Some of these firms evaluate the performance of the students at the end of the work placement, although it is not clear whether or not the skills being evaluated are actually required in the world of work. What is more, not much is done at the university to help students if the evaluation made by the employers reveals lack of mastery of these skills.

Given the limited contact between Mekelle university and the employers in the locality, together with the lack of well developed list of attributes agreed by the two parties, it is not surprising that these generic attributes are not given due weight while screening employees. However, the employees' descriptions of their daily routines reveal that they need to develop these skills in order to properly serve their institutions. Thus, there is

indeed an urgent need for both parties, i.e. the industry and the university to work together both in identifying as well as in developing and assessing the skills. The university has to conduct tracer study and develop a database of employers of the institution's graduates as a way of establishing relations with industry and professional bodies.

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