

Producing Graduates Who Meet Employer Expectations: Open and Distance Learning is a Viable Option

Tina Lim,
Open University Malaysia,
tina_lim@oum.edu.my

Mansor Fadzil,
Open University Malaysia,
mansor@oum.edu.my

Latifah Abdol Latif,
Open University Malaysia,
latifah@oum.edu.my

Norlia T. Goolamally,
Open University Malaysia,
nolee@oum.edu.my

Norziati Mansor,
Open University Malaysia,
norziati@oum.edu.my

Abstract

In this new age of globalization, higher education plays an increasingly important role in preparing a workforce which meets rapidly changing industry needs. There is now a critical need to re-examine the function of tertiary education such that it not only caters to fresh school-leavers but of equal importance, provide opportunities for the further up-skilling and upgrading of people who are already employed. With a substantial proportion of people who have yet to obtain a basic degree, conventional universities by themselves are highly unlikely able to meet the demands of providing tertiary education to all who need or want to further education, in the near or even distant future. Open and distance learning programmes which are able to contribute significantly to lifelong learning efforts, however, have constantly been regarded as 'the lower quality alternative' with their flexible entry policy and flexible learning modes. This paper seeks to examine the extent to which Open University Malaysia's graduates met employer expectation with regard to employability competencies. Paper and pencil questionnaires were sent via postal mail to employers of the November 2010 open market Bachelor degree programme graduates. Responses from 290 out of a total of 1088 employers were analysed using quadrant analysis and gap analysis for three dimensions of employability competencies namely, Knowledge and Understanding, General Attributes and Generic Skills. Overall findings suggest that while importance scores were higher than satisfaction scores, the employers were generally satisfied with the graduates' competencies for all three dimensions.

Keywords: *Open and distance learning, Employability competencies, Higher education, Human capital development*

Human Capital Development, Lifelong Learning and Higher Education

It cannot be denied that human capital development is a vital element in any country's economic development. Available research suggests strong relationships between education, productivity and output levels (Wilson & Briscoe, 2004) and that higher education, which equips future employees with the necessary knowledge and skills, is often deemed an important tool for economic growth.

With the workplace landscape seeing vast changes and new developments in terms of job requirements, dependence on knowledge-based economies and increasing utilization of newer information and communication technology (ICT) tools, much of what was learnt in the yesteryears would be very likely become obsolete in the near future. Therefore, as Simmons-McDonald (2009) aptly emphasized, "the concept of lifelong learning has become more critical as a factor which influences the employability of individuals" (p. 2). Such is the scenario whereby even those who are currently employed would do well to further enhance or upgrade their knowledge and skills in order to continue to remain relevant in today's workforce and that of the future.

The truth as laid out by Turner (2002) in highlighting the importance of employees taking responsibility for their own learning and development is that "Lifelong learning equals lifelong earning" (p. 11). How else in this new age of global competitiveness may one expect to enhance one's own value and marketability as well as climb the corporate ladder?

It has been pointed out that "employability of graduates is a key task for higher education" (UK Lifelong Learning, 1998). Across the globe, both developed and developing countries look upon higher tertiary education as a vital link to improved economic prosperity. Likewise, making strong inroads in her goal to become a developed and high income nation by the year 2020, Malaysia has directed substantial amount of funds and efforts at enabling education to be an active engine of growth. Private higher education institutions are being targeted alongside with the public institutions as "catalysts for industry transformation" (PEMANDU, 2010).

In stressing the critical role higher education plays in industry transformation, the Honourable Minister of Higher Education Malaysia, Dato' Seri Mohamed Khalid Nordin acknowledged that, "Today's challenging economic situation means that it is no longer sufficient for a new graduate to have knowledge of an academic subject; increasingly it is necessary for students to gain those skills which will enhance their prospects of employment. Hence, Higher Education Institutions must be responsive to these changes" (Nordin, 2009, p. 2).

Employability and Employability Competencies

So what does one understand by the term 'employability' and 'employability skills'? The following definitions offer a glimpse of some important elements of employability together with the required skills: Dacre Pool and Sewell (2007) defined 'employability' as possessing "a set of skills, knowledge, understanding and personal attributes that make a person more likely to choose and secure occupations in

which they can be satisfied and successful.” Employability skills have been described as skills which are not job specific, but rather those which are applicable across all domains of employment as well as all levels of employment (Gurcharan Singh & Garib Singh, 2008).

Meanwhile, ACCI (2002) as cited in Hampson and Junor (2010) described employability skills as “skills required not only to gain employment, but also to progress within an enterprise so as to achieve one’s potential and contribute successfully to enterprise strategic directions” (p.3). This definition is very much applicable to OUM graduates were generally already working prior to their graduation. In agreement to the same notion, albeit in different words, World Bank (n.d.) emphasized that “the element of employability is important for workers to remain relevant in the world of work” and that lifelong learning is crucial for the continuous development of competencies (Skill development: In the context of globalization).

Past Research on Employability Competencies

Based on a study on university curriculum and employability needs, Pandian (2010) and her team discovered that a major factor that limited graduates’ job opportunities was the glaring lack of soft skills among graduates in Malaysia. Over the past decade, reports abound of mismatch between the requirements of employers and that of university outputs, as well as cases of local university graduates lacking in generic competencies such as communication skills, problem solving skills and inter-personal skills (Quek, 2005; Juhdi, Yunus & Abu Samah, 2006; Khir, 2006; Malhi, 2009; Pandian, 2010).

Quek (2005) suggested that studies on unemployment in Malaysia attribute it to the lack of learning generic competencies in tertiary education. Graduates who lack those competencies are said to be at a disadvantage, as compared to those who possess them, when it comes to utilizing the generic competencies in carrying out their roles and responsibilities at work. While policies have been put in place for the incorporation of such competencies in Malaysian tertiary education system, a lesser degree of success has been noted with regards to its implementation and even less with respect to its impact.

Agus, Awang, Yussof and Mohamed Makhbul (2011) examined the gap between the skills perceived as important by Malaysian employers and their perception of the graduates’ performance across 534 organisations from various sectors such as manufacturing, banking, and services industries. Analyses of responses obtained from Human Resource Management and top level managers revealed that the level of satisfaction was generally below the expectation level, with a mean gap of 14.4 percent obtained for the skills examined. Wide gaps were recorded for skills such as “Decision-making and Problem solving” (17.3%), “Thinking” (17.3%), “Communication and Interpersonal” (16.9%), and “Ethical and Values” (16.4%). Wide gaps ranging from 15 percent to 34 percent were also reported by Griesel and Parker (2009) in their study examining the perception differential between what employers expected from South African graduates and their performance at work.

Meanwhile, findings obtained by Gurcharan Singh and Garib Singh (2008) revealed that employers rated graduates significantly much lower than that by the graduates themselves on all employability skills examined. In terms of ranking of employability skills according to importance, the rank order obtained for both groups of respondents was the same. The top most was Problem solving and Adaptability skills, followed by Interpersonal and Team skills, Personal organization and Time management skills, English language proficiency, Information, communication and technology skills, Leadership skills, and lastly Communication skills.

The Role of Open Distance Learning in Advancing Lifelong Learning

The European Commission so aptly underscored that “Lifelong learning is also about providing second chances to update basic skills and to offer learning opportunities at more advanced levels. All this means that formal systems of provision need to become much more open and flexible, so that such opportunities can truly be tailored to the needs of the learner, or indeed the potential learner” (ESAE, 2007, p. 23).

Traditionally, higher education has been elitist in that only the ‘cream of the crop’ may obtain tertiary education at a certain age. Pursuing tertiary education also meant having to attend lessons in physical classes full time. Such a setting is no longer applicable in today’s world as those who missed the ‘cut’ or the chance at pursuing their studies are now given the golden opportunity to pursue their ambition and dream of higher education through open and distance learning. Amongst others, with ODL, open or flexible entry where those with lesser qualifications but with relevant work experience may enter tertiary studies and accreditation of prior learning have helped non-traditional students move along on the academic pathway. Additionally, with a flexible blend of face-to-face and online learning using ICTs, working adults may continue to work full time and study part time.

However, while it has been widely recognized that there is a dire need to widen access to educational opportunities, the emergence of open and distance learning (ODL) higher institutions in meeting that need has been scrutinized in terms of the quality of their programmes. As pointed out by Kirkpatrick (2005), “Despite a long and generally successful track record, open and distance learning is still required to prove that the quality of student learning is at least equivalent to face-to-face teaching” (p. 2).

Objective of the Study

With a backdrop of concerns from certain quarters that tertiary ODL might not be of as ‘good’ quality as conventional tertiary education, the objective of this paper is to examine the extent to which OUM graduates met the expectations of their employers with regard to employability competencies.

Methodology

Research Design

This study utilized a quantitative approach whereby printed survey questionnaires were sent by postal mail to employers of the November 2010 graduates. Names and postal addresses of the employers were initially sought from the graduands using an online submission of data prior to the November convocation. Stamped, self-addressed envelopes were enclosed together with the questionnaires to facilitate the return of the completed surveys.

Descriptive statistics were used to analyse the research findings. Importance-Satisfaction Analysis charts and Gap analyses together with dependent samples t-tests were also computed to determine areas of strengths and weaknesses as perceived by the employers.

Instrumentation

Data for the study were collected using a paper and pencil survey questionnaire which was developed using Remark Office software and responses were scanned digitally rather than using manual data entry.

The items related to Importance and Satisfaction with regard to Employability competencies were largely adapted from those validated and utilized in the 2005 Noel-Levitz Employer Satisfaction Survey (Kleinke, 2006). The respondents were required to rate the level of importance on a five-point Likert-type scale (1) for Not at all important; (2) for Not very important; (3) for Somewhat important; (4) for Important; and (5) for Very important. A similar five-point Likert-type scale was also offered for the respondents to rate their level of satisfaction with the performance of OUM graduates. For both importance and satisfaction, the option of “Not applicable” was also given.

Table 1: Dimensions, Number of Items, Percent Variance and Reliability of Questionnaire

Dimension	Number of Items	Percent Variance	Cronbach's Alpha
Knowledge and Understanding	4	35.04	0.77
General Attributes	18	16.31	0.96
Generic Skills	6	11.06	0.87

Based on data obtained from the original questionnaire, Exploratory Factor Analysis was run to examine the underlying structure of the items in the instrument. The 38-item Importance-Satisfaction scale was subjected to Principal Component Analysis (PCA). PCA using Orthogonal Varimax rotation revealed that 28 items loaded on three components (Knowledge & Understanding, General Attributes and Generic Skills respectively), explaining 35.04 percent, 16.31 percent and 11.06 percent of the variance respectively. Total variance explained was 62.41 (See Table 1). Meanwhile, upon examining the internal consistency of the items, it was found that the Cronbach alpha coefficient for the Knowledge and Understanding dimension was 0.77, for the General Attributes dimension was 0.96 and for the Generic Skills dimension was 0.87. These alpha values indicate that as a whole, the Importance-Satisfaction scale has reasonably good internal consistency (DeVellis 1991).

Population and Sample

This write-up only reports the data obtained pertaining to the graduates for the Bachelor degree (with Honours) for the open market programmes from the Faculty of Business and Management, the Faculty of Information Technology and Multimedia Communications, the Faculty of Science and Technology, and the School of Nursing and Applied Health Sciences. Two other faculties namely the Faculty of Applied Social Sciences and the Faculty of Education and Languages were not included as the former did not as yet have any graduates for the November 2010 convocation while for the latter, most of the graduates were those sponsored by the Ministry of Education.

Out of a total of 1088 Bachelor's degree graduates for the November 2010 semester, the research team only managed to obtain 1058 complete addresses via the online system. Out of that number, only 290 complete surveys were received, giving an overall response rate of 27.41 percent. This meets a confidence level of 95 percent, with a margin of error of five percent.

The respondents were from various sectors namely Education (74), Service (51), Healthcare (38), Manufacturing (22), Business (8), Hospitality (7), ICT (6), Agriculture (5), and Construction (5). The sector for 74 out of the 290 respondents was not identified. 67.4 percent were from the public sector while the remaining 32.6 percent were from the private sector. The respondents were from all states and federal territories in the country.

Data Analysis

Importance-Satisfaction Quadrant Analysis was used to visualize the relationship between importance and satisfaction ratings. In the quadrant analysis, the overall mean for satisfaction was plotted against the overall mean for importance, for each dimension and competency. Interpretation for each of the four quadrants is as follows:

1. If the plotted values fall in the upper right quadrant (high importance and high satisfaction), the items are considered strengths;
2. If the plotted values fall in the upper left quadrant (high importance but relatively lower satisfaction), the items draw attention to opportunities for improvement;
3. If the plotted values fall in the lower left quadrant (relatively lower importance and relatively lower satisfaction), the items may be considered of low priority; and
4. If the plotted values fall in the lower right quadrant (relatively lower importance and high satisfaction), effort has exceeded expectations for the items.

Since quadrant analyses do not explicitly identify the gaps that may exist between importance and satisfaction, the gap analysis technique was also conducted. The gap between importance and satisfaction was measured by subtracting the mean score for satisfaction from the mean score for importance. Positive values indicate that the satisfaction level was lower than the importance level and vice versa. Items with large positive gaps are indicative of problems that need correction or improvement while small values signify strengths. Percentage difference was also computed by subtracting the Satisfaction score from the Importance score and dividing by 5 (since the responses were based on a five-point scale) and then multiplying by 100.

Findings and Discussion

The findings for this study are divided into three sections, namely the extent to which OUM graduates met the expectations of their employers with regard to:

1. Knowledge and Understanding competencies;
2. General Attributes; and
3. Generic Skills

Knowledge and Understanding

Quadrant analysis for the Knowledge & Understanding dimension indicates that OUM programmes did well in producing graduates with a good understanding of job-related information since the means fell in the High Importance, High Satisfaction quadrant (Refer to Figure 1). Competencies that were of Low Importance and Low Satisfaction were:

1. Ability to translate theory into practice;
2. Knowledge in the field of study; and
3. Specific technical knowledge related to the job.

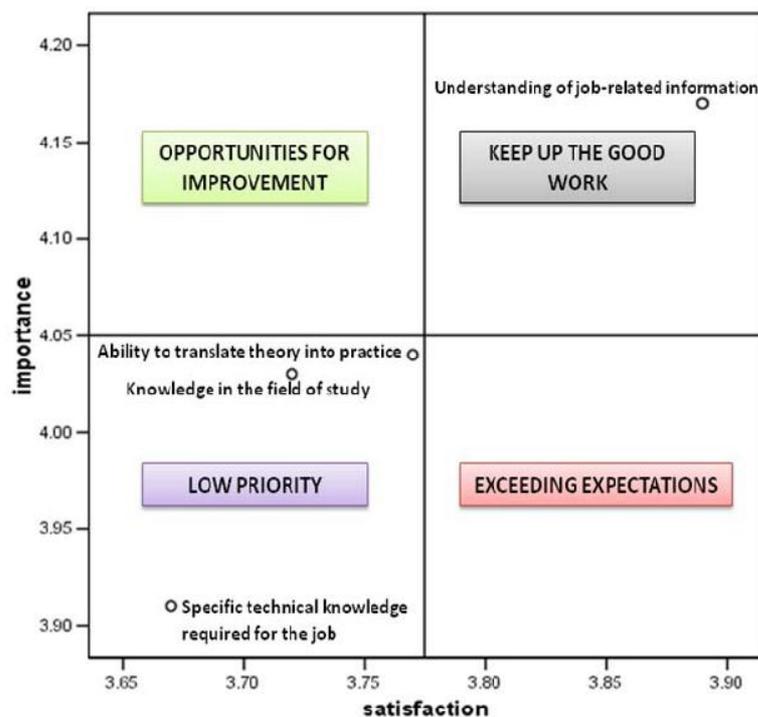


Figure 1: Quadrant analysis by items for knowledge and understanding dimension

Meanwhile findings from the gap analysis (as shown in Table 2) indicates that the largest gap in the Knowledge and Understanding dimension was for ‘Knowledge in employee’s field of study’ (gap = 0.30 or 6.0%). This is the only item in the ‘Knowledge and Understanding’ dimension where the gap is higher than the mean gap of 0.27 or 5.4 percent obtained for this dimension. This was followed by ‘Understanding of job-related information (gap = 0.27) and ‘Ability to translate theory into practice’ (gap = 0.26). The smallest gap was for ‘Specific technical knowledge required for the job’ (gap = 0.22). The differences between the mean obtained for Importance and the mean for Satisfaction for all items were significantly different.

Table 2: Gap Analysis for Knowledge and Understanding Items

Item	Importance		Satisfaction		Gap	t-value	n	Sig 2 tailed
	Mean	SD	Mean	SD				
Knowledge in employee's field of study	4.02	0.71	3.72	0.72	0.30	7.76	274	0.00
Understanding of job-related information	4.16	0.67	3.89	0.69	0.27	6.76	275	0.00
Ability to translate theory into practice	4.03	0.71	3.77	0.77	0.26	6.15	268	0.00
Specific technical knowledge required for the job	3.89	0.79	3.68	0.74	0.22	4.98	265	0.00

While 'Knowledge in the field of study', 'Ability to translate theory into practice' and 'Specific technical knowledge required for the job' were considered of Low Priority, the gaps between the scores for Importance and Satisfaction were significantly different. In particular, the gap obtained for 'Knowledge in the field of study' was higher than the mean gap for this dimension. As such, attention needs to be directed at efforts in improving course content such that they meet the requirements of the employers, are current and according to industry standards as well as relevant to the various industries. In addition, the various faculties would do well to enhance 'work-based learning' initiatives such as internships, practicum placements and work placements by establishing strong links with main players in the various industries. To enhance students' ability to translate theory into practice, more problem-based learning could be incorporated. The nature of assessment should also be constantly checked such that they require students to exhibit higher order levels in the cognitive domain such as application, analysis, synthesis, and evaluation rather than mere recall and understanding.

General Attributes

As for the General Attributes dimension, quadrant analysis revealed that all items either were considered Strengths (High Importance, High Satisfaction) or were of Low Priority category (Low Importance, Low Satisfaction). None fell under the Opportunities for Improvement (High Importance, Low Satisfaction) category, or Exceeding Expectations (Low Importance, High Satisfaction). (Refer to Figure 2).

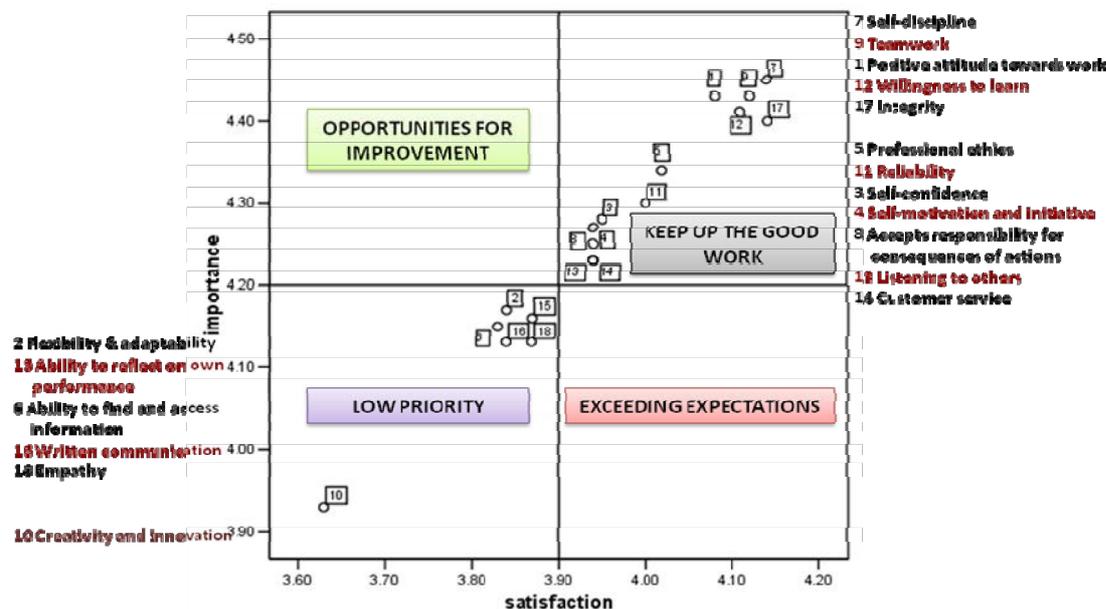


Figure 2: Quadrant analysis by items for general attributes dimension

Of the 18 competencies examined, 12 were deemed to be the strengths of OUM graduates. They are Self-discipline, Teamwork, Positive attitude towards work, Willingness to learn, Integrity, Professional ethics, Reliability, Self-confidence, Self-motivation and initiative, Accepts responsibility for consequences of action, Listening to others, and Customer service. The six competencies which employers considered to be of low priority were Flexibility & adaptability, Ability to reflect on own performance, Ability to find and access information, Written communication, Empathy, and Creativity & innovation.

Table 3: Gap Analysis for General Attribute Items

Item	Importance		Satisfaction		Gap	t-value	n	Sig 2 tailed
	Mean	SD	Mean	SD				
Positive attitude towards work	4.43	0.67	4.08	0.77	0.35	8.47	278	0.00
Flexibility & Adaptability	4.17	0.62	3.83	0.77	0.34	7.82	276	0.00
Self-motivation & Initiative	4.27	0.71	3.94	0.78	0.34	8.42	277	0.00
Self-confidence	4.28	0.65	3.95	0.75	0.33	8.41	278	0.00
Professional ethics	4.35	0.64	4.02	0.72	0.33	8.77	278	0.00
Self-discipline	4.45	0.63	4.13	0.79	0.32	7.53	278	0.00
Ability to find and access information	4.14	0.70	3.83	0.82	0.31	7.51	278	0.00
Accepts responsibility for consequences of actions	4.25	0.66	3.94	0.73	0.31	7.86	277	0.00
Listening to others	4.25	0.67	3.94	0.70	0.31	7.86	277	0.00
Creativity & Innovation	3.93	0.74	3.63	0.83	0.31	7.20	276	0.00

Teamwork	4.43	0.66	4.12	0.78	0.31	7.47	278	0.00
Willingness to learn	4.41	0.59	4.11	0.71	0.30	8.20	277	0.00
Written communication	4.14	0.68	3.84	0.72	0.30	7.37	278	0.00
Customer service	4.23	0.74	3.93	0.76	0.29	7.46	274	0.00
Reliability	4.3	0.70	4.01	0.75	0.29	7.65	276	0.00
Ability to reflect on own performance	4.16	0.69	3.87	0.80	0.29	6.43	277	0.00
Empathy	4.13	0.73	3.87	0.79	0.26	7.30	276	0.00
Integrity	4.40	0.64	4.14	0.69	0.26	7.52	276	0.00

As for findings from the gap analysis by items for the General Attributes dimension, all items recorded significantly different gaps. One third of them (6 out of 18) recorded gaps which were larger than the mean gap of 0.31 or 6.2 percent difference obtained for the dimension (Refer to Table 3). The items were 'Positive attitude towards work' (gap = 0.35 or 7%), 'Flexibility & adaptability' (gap = 0.34 or 6.8%), 'Self-motivation & Initiative' (gap = 0.34 or 6.8%), 'Self-confidence' (gap = 0.33 or 6.6%), 'Professional ethics' (gap = 0.32 or 6.4%) and 'Self-discipline' (gap = 0.32 or 6.4%).

Comparing the findings for the gap analysis and that for the quadrant analysis, it is noted that four competencies in the Strength quadrant which recorded gaps larger than the mean gap computed for the General Attributes dimension are 'Positive attitude towards work', 'Self-motivation & Initiative', 'Self-confidence', and 'Professional ethics'. Considering that employers place high importance on these competencies, While it may be more difficult to change students' attitude towards work, self-motivation and initiative as well as self-confidence, Professional ethics may be promoted during instruction overtly through Professional ethics courses and also via covert methods such as weaving ethics into courses throughout the duration of the programmes.

Generic Skills

In Figure 3, quadrant analysis for the Generic Skills dimension showed that on the whole, OUM graduates met expectations for four of the six skills examined:

1. Ability to set goals and allocate time to achieve them;
2. Decision making;
3. Leadership; and
4. Mentoring or coaching colleagues.

The employers considered 'Management of resources' and 'Entrepreneurial skills' low priority.



Figure 3: Quadrant analysis by items for generic skills dimension

Meanwhile, in Generic Skills dimension, three out of six items recorded higher gaps than the mean gap of 0.34 or 6.8 percent difference for that dimension (See Table 4). The three items were “Decision-making” (gap = 0.40 or 8.0%), ‘Ability to set goals & allocate time to achieve them’ (gap = 0.40 or 8.0%), and ‘Leadership’ (gap = 0.36 or 7.2%). It is noted that the gaps for these items were also the largest for all competencies examined. In addition, since these items are in the top right quadrant, meaning to say employers’ expectations were high, curricula design, delivery methods and assessment modes need to be enhanced such that these skills are developed concurrently and explicitly along side the more commonly emphasized content matter. As noted by Hager, Holland and Beckett (2002), “the process of acquisition of generic skills would appear to be merely part of the overall learning process which is idiosyncratic, generally invisible and often intuitive” (p.11). Therefore, incorporating such skills (and for that matter other generic skills) need to be done in a spiral manner whereby students are given opportunities to develop the skills incrementally as they progress in their studies throughout the years.

Table 4: Gap Analysis for Generic Skills Items

Item	Importance		Satisfaction		Gap	t-value	n	Sig 2 tailed
	Mean	SD	Mean	SD				
Decision-making	4.10	0.77	3.70	0.83	0.40	9.09	273	0.00
Ability to set goals & allocate time to achieve them	4.12	0.74	3.72	0.82	0.40	8.84	269	0.00
Leadership	4.01	0.83	3.65	0.85	0.36	8.11	273	0.00
Mentoring/coaching colleagues	3.95	0.83	3.61	0.88	0.34	7.11	265	0.00
Management of resources	3.85	0.87	3.59	0.84	0.25	5.60	254	0.00
Entrepreneurial	3.69	0.85	3.48	0.83	0.21	4.57	241	0.00

Overall Satisfaction

Analysis of data obtained from general feedback questions at the end of the survey revealed that 8.2 percent of the employers were of the opinion that OUM graduates were much better than new graduates from other universities while 32.8 percent thought OUM graduates were better. This gives a total of 41.0 percent agreement that OUM graduates were better than those from other new universities. Meanwhile, 57.4 percent found OUM graduates to be almost the same as the others, thus giving an overall satisfaction rate of 98.4 percent. Only 1.6 percent found them to be worse and none thought that OUM graduates were much worse than new graduates from other universities.

Conclusions

As the popular saying goes, 'the proof of the pudding is in the eating', so in this case the proof of ODL success in contributing towards human capital development is in the level of satisfaction of employers with ODL graduates. Findings from this study strongly suggest that open and distance learning programmes by OUM have been successful in producing graduates who meet the expectations of their employers with regard to employability competencies. All of the competencies examined fell under the Strength and Low Priority quadrants and the majority of the gaps obtained for employer expectation and satisfaction were less than 8.0 percent. This value is half of the maximum values calculated based on the empirical data obtained by Agus, Awang, Yussof and Mohamed Makhbul (2011). Further, the fact that findings from this survey showed that a huge percentage of employers felt that OUM graduates were better or at least of the same quality as new graduates from other universities, augurs well for the further contribution of ODL programmes towards human capital development as evidenced from this study.

While improving students' Knowledge and Understanding of subject matter may be more objectively measured and has traditionally been the mainstay of tertiary education, the development of General Attributes and Generic Skills need to be given greater emphasis. As Kiley and Cannon (2000) emphasized, "Taking lifelong learning as a goal, we would need to address these skills and attitudes as students go through the university, much as we now require knowledge goals to be met incrementally...It also entails that some of the skills and attitudes students learn involve gauging their own weaknesses and designing remedies" (p. 11). Taking up this suggestion, students could perhaps be required to assess their own attributes and generic skills on a yearly basis and track their progress towards self-improvement in the course of their studies.

Last but not least, in order to adequately equip a workforce which meets the challenges and demands of the new age labour market, "the nexus between output of graduates and industry needs, the university and the workplace, and the higher education system and the lifelong learning system needs to be further strengthened" (Ali, 2011).

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