

Measuring Business College Graduates' Employability Skill Discrepancies at the Workplace: An Approach to Assure Higher Education Quality

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Abstract

The objective of this study was to assess the graduates self-perceived level of skill discrepancies in the workplace. Through snowball method, a total of 143 Bahir Dar University Business College graduates were drawn from public and private organizations in Ethiopia. A standardized questionnaire containing selected employability and field specific skills was distributed to graduates at their workplace. The Borich training needs assessment model was employed to identify graduates' skill discrepancies. Results indicate that problem solving skills and decision making skills were found with the highest mean weighted discrepancy score and high need for curriculum improvement according to the perception of graduates. Graduates also confirmed that Subject understanding/Academic skills show moderate discrepancy and moderate need for curriculum enhancement.

Keywords: Employability Skills, Ethiopia, Graduates, Skill Discrepancies

1. Introduction

It is indicated that the higher education system and labor market relationships have constantly been reshaped by a number of key structural changes due to changes in higher education institutions and in the nature of the economy as a whole. These changes have imposed challenges towards shifting to a more flexible, knowledge-based economy that places increasing demands on the workforce and necessitates new forms of work-related skills (McCann, Morris, & Hassard, 2008; Ramirez, Cruz, & Alcantara, 2014; Tomlinson, 2012). According to (Bowers-Brown & Harvey, 2004) questions are continued to be raised over the specific role of higher education in supplying skilled labor, and the overall matching of the supply of graduates leaving these institutions to their actual economic demand and utility. Empirical studies in this regard (Albrecht & Sack, 2000; Bridgstock, 2009; Bui & Porter, 2010; Floyd & Gordon, 1998; Griffiths & Magurran, 1997; Hassall, Joyce, Montañó, & Anes, 2005; Stiwné & Jungert, 2010) indicated that the pace of technology and global business expansion is not moving in parallel to the pace of professionals' skills improvement.

In one hand, within the context of continuous changes in technology, work processes and global institutional transformations, firms struggle to secure competent and skilled labor. (Kathleen Cotton, 1993), indicated that in addition to academic skills, employers require generic competencies such as teamwork, communication skills, problem solving skills, in combination with specific competencies acquired through experience or formal education. Governments, employers and policy-makers connect employability rates with the level of skills and competences that higher education graduates have acquired (Frank & Meyer, 2007).

On the other hand studies indicated that higher education graduates show a low level of communication, interpersonal and critical analysis and field specific skills that enable graduates be employed in the industry (Asonitou, 2014; Hurt, 2007). So, employability of graduates have been standing out high in the governments' agenda inducing an increased pressure on higher education institutions to produce suitable workforce for the labor market. Researchers are pointing to various methods in order to promote employability skills in higher education students like, adapting the curricula to include specific skills courses, experiential and new instructional methods, using information technology in innovative ways, service learning, career planning, students' logbooks, extra-curricular activities, work-based education and others (Blackwell, Bowes, Harvey, Hesketh, & Knight, 2001; Dunne, Bennett, & Carre, 2000). Therefore, there is still a mismatch between labor market requirements and graduate outcomes. Although transferable, employability skills assist every person entering the workforce, (Candy & Crebert, 1991) concluded that many graduates are not prepared in these areas. In addition to field specific skills, the relevance of graduates' generic skills such as communication, teamwork,

planning and time management, decision making skills, innovation and creativity skills, problem solving skills, computer literacy, their work ethic, mindset and field specific competencies have been found wanting (Billing, 2003; Cleary, Flynn, & Thomasson, 2006; Gines, 2014; Gustin, 2001; Kay & Russette, 2000; Moscardo, 1997; J. S. Robinson, 2006; J. S. Robinson & Garton, 2008; Schmidt, 1999). The learning environments of higher education institutions must therefore, be familiar of this in designing their course programmes.

Ethiopia possesses a 1,700-year tradition of elite education linked to the Orthodox Church while modern secular higher education was initiated only in 1950 with the founding of the University College of Addis Ababa (Saint, 2004). However, relatively for longer period of time the expansion of higher education was so limited for political and economic reasons, only two higher education institutions were functional until 1991. But, a massive expansion of higher education institutions was made over the past two decades and the number of universities reaching over 200 with enrollment capacity of more than half a million. Its achievements over the past two decades have been impressive in terms of expansion and enrollment capacity. The reforms have targeted all levels: the overall system, the institutions and the academic programmes.

However, currently, major concerns have been raised in Ethiopia on the performance of study programs and graduate skills to meet the varying needs of employers (Kate A, 2010). Therefore, higher education institutions are required to evaluate the quality of their programmes and services from time to time. To date, the views of graduates and employers have not been studied on the relevance and usefulness of the skills imparted for graduates. It is in this context that this study was designed to identify graduates skill discrepancies according to graduates' perception. The output the study will contribute for the review and evaluation of the the teaching-learning, assessment and curricular programs.

A tracer study is one of the techniques to which higher learning institutions can evaluate their degree offering programs and curricula in terms of their contribution to the industry. It is essentially envisioned to follow alumni of an academic institution, with a specific end goal to give feedback mechanism of the graduates and their place of graduation (Rojas & Rojas, 2016).

Graduate tracer studies can be used to track the whereabouts and performance of previous graduates and the helps to infer higher education's status of performance (McGrath & Akoojee, 2007). Moreover, graduate tracer studies provide the opportunity to assess labor market signals to assist in development of strategic plans for higher education. However, it is a recognized fact that linking labor market surveys to higher education planning is rarely effective. It is vital to assess what kind of graduates are required in the near and midterm future as well as what factors are contributing for employability of graduates.

2. Labor market and the need for graduate skills

Within the context of globalization, deregulation, continuous changes in technology, change in work processes and global institutional transformations, companies struggle to secure skilled labour. According to (K Cotton, 1993) employers require generic competencies such as teamwork, communication skills, problem solving skills, in combination with specific competencies acquired through formal education. Governments, businesses and policy-makers connect employability rates with the level of skills and competences that higher education graduates have acquired (Frank & Meyer, 2007). Although many of the empirical studies focused on transferable skills, other literatures however suggest two aspects of employability as subject skills and transferable skills. Transferable skills refer to certain personal abilities of an individual, which can be taken from one job role to another, used within any profession and at any stage of his/her career while subject skills are more relevant to one's career (Cox & King, 2006). Employers want graduates with relevant subject specific skills, knowledge and understanding, but in addition to this are looking for well-developed generic skills in a number of areas (Harvey, Moon, Geall, & Bower, 1997). Students usually leave university with a good appreciation of their chosen fields as they have studied those intensively during the degree programme (Harvey et al., 1997). Nevertheless, in today's turbulent business environment the possession of subject skills alone is no longer sufficient for a new graduate in meeting employer requirements; increasingly it is necessary for them to gain transferable skills which will enhance their prospects of employment (Cox & King, 2006; Fallows & Steven, 2000; Harvey et al., 1997; Warn & Tranter, 2001) has summarized out a set of skills that will give a competence to address as employable, they are: Communication Skills, Interactional Skills, Computer Skills, Civilization Skills, Ethics, Personal Management, Vocational Mature, Problem Solving Skills, and Career Development Skills.

In general several studies showed that skills such as Problem solving skills, Decision making skills, Planning and time management skills, Team work skills, Communication skills, Initiative /creativity skills, Interpersonal skills, IT skills (Billing, 2003; Cleary et al., 2006; Gines, 2014; Gustin, 2001; Kay & Russette, 2000; Moscardo, 1997; J. S. Robinson, 2006; J. S. Robinson & Garton, 2008; Schmidt, 1999). (Harvey, 2000) also showed that employers want graduates with relevant subject specific skills, knowledge and understanding.

3. Graduates employability skills

With rapid change and continuous change in the world's economy backed by the advent of information

technology, firms struggle to secure competent and skilled labour. Employers require generic competencies such as teamwork, communication skills or problem solving skills, in combination with specific competencies acquired through experience or formal education (Adnan, Daud, Alias, & Razali, 2017). An employability rate is connected directly with the level of skills and competences that higher education graduates have acquired (Meyer, Ramirez, Frank, & Schofer, 2007; Stiwnne & Alves, 2010). Business education has also come into the center of the employability skills agenda as many of business graduates are joining giant business enterprises.

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Employability skills are sometimes referred to as professional, core, generic, key, and nontechnical skills and are inherent to enhancing graduate work-readiness (Yorke, 2004). It is sometimes referring to generic capabilities, transferable skills, basic skill, essential skills, work skills, soft skill, core competencies and enabling skills or even key skills. These nontechnical skills have played an important role for a graduate in getting employed and doing well in the workplace. (Dodrige, 1999; Lankard, 1990). We use the term employability skill throughout this study in place of the terms generic, soft or transferable skills. It is defined as those basic skills necessary for getting, keeping, and doing well on a job (J. P. Robinson, 2000). These employability skills according to him include reading, basic arithmetic and other basic skills; problem solving, decision making, and other higher-order thinking skills; and dependability, a positive attitude, cooperativeness, and other affective skills and traits. Gainer (2002) has grouped employability skills under four basic competencies. These are Individual Competence: communication skills, comprehension, computation, and culture. Personal Reliability Skills: personal management, ethics, and vocational maturity Economic Adaptability Skills: problem solving, learning, employability, and career development. Group and Organizational Effectiveness Skills: interpersonal skills, organizational Skills, and skills in negotiation, creativity, and leadership.

In summary, multiple studies presented above have shown that skills such as Problem solving skills, Decision making skills, Planning and time management skills, Team work skills, Communication skills, Initiative /creativity skills, Interpersonal skills, IT skills are the employability skills most desired by employers in the workplace. In addition to employability skills, (Harvey, 2000) also showed that employers want graduates with relevant subject specific skills, knowledge and understanding.

Table 1. Some selected Studies related to Employability Skills

Author/s	Key skills studied	Key findings
(Sermsuk, Triwichtkhun, & Wongwanich, 2014)	Communication, problem solving, personnel management and teamwork skills	The skills or abilities required for a high potential of employment were consisted of Personal management skills, Fundamental skills and Teamwork skills.
(Abas-Mastura, Imam, & Osman, 2013)	Communication, management information, use of numbers, thinking and problem solving	Descriptive data showed that fundamental, personal management and teamwork skills were highly preferred by employers and sufficiently acquired by employees.
(Kleeman, 2011)	Teamwork, Communication, Conceptual/analytic, Professional qualities, Organization/planning, Leadership	The employers indicated that communication and teamwork were the most important employability skills and leadership and learning theory and practice were the least important employability skills
(Singh, Thambusamy, & Ramly, 2014)	Communication skills, problem solving, teamwork skills and critical thinking skills	Employers' perceptions indicate <i>Integrity and Professional Ethics</i> and <i>Communication Skills</i> as the most sought after skills while the instructors are accentuating <i>Teamwork Skills</i> in their teaching although this skill is not highly prioritized by the employers.
(Hynes & Bhatia, 1996)	Communication skills	Highly rated course topics by graduate business students are making presentations, writing memos and letters, listening and interpersonal communication, impromptu speaking, and business report formats.
(Braun, 2004)	Investigating and Analyzing Skills	"Business schools should really be teaching critical thinking more than anything else"
(Awayiga, Onumah, & Tsamenyi, 2010)	Investigating and Analyzing Skills	Analytical/critical thinking was rated as the most important professional skill by both the employers and the graduates.
(Yanez, Khalil, & Walsh, 2010)	Planning and organizing skills	Academics and Practitioners claim that a priority for improvement in marketing education is to teach the graduates the ability to 'set priority'

4. Conceptual Framework

This study uses the employability model as the conceptual benchmark. The concept draws a line between employment and employability skills. Being employed means having a job and being employable means having the employability skills needed to maintain a job and progress at the work place (de Guzman & de Castro, 2008). Figure 1 below shows the schematic employability model. The model builds on the assumption that employability skills and educational systems/subject understanding shape the matching of people to jobs. For graduates, to match to job, they should have acquired both subject knowledge and skills that are required by employers/generic or soft skills. Employability can be affected by labor market institution, skills, and knowledge enhanced by education and training (Psacharopoulos & Patrinos*, 2004) Thus, the concept of employability can be shown in some key analytical dimensions as shown in Figure 1 below.

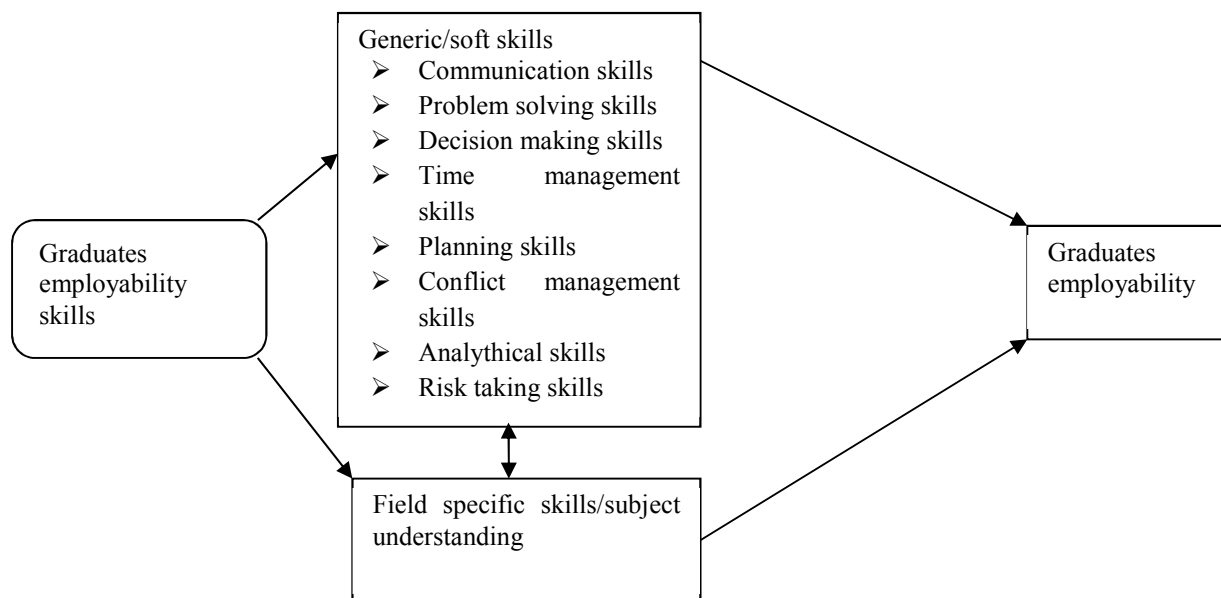


Figure 1: Theoretical framework

Methods

In order to achieve the objectives of this study, we followed quantitative research methodology. Quantitative research was used to provide numerical measurement and analysis of variation of actual and expected competencies of graduates. Survey questionnaires were used for standardization purposes to allow for aggregation of the results. This study has employed descriptive survey covering the employment characteristics of the graduates. Since the purpose of this research is to gain background information about our graduates and identify the variations between actual and expected skill of graduates, exploratory study has been employed. Two sets of skills were considered in this study as employability skills: Generic skills and field specific skills. The generic skills which include Problem solving skills, Decision making skills, Planning and time management skills, Team work skills, Communication skills, Initiative /creativity skills, Interpersonal skills, IT skills were derived from previous works of (Cleary et al., 2006; Evers, Rush, & Berdrow, 1998; Gines, 2014; J. S. Robinson, Garton, & Vaughn, 2007). The field specific skills were derived from the curricula of respective departments to measure the relative effectiveness of the curricula of respective departments.

In this study the Borich Needs Assessment Model (1980) was adopted to enable researchers to purposefully prioritize teaching competencies so participants can receive training in the most needed area first, and in each successively less urgent area (competency) for the future. According to this model, the Mean Weighted Discrepancy Scores (MWDS) can be calculated on the following ways:

- a. DS: Discrepancy Score is calculated as:
 $\text{Importance score} - \text{Ability score} = \text{DS}$
- b. WDS: Weighted DS is calculated (for each respondent on each competency) as:
 $\text{DS} * \text{Mean Importance score for each competency} = \text{WDS}$
- c. MWDS: Mean Weighted Discrepancy Score is calculated for each competency as:
 $\text{Sum of WDSs} / n \text{ Each Competency} = \text{MWDS}$

Hence, based on MWDS ratings derived from respondents' input, differences between perceived relevance (importance) and attainment (ability) for each competency produces identifiable "gaps" where in-teaching learning and curricula can be evaluated to fill the gaps (Borich, 1980).

This study was designed to trace under-graduates Bahir Dar University who completed their studies from the year 2007-2017 considering ten years data. The study was carried out in purposively selected industrial and business cities of Ethiopia. Purposive sampling is considered in this study because the selected cities are currently considered to be metropolitan where large numbers of employers are available. These cities include: Gondar, Bahir Dar, Dessie, Addis Ababa city. The main objective of this research was to explore actual and perceived competency deviations of our graduates and its effect on employability of graduates. So, graduates of Business College who completed their study from 2007-2017 form the research population. Accordingly, a total of 7,868 graduates from six fields of study are selected for this study. The total numbers of graduates in the regular program from the Faculties of Business and economics in the study period was found to be 7,868. Hence, 329 graduates were considered for this study determined by using a sampling technique described by (Krejcie & Morgan, 1970)). The data collected from the returned questionnaire was entered into Borich's Excel calculator

V1.4 for analysis.

Results and discussion

This study was conducted to identify the graduates' skill discrepancies of the regular program graduates from Bahir Dar University College of business and economics working in different organizations.

The collected data from graduates is presented in table 1 below. The items which we call employability skills were ranked from highest to lowest according to their MWDS ratings using Borich excel calculator V1.4. The Objective was to describe graduates self-perceived level of the importance regarding the employability skills needed for the workforce and the level of attainment of these skills during their stay at Bahir Dar University finally producing discrepancy of skills.

Graduates' perceptions of the importance of employability skills and their levels of competence in performing the skills

For the purpose of this study, items were developed in dual response format; both importance and competence constructs were evaluated simultaneously by graduates. The first section of the items was to assess the importance of employability skill to the current job function in which a particular graduate is performing. Means for this part of the analysis were interpreted using the following scale: 0.00-0.49 = No importance, 0.50-1.49 = Minor importance, 1.50-2.49 = Moderate importance and 2.50-3.00 = Major importance. Accordingly, all of the employability skills included in this study was found to have mean importance ratings greater than 2.0 according to graduates rating.

The top ten items graduates perceived major importance with mean importance rate ≥ 2.5 were Allocating time efficiently(M=2.63),Setting priorities(M= 2.61),Listening attentively, (M=2.59),Working well with fellow employees(M=2.55), Identifying problems (M=2.54), Relating well with supervisors(M=2.54), Writing external business communication (M=2.53),Being willing to learn new IT skills(M= 2.52), Using ICT skills to complete activities(M=2.51) and Understanding the needs of others(M=2.52).

The second section of the items was to describe graduates' self-perceived level of ability/competence in performing the employability skills which sought to show the level of attainment of these skills during their stay in the university. Means were also used to identify the environment from which graduates developed their level of competence. Means for this part of the analysis were also interpreted using the following scale: 0.00-0.49 = No competence, 0.50 1.49 = Minor competence, 1.50-2.49 = Moderate competence and 2.50-3.00 = Major competence. The top ten employability skills graduates perceived themselves to be most competent in performing were; listening attentively (M=2.28), communicating ideas verbally to groups (M=2.18), responding to others' comments (M=2.17), using properly the working language (M=2.17), allocating time efficiently , (M=2.16), recognizing individual differences in the workplace (M=2.15), initiating change to enhance productivity (M=2.16), making important presentations (M=2.16), conveying information one-to-one (M=2.15) and setting priorities (M=2.10).

Table 1: Graduates' Perceptions of the Importance of Employability Skills and Their Levels of attainment/Competence in Performing the Skills (n = 143)

Employability skills	Importance	Competence	MWDS
	Mean	Mean	
1. Making decisions in a short time period	2.48	1.87	1.53
2. Identifying problems	2.54	1.94	1.53
3. Writing reports	2.46	1.87	1.45
4. Prioritizing problems	2.38	1.78	1.43
5. Applying IT as a management tool	2.45	1.88	1.39
6. Revising plans to include new information.	2.38	1.80	1.36
7. Writing external business communication	2.53	1.99	1.36
8. Providing novel solutions to problems	2.49	1.97	1.34
9. Relating well with supervisors.	2.54	2.02	1.33
10. Identifying essential components of a problem	2.43	1.89	1.31
11. Setting priorities	2.61	2.10	1.31
12. Using IT to organize data	2.49	1.97	1.29
13. Sorting out relevant data to solve problems	2.40	1.87	1.28
14. Providing innovative paths for the company	2.39	1.86	1.27
15. Being willing to learn new IT skills	2.52	2.01	1.27
16. Identifying sources of conflict among people	2.35	1.82	1.25
17. Allocating time efficiently	2.63	2.16	1.23
18. Using ICT skills to complete activities	2.51	2.02	1.23
19. Working well with fellow employees	2.55	2.08	1.20
20. Meeting deadlines	2.39	1.90	1.19
21. Understanding the needs of others	2.52	2.05	1.18
22. Adapting to situations of change	2.37	1.89	1.13
23. Making effective business presentations	2.37	1.90	1.13
24. Having a range of IT skills	2.48	2.03	1.11
25. Assigning/delegating responsibility	2.39	1.93	1.10
26. Establishing the critical events to complete	2.19	1.69	1.09
27. Assessing long term effects of decisions	2.22	1.76	1.03
28. Managing/overseeing several tasks at once	2.38	1.97	1.00
29. Taking reasonable job-related risks	2.38	1.96	1.00
30. Monitoring progress against the plan	2.27	1.83	0.98
31. Keeping up-to-date with external realities	2.43	2.02	0.98
32. Resolving conflicts	2.37	1.97	0.96
33. Listening attentively	2.59	2.28	0.82
34. Recognizing alternative routes to meet obje	2.35	2.01	0.81
35. Integrating strategic considerations in plans	2.39	2.06	0.80
36. Writing internal business communication	2.41	2.09	0.78
37. Knowing ethical implications of decisions	2.30	1.97	0.77
38. Monitoring progress toward objectives	2.34	2.03	0.72
39. Responding to others' comments	2.46	2.17	0.72
40. Establishing good rapport with subordinates	2.35	2.04	0.72
41. Conceptualizing a future for the company	2.39	2.09	0.72
42. Using properly the working language	2.45	2.17	0.70
43. Communicating ideas verbally to groups	2.47	2.18	0.68
44. Re-conceptualizing your role in response to changing corporate realities	2.21	1.90	0.68
45. Identifying political implications of decisions	1.62	1.24	0.61
46. Recognizing individual differences in the workplace	2.39	2.15	0.59
47. Initiating change to enhance productivity	2.40	2.16	0.57
48. Making important presentations	2.38	2.16	0.53
49. Identifying potential negative outcomes when considering a risky venture	2.21	1.99	0.49
50. Academic skills	2.2	2.03	0.45
51. Conveying information one-to-one	2.30	2.15	0.35

Note. Scale: 0 = No Importance/Competence, 1 = Minor Importance/Competence, 2 = Moderate Importance/Competence, 3 = Major Importance/Competence

The five employability skills graduates perceived themselves to be least competent at performing were:

Identifying political implications of decisions ($M = 1.24$), Establishing the critical events to be completed ($M = 1.69$), Assessing long term effects of decisions ($M = 1.76$), Identifying sources of conflict among people ($M = 1.82$), and Prioritizing problems ($M = 1.78$).

Lastly, we tried to prioritize the skills, as perceived by graduates based on MWDS (Borich, 1980). The Borich model allows two ratings of perceptions to be taken into account simultaneously in an effort to determine where discrepancies may exist. For the purpose of this study, a discrepancy score was calculated by subtracting the importance rating from the competence rating for each graduate on each employability skill. A weighted discrepancy score was then calculated by multiplying each discrepancy score by the mean importance rating for that employability skill. Finally, a MWDS was calculated by summing the weighted discrepancy scores for each skill and dividing that total by the number of respondents ($n = 143$).

For the purpose of recommending for curriculum improvements, we prioritize skills according to their MWDS ratings. We consider major curriculum enhancement, moderate curriculum enhancement and minor curriculum enhancement. All employability skills with a MWDS greater than 1.5 was considered the highest discrepancy and highest need for high curriculum enhancement, all skills with a MWDS ranging from 1.00 to 1.49 (i.e., a more moderate discrepancy and need for moderate curriculum enhancement) and all employability skills with a MWDS ranging from 0.00 to 0.99 (i.e., a low discrepancy and need for minor curriculum enhancement). Besides, two items (4%) scores high need for curriculum enhancement. These items are making decisions in a short time period and identifying problems.

(53%) or 27 items scores a moderate discrepancy scores and moderate need for curriculum enhancement. These items fall under the category of problem solving skills, Information technology skills, communication skills, decision making skills, time management skills, interpersonal and teamwork skills. 22 items (43%) scores low discrepancy scores and need negligible curriculum enhancement.

Conclusions and Recommendations

Conclusions

All skills (both generic and field specific) are at least moderately important to graduates. From the view point of graduates, it is perceived that all of the skill was moderately important in the workplace. So, graduates believed that it is important to be able to equip with time management skills, communication skills, teamwork skills, problem solving skills, IT skills and interpersonal skills. In addition, the academic/field specific skills are the most acquired skills as perceived by both graduates. This finding is consistent with previous research by (Cottrell, 2015) that Students usually leave university with a good appreciation of their chosen subject as they have studied it intensively for the previous few years.

The top ten employability skill in greatest need of curricular attention, according to perception of graduates, were making decisions in a short time period, identifying problems, writing reports, prioritizing problems, applying IT as a management tool, revising plans to include new information, writing external business communication, providing novel solutions to problems, relating well with supervisors, and identifying essential components of a problem.

Graduates placed the least amount of importance on the political implications of the decisions they make. However, at a minimum, graduates perceived themselves to possess at least minor competence in performing all skills. Graduates perceived that they were most competent at listening attentively, communicating ideas verbally to groups, responding to others' comments, using properly the working language, allocating time efficiently, recognizing individual differences in the workplace, initiating change to enhance productivity, making important presentations, conveying information one-to-one and setting priorities. Graduates also perceived that they were least competent at identifying political implications of decisions, establishing the critical events to be completed, assessing long term effects of decisions, identifying sources of conflict among people and prioritizing problems.

Recommendations

To produce graduates that succeed in the labor market, higher education institutions need to design and implement their program curricula in line with the globally acknowledged need for the long-term career development of graduates. Therefore, the current curriculum in the college of business and economics should be enhanced to mirror the skills represented in this study. Apprenticeship programs in this regard can provide students the advantage to practice theoretical concepts learned in the classroom, examine career choices, know more about the industries' skill requirements, and most importantly, develop hands-on workplace skills

Researchers are pointing to various methods in order to promote employability skills in higher education students like adapting the curricula to include specific skills courses, experiential and new instructional methods, using information technology in innovative ways, service learning, career planning, students' logbooks, extra-curricular activities, work-based education and others (Blackwell et al., 2001; Dunne et al., 2000). In general, the skills with the highest discrepancy scores identified in this study have to be embedded into the current degree offering curriculum through work-based exercises and learning.

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