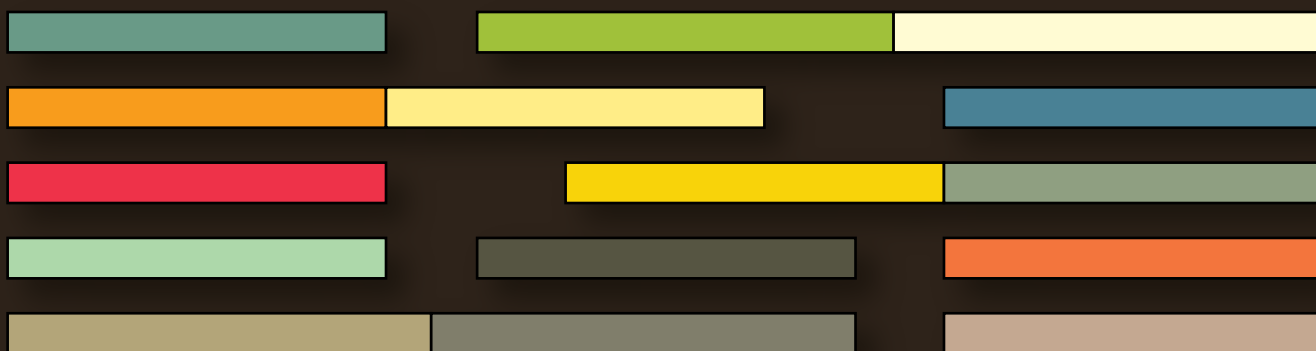


# EDULEARN<sup>17</sup>

9TH INTERNATIONAL CONFERENCE  
ON EDUCATION AND NEW LEARNING  
TECHNOLOGIES

BARCELONA (SPAIN)  
3RD - 5TH OF JULY, 2017



## CONFERENCE PROCEEDINGS



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# EMPLOYERS PERSPECTIVE OF THE EMPLOYABILITY SKILLS-GAP IN REAL ESTATE EDUCATION IN NIGERIA

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## Abstract

The study examined the skills-gap in real estate education with the aim of identifying the important employability skills that are required for a graduate of Estate Management to excel in the Nigerian real estate industry. Data was collected with the aid of questionnaire survey distribution to one hundred and ninety-eight (198) employers within the study area. One hundred and thirty-one (131) questionnaires were duly filled, returned and considered ideal for the study. Data collected were analyzed with the use of relative importance index and principal component analysis. The study revealed that the most important employability skills from the perspective of the employers include teamwork, written communication, oral presentation, willingness to learn and adaptability. The study recommended that higher institutions of learning should adopt the University-Industry based approach so as to foster a good relationship between the employers and the academia.

## 1 INTRODUCTION

The people of a nation constitute a key resource. Their potentials, both untapped and vast; and education serves as a vital instrument to unlock that potential. To develop this resource however, education is important [1]. In recent times, there has been an increased consciousness and awareness as to the fact that human capital serves as one of the driving forces of economic development and as such there has been an awakening to the need for investing in education and training as a way of refining the existing stock of human capital.

Education helps in equipping human resources, which in this respect includes graduates, with the required knowledge and skills that will help them become useful, and contribute to the growth of the nation resulting in higher productivity for the country. It considerably improves the capacity of a graduate and enhances their chances of being employed. [2] opined that “the essence of higher institutions is to develop the whole man mentally, morally and physically and to confer degrees on their products who are found worthy in character and learning. This is to enable them assume leadership roles in their immediate and extended society”.

In a bid to contribute significantly to the growth and development of the society, the higher institutions of education must focus on their primary aspects which include “education” and “research” [3]. It is on this basis that the Federal Government of Nigeria came up with a policy document on education [4], which highlights the objectives of the Nigerian university amongst which is “the need to empower the graduates with a combination of the intellectual and physical skills necessary to help them become beneficial to the society”. In line with this, the current global economic situation demands that a graduate is equipped with not just the knowledge of the academic subject but also the necessary skills capable of enhancing employability prospects. This global demand forms the bedrock on which one of the core objectives of higher institutions of education rests. This is “to provide students with requisite knowledge and professional training to enable them fit adequately into the work environment upon graduation”. However, some earlier researchers argued that graduates leave universities without having acquired adequate understanding and skills to succeed in the work environment ([5]; [6]; [7]).

From the foregoing, it becomes imperative that to meet the current trends and changes in the economy, constant reviews need to be carried out on the academic programme geared towards preparing the Nigerian graduates for the work environment. Real estate education, like any other aspect of teaching and research, needs to be constantly reviewed and re-evaluated to meet the current needs in the industry. As has been observed by [8], there is a variation between what students are being taught and what is being practiced in the real estate industry. It is therefore necessary to ascertain if the current curriculum is suitable and capable of preparing the students for future employment or not. This is why this study seeks to examine how real estate education affects the employability and or performance of graduates in the real estate management discipline from Nigerian Universities. An insight into this would provide direction as to what kind of training is suitable for

grooming estate managers; and what curriculum reviews may be necessary to improve on the employability of graduates from the real estate discipline in the country.

It is against this background that this study carries out an assessment of the employability skills-gap that currently exists in the real estate curriculum being used in Nigerian Universities and the actual needs of the real estate industry from the perspective of the employers.

## **2 LITERATURE REVIEW**

Employers are considered as major stakeholders where higher education is concerned because they are regarded as the main consumers of the products from the higher institutions. Employers have advocated for a change from the customary methods of teaching more contemporary methods and are unwilling to employ graduates that are only able to demonstrate technical competency [9]. This view supports an earlier study by [10] that opines that graduates should be able to exhibit the skill to logically present their opinions in written form, and also to eloquently present their views in a convincing verbal form. [11] stated that “most employers require workers to possess qualities such as good attitude, strong work ethics, and the ability to communicate well, a willingness to learn and to contribute new ideas”. Employers require that graduates should be able to work confidently, independently, proactively, efficiently with little or no supervision and also work effectively when they enter their profession [12].

In [13], authors investigated employer satisfaction with ICT graduates in Australia in order to find out how satisfied they were with graduates of ICT university courses, and what shortcomings they saw in their education. The aim of the study was to find out how universities were responding to the changing demands, and discovering examples of innovation and good practice in teaching ICT and also to survey potential employers about their needs and their satisfaction with employees who had recently graduated from ICT university courses. The study adopted the use of survey forms which were mailed out to three thousand, five hundred (3,500) respondents. The response rate received from the mail-out survey was considered small with only five hundred (500) useable responses representing 14% of the total population. Data retrieved was analyzed with the use of frequency tables. The findings from the study showed that employers were of the opinion that universities should provide students with more work experience, also there should be more channels for communication between universities and employers i.e. e.g. the industry should play a greater role in course and curriculum design. The study suggested that students should be made aware of the expectation of the industry, and also that students should be given a more thorough training in written and oral communication skills, teamwork and problem solving and have a better understanding of business processes. The study concluded that graduates were seen as generally deficient in a couple of areas but this had little effect on their employability.

In [8], authors embarked on a comprehensive study to examine employer's perception and expectation of Malaysian engineering graduates towards assessing measurable qualities. The study conducted a survey on the needs, perception and expectation of Malaysian industries towards graduate engineers and also the gap analysis in terms of the difference between expectation and perception among majority of Malaysian industries towards existing engineering graduates in the aspect of non-technical and technical proficiencies. The authors argued that in order to create a smoother transition from education to practice, engineering education should put more emphasis on the engineering-based knowledge. A survey comprising a total of 422 companies from various industries in Malaysia were chosen for the face-to-face interview sessions using a set of questionnaires. The respondents were mainly from high ranking personnel in their firm. The study found that the opinion of employers on graduate competencies clearly implies that it is very vital for engineering programmes to improve on all areas, particularly in several non-technical aspects of engineering education. The study also found that there existed an agreement between employers and leading engineers that graduates from local institutions of higher learning lacked effective communication skills both orally and in writing. The authors further recommended that engineers must be educated to think broadly in fundamental and integrative ways about engineering and also that emphasis should be placed on soft skill mastering.

In [14], authors examined the relevance of the employability of graduates from the employers' perspective in Malaysia. In conducting the study, the authors administered questionnaires on a sample of 500 employers in the engineering field and a response rate of 36% was obtained with 180 questionnaires duly filled and returned. The data retrieved were analyzed with the descriptive statistics, percentages and frequency counts. The findings from the study shows that employers

placed high value on employability skills such as basic skills, thinking skills, resources skills, information skills, interpersonal skills, systems and technology skills and personal quality; and they expect graduates to possess such skills in order to compete favorably in the global market. The authors recommended that the curriculums of higher institutions of learning should incorporate factors and platforms to enable students to develop employability skills. It also suggests that skills tied to specific professions are insufficient for graduates to be employable. This study was restricted to the perspective of employers only, it did not consider the perspective of other stakeholders.

In [15], authors investigated the relationship amongst traits, skills and person job fit amongst the polytechnic graduates in Malaysia. This study adopted a cross sectional survey using data gathered at only one point in time. Data were collected through the use of questionnaires from 98 human resource managers who had the experience of hiring polytechnic graduates and analyzed with the use of descriptive statistics and multiple regression analysis. The findings of the study indicates that teamwork skill and speaking skills are significant to the employability of polytechnic graduates'. On the other hand, the study revealed that from the perspective of the human resources managers, listening skills and person job fit were not considered as significant as other skills. Their study indicates that polytechnic graduates' need to equip themselves with employability skills before entering the job market. The study was limited to only polytechnic graduates and did not consider the university graduates.

In [16], authors conducted a comparative evaluation on how public and private sector employers perceive the employability of graduates of Nigeria Universities from the employers' perspective. The study used the ex-post-facto research design model concentrating on longitudinal data covering the period 2000 – 2010. Samples were obtained from the major towns and cities in the South-South geopolitical zone of Nigeria. Using the stratified purposive sample technique method, a total of 1,480 respondents who were senior Staff of various organizations were selected for the study. The survey method was used involving structured questionnaire. The frequency and percentage statistics were deployed in the analysis of data and used to answer the research question while the t-test statistics was used to analyze the hypothesis. The finding from the study revealed that both the public and private sector employers perceived and rated the employability and quality of graduates of Nigeria Universities as ranging between 'average' and 'high' on the 20 indices of quality. It further showed that there are significant differences in the perception and rating of the quality and employability of the graduates by the public and private sectors, whilst the private sector employers rated the graduates of Nigeria Universities as being of high quality; the public sector employers rated the graduates as being of low quality. The study concluded that there is the need for urgent reforms in the university system and also efforts should be made by the authorities to ensure that that the curriculum should be reviewed to suit the needs of the various industries in the country. The study however considered the opinion of the employers at the expense of other stakeholders.

In [17], authors embarked on a study to investigate employer satisfaction with the quality of university graduates in Australia. The study involved a longitudinal survey which spanned between the period of 2004 and 2008 in a large Australian university with 400 graduate employers and professional associations. Data obtained from the study were analyzed using the mean satisfaction rating. The findings of the survey indicate a significant gap between many attributes developed at the university compared to the expectations of industry. It was observed that employers consistently rate ten (10) skills as most important: being able to communicate effectively (generic skills and knowledge); being flexible and adaptable (personal); commitment to ethical practice (personal); being willing to face and learn from errors and listen openly to feedback (personal); being able to organize work and manage time effectively (generic skills and knowledge); wanting to produce as good a job as possible (personal); ability to empathize with and work productively with people from a wide range of backgrounds (interpersonal); willingness to listen to different points of view before coming to a decision (interpersonal); ability to develop and contribute positively to team-based projects (interpersonal); being able to set and justify priorities (intellectual). The study concluded that if institutions of higher education are to ensure that their graduates are at the forefront in the recruitment process, then attention must be given to: having a clearer understanding of essential generic and professional attributes needed in the workplace; the need to work more closely with industry so that graduates are better equipped for employment; and finally competencies required by the industry should be in alignment with educational programmes. However, the study did not consider the perception of other stakeholders

In an empirical study by [18], the perception of employers on the important employability skills/competencies required for a graduate to be successful within in Malaysia banking industry and also to identify the actual performance of Malaysia business graduates by comparing their generic

competencies according to which type of university attended. The study adopted a cross-sectional method of survey which involves gathering data at a single point in time, with the use of survey questionnaires which were designed and administered to 45 human resource managers and functional managers in nine local commercial banks using the convenience sampling method. The questionnaires were directed at seeking the perceptions of the employers on the important competencies and hiring preferences that gives a graduate higher chances of being employed. The data retrieved were presented on a five-point Likert scale and analyzed using descriptive and inferential statistics. The findings from the study shows that employers regard resourcefulness as the most important competency, followed by oral skills, honesty, diligence, knowledge-acquiring, written skills, teamwork ability, computer skills, value-improving, adaptability, problem-solving and dependability. Interestingly, it was found that employers regarded innovative skills, reporting skills, evaluating skills, global understanding, diversity awareness, research skills, leadership skills and numerical skills as neutral on the scale of their importance in the workplace. They also perceived the overall performance of business graduates as average based on the mean results which indicates that there exist a gap between employer needs and actual graduate competencies. However the study found out that there were significant differences between the competencies possessed by graduates from local public universities, local private universities and from graduates from overseas universities. The study however, only articulated the views of the employer, it did not consider that of the other stakeholders.

In [19], authors addressed the issue of the growing concern among the employers in Bangladesh for graduate soft skills in the workplace, the study examined the importance of soft skills, soft skills required by employers, soft skills lacking in graduates, mismatch of the soft skills and different aspects of soft skills to teach and assess by the educators. The study noted that students with soft skills like positive attitude, effective communication, problem solving skill etc. have better chances of survival in the critical corporate world compared to the students who are lacking in these skills. The study proposed that educators should prepare their graduates to be competitive in the forthcoming economic world. The paper did not however conduct empirical surveys to examine if the graduate really possess these skills.

In [20], authors carried out a study to further examine the key soft skills that were earlier identified by the Ministry of Higher Education (MOHE) in Malaysia. Structured questionnaires were distributed to employers of real estate graduates and their responses were analyzed using the Analytic Hierarchy Process (AHP) to examine the relative importance of these soft skills for real estate graduates. The findings from the study revealed that ethics and professionalism and critical thinking and problem solving ranked highest in the list of top ten skills sought by Malaysian employers. More specifically the study revealed that real estate employers in Malaysia focused less on skills associated with information management and entrepreneurship. The study recommended amongst other things, that in order to incorporate these soft skills in the undergraduate programmes at universities, they should be embedded in the existing syllabus, soft skills should be introduced as stand-alone subjects, and the development of soft skills based on formal and informal activities should be encouraged at faculty levels. The study only considered the employer's perspective while neglecting the other stakeholders.

Authors in [21] examined the extent to which graduates from Open Universities in Malaysia met employer expectation with regard to employability competencies. The study utilized a quantitative research approach whereby printed survey questionnaires were sent by postal mail to employers of the November 2010 Bachelor degree programme graduates. The research findings were analyzed using descriptive statistics, Importance-Satisfaction Analysis charts and Gap analyses. Furthermore, dependent samples t-tests were also computed to determine areas of strengths and weaknesses as perceived by the employers. Responses from 290 out of a total of 1088 employers were analyzed 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. The study recommended that 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 should be further strengthened". The study was generalized to all graduates, it was not specific to the competencies required in the real estate industry.

In [22], authors made an attempt to develop, derive and test the best fit model for employability skills possessed by Fresh Engineering Graduates (FEG) in India. The aim of the study was to explore the

employers' perceptions of the employability skills that FEG should possess, the level of employability skills they actually possess as well as assessing the employers' level of satisfaction with FEGs' employability skills. In order to achieve this, structured questionnaires were distributed to three hundred and five (305) employers of Fresh Engineering Graduates and the data gathered was analyzed using Exploratory Factor Analysis, Confirmatory Factor Analysis and Structural Equation Modeling techniques. The results revealed that management skills are the most important skills, followed by technical skills and communication skills as perceived by the employers. The results also suggest that employers were more satisfied with communication skills (no skill gap exists), followed by technical skills (skill gap exists) and then management skills (skill gap exists). Hence, it was evident that the employers were least satisfied with the most important skills, i.e., management skills and more satisfied with the least important skills, i.e., communication skills. The study recommended that higher institutions of learning should work harder to minimize the skills gap identified in this study by formulating strategies to equip their students with those skills in which they are lacking. The study however only considered the perception of employers' without the consideration of other stakeholders.

### 3 METHODOLOGY

A sample size of 198 Estate Surveying and Valuation Firms (representing 53 per cent of the sample frame) was adopted for the employers. The data collection instrument decided on was the structured questionnaires administered in the manner of conducting interviews and the method of sampling adopted was the random sampling method. The data required for the study were mainly perceptual; measured using nominal and ordinal scales and analyzed using frequency distributions, relative importance indices, principal component analysis (Factor Analysis).

### 4 RESULTS

The question on the important employability skills is necessary so as to be able to ascertain the relevant soft skills that a graduate desiring to excel in the real estate industry need to possess. The respondents were presented with a list of soft (employability) skills and were to rate on an ordinal scale the degree of importance of the skills listed with a weight of "5" assigned to "very important" (most required) and "1" to "least important" (least required). The data gathered from the respondents were initially analyzed using the relative importance index in order to obtain the mean and rank the employability skills in the order of importance as indicated by the respondents and then further tested using the Principal Component Analysis (Factor Analysis). This was done with a view to reduce the employability skills to the most important ones. Table 1 shows the details of the analysis.

*Table 1. Important Employability Skills Required for a Graduate to Excel in the Real Estate Industry (Employers Perspective)*

General Skills	Very Important (5)	Important (4)	Undecided (3)	Not Very Important (2)	Least Important (1)	MEAN	Rank
Team work	89	39	2	1	0	4.65	1 <sup>st</sup>
Written Communication	86	41	4	0	0	4.63	2 <sup>nd</sup>
Oral presentation	84	43	3	1	0	4.60	3 <sup>rd</sup>
Adaptability	80	48	2	0	1	4.57	4 <sup>th</sup>
Willingness to Learn	83	43	3	1	1	4.57	4 <sup>th</sup>
Self-Confidence	83	41	4	3	0	4.56	6 <sup>th</sup>
Ability to Explain	83	42	3	3	0	4.56	6 <sup>th</sup>
Independence	81	42	6	1	1	4.53	8 <sup>th</sup>
Initiative	77	49	4	0	1	4.53	8 <sup>th</sup>
Self-Awareness	78	47	3	2	1	4.52	10 <sup>th</sup>
Reading Effectiveness	77	47	5	1	1	4.51	11 <sup>th</sup>
Stress Tolerance	75	52	2	0	3	4.48	12 <sup>th</sup>
Problem solving	71	54	4	2	0	4.48	12 <sup>th</sup>
Prioritizing	77	41	11	2	0	4.47	14 <sup>th</sup>
Planning	71	54	2	4	0	4.47	14 <sup>th</sup>
Information Retrieval	69	55	5	2	0	4.46	16 <sup>th</sup>

Decision making	75	45	8	2	1	4.46	16 <sup>th</sup>
Acting morally	70	56	1	2	2	4.45	18 <sup>th</sup>
Emotional Intelligence	67	55	7	2	0	4.43	19 <sup>th</sup>
Numeracy	68	53	8	1	1	4.42	20 <sup>th</sup>
Computer literacy	68	52	9	2	0	4.42	20 <sup>th</sup>
Critical Analysis	69	49	11	2	0	4.41	22 <sup>nd</sup>
Coping with complexity	64	59	6	2	0	4.41	22 <sup>nd</sup>
Negotiating	70	50	6	5	0	4.41	22 <sup>nd</sup>
Creativity	66	55	7	3	0	4.40	25 <sup>th</sup>
Reflectiveness	64	57	7	2	1	4.38	26 <sup>th</sup>
Resolving conflict	59	65	3	4	0	4.37	27 <sup>th</sup>
Commercial awareness	64	54	9	4	0	4.36	28 <sup>th</sup>
Influencing	59	61	9	2	0	4.35	29 <sup>th</sup>
Ability to work cross-culturally	63	52	12	4	0	4.33	30 <sup>th</sup>
Applying subject understanding	63	53	8	7	0	4.31	31 <sup>st</sup>
Political sensitivity	57	60	9	2	3	4.27	32 <sup>nd</sup>
Ethical sensitivity	57	54	14	6	0	4.24	33 <sup>rd</sup>
Global Awareness	56	54	17	3	1	4.23	34 <sup>th</sup>
Language Skills	54	56	15	6	0	4.21	35 <sup>th</sup>

Source: Field Survey, 2016

Table 1, presents the mean ranking of the skills based on the perspectives of the Employers, Thirty-five employability skills were assessed in this study. The overall top seven skills, which are ranked as the overall first to seventh, are referred to as the most important skills while the overall last seven skills, which are ranked from 29<sup>th</sup> to 35<sup>th</sup>, are considered the overall least most important skills. Hence, teamwork, written communication, oral presentation, adaptability, willingness to learn, self-confidence and ability to explain represent the most important skills according to the overall perception of respondents. On the other hand, skills such as political sensitivity, language skills and ability to work cross-culturally were considered as least important.

Clearly, Teamwork was ranked the overall most important skill out of thirty-five, given that it was ranked first. Employers consider having employees that know how to work well with other employees most important skill to look out for. Written and oral presentation skills, which can be categorized as communication skills, were ranked second and third respectively. Adaptability and Willingness to learn were rank next and this is expected given that it is a requirement to acquire any other skill since skills are learnt.

In an attempt to reduce the employability variables to a fewer latent variables that share a common variance, the factor analysis method (Principal Component Analysis) was applied to the employability variables.

**Table 2. Factor Analysis**

Factor Name	Variable	Factor Loading			
		1	2	3	4
Office/Administrative skills (22.133%)	Ability to Explain	.841			
	Written Communication	.714			
	Oral presentation	.675			
	Commercial awareness	.649			
	Computer literacy	.644			
	Acting morally	.611			
	Reading effectiveness	.598			
	Subject understanding	.574			
	Numeracy	.572			
	Reflectiveness	.570			
	Teamwork	.535			

Leadership Skills (19.954%)	Negotiating	.755
	Decision making	.731
	Influencing	.670
	Ethical sensitivity	.663
	Prioritizing	.654
	Resolving conflict	.607
	Coping with complexity	.605
	Adaptability	.585
	Planning	.566
	Creativity	.543
	Willingness to learn	.502
Analytical/Exposure skills (18.385%)	Global awareness	.705
	Work cross-culturally	.666
	Stress tolerance	.662
	Information retrieval	.652
	Critical analysis	.632
	Language skills	.618
	Initiative	.607
Emotional Stability Skills (12.876%)	Self-awareness	.891
	Self-confidence	.842
	Independence	.677
	Emotional intelligence	.668

Source: Field Survey, 2016

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

The result reveals that from the employers' perspective, for a graduate to be said to possess office/administrative skills, he must be able to exhibit employability skills trait such as the ability to explain himself both orally and in writing, be good at written communication, and oral presentation. He must of necessity be able to operate with an understanding of business issues and priorities (commercial awareness), be computer literate, build a moral code and act accordingly (acting morally). He must possess the ability to understand and retain concepts read (reading effectiveness) as well as understand the core concepts of the subject discipline (subject understanding). He must understand and be able to use numbers accurately (numeracy), possess the ability to evaluate the performance of self and others (reflectiveness) and be able to work effectively with others to achieve common goals (teamwork). Furthermore, for a graduate to be said to possess the ability to lead, he/she must be able to negotiate favorably and mutually on contentious issues, be able to make sound decisions amongst other options (negotiating), possess the ability to influence others to buy into his view point (influencing), appreciates ethical values as governing parameter at work (ethical sensitivity), puts first things first (prioritizing), has the ability to resolve conflicts, can handle complex situations (coping with complexity), can survive and embrace new challenges (adaptability), plans and programmes for accomplishments (planning), innovative and creative in dealings (creativity), and committed to continuous learning (willingness to learn). In addition, employers found out that graduates who are exposed beyond the classroom were aware about the world culturally and economically, can operate in various cultures, is effective under pressure (stress tolerance), can explore information broadly (information retrieval), can deconstruct problems to proffer solutions to them, is able to communicate with more than a language and can take action without being prompted. Employer also found out that graduates that possessed the ability to be emotionally stable were more aware of their strengths and weaknesses, were confident enough to confront challenges they come across, could work with minimal or no supervision and could intelligently manage his emotions and that of others.

## 5 CONCLUSION

This study has shown that for a graduate to be employable and excel in the real estate industry, the graduate must of necessity possess skills such as ability to work in a team, willingness to learn, adaptability, self-confidence, self-awareness, written communication, and oral presentation amongst

other skills. It also brought to the fore that beyond the technical skills a graduate acquires during his course of studying the Estate Management degree program there are other interpersonal skills expected by employers of Estate Management graduates. Recommendations were made as to how to bridge the gap such as encouraging University-industry relationships as this would help prepare the graduates for employment. Also, encouraging teamwork through group activities while in the higher institutions and encouraging the undergraduate student to attend MCPDs would help graduates to inculcate the important employability skills.

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## REFERENCES

- [1] I. Ajayi and H. Ekundayo, "The Deregulation of University Education in Nigeria: Implications for Quality Assurance", 2008. Retrieved June 2nd, 2014; from <http://www.noblebiz/images/AjayiEkundayopdf>.
- [2] P. O. Idogho, "Higher Education In Nigeria And The Challenges Ahead". *European Journal of Educational Studies* 3(2) 2011.
- [3] J. Hernandez–March, M. Martin del Peso & S. Leguey, "Graduates' Skills and Higher Education: The Employers' Perspective". *Tertiary Education and Management*. . Vol. 15, No.1, 1–16, 2009.
- [4] Federal Republic of Nigeria. "*National Policy on Education*", Lagos: NERDC, 2004.
- [5] K. Kamal, "Training employable graduates: Innovation in training methodology". *Paper presented at National Conference on Continuing Technical Education & Training 2006, Challenges in Technical Education and Training; Enhancing Employability among Graduates 28-29 July 2006, The. Katerina Hotel, Batu Pahat Johor*.
- [6] M. Husain, S. Mokhtar, A. Ahmad and R. Mustapha, "Importance of Employability Skills from Employers' Perspective". *Procedia Social and Behavioral Sciences* 7(C), 430–438, 2010.
- [7] N. Omar, A. Manaf, R. Mohd, A. Kassim and K. Aziz, "Employability Skills Based on current Job Demand through Electronic Advertisement", *Asian Social Science*. 8 (9), 103-110, 2012.
- [8] A. Zaharim, M. Omar, H. Basri, N. Muhamad and F. Isa, "A Gap Study Between Employers Perception and Expectation of Engineering Graduates in Malaysia". *WSEAS Transactions on Advances in Engineering Education*. ISSN: 1790-1979, Issue 11, Volume 6, Nov 2009.
- [9] J. Naidoo, B. Jackling, B. Oliver and M. Prokofieva, "Identifying the Employment Expectation-Performance Gaps of Early Career Accounting Graduates". *RMIT Educators Conference*. Australia, 2013.
- [10] B. Jackling and P. De Lange, "Do Accounting Graduates' Skills meet the Expectations of Employers? A Matter of Convergence or Divergence", *Accounting Education. An International Journal*, 18(4), 369-385, 2009
- [11] Nurita, Shahrudin and Ainon, "Perceived Employability Skills of Graduating Students": Implications for SMEs. 2004
- [12] National Committee of Inquiry into Higher Education, "*Higher Education in the Learning Society*. London" HMSO, 1997.
- [13] D. Hagan, "Employer Satisfaction with ICT Graduates", *Proceedings of the Sixth Australasian Computing Education Conference (ACE 2004)*, (pp. 119-123). Dunedin, New Zealand, 2004.
- [14] G. Singh and S. Singh, "Malaysian Graduates' Employability Skills", *UniTAR e-Journal*, 4(1), 15-45, 2008.
- [15] S. Yahya, "*Balancing Borders and Bridges: Understanding the Employability Among Polytechnic Graduates*". An Unpublished Thesis Research Report in Partial Fulfilment of the Requirements for the Degree of Masters of Business Administration (Mba), 2010.
- [16] J. Anho, "An Evaluation of the Quality and Employability of Graduates of Nigeria Universities", *African Journal of Social Sciences Volume 1 Number 1 February*, 179-185, 2011.



- [17] M. Shah and C. Nair, "Reviewing Quality Assurance at a Time of Turbulence" *Perspectives: Policy and Practice in Higher Education*, 15(3), 92-96, 2011.
- [18] S. Ken and Y. Cheah, "Business Graduates' Competencies In The Eyes Of Employers: An Exploratory Study In Malaysia". *World Review Of Business Research*, Vol. 2(2), 176-190, ISSN: 1839-1176, 2012.
- [19] A. Mamun, "The Soft Skills Education for the Vocational Graduate: Value as Work Readiness Skills", *British Journal of Education, Society & Behavioural Science*. 2(4), 326-38, 2012.
- [20] M. Yasmin, D. Md Nasir, A. Anuar and N. Muhammad, "Importance of Soft Skills for Graduates in the Real Estate Programmes in Malaysia", *Journal of Surveying, Construction & Property* Vol.3 (2), 2012.
- [21] T. Lim, M. Fadzil, L. Latif, N. Goolamally & N. Mansor, "Producing Graduates who meet employer expectations" *Open and distance learning is a viable option*. 2015. Retrieved from <http://iclll2011.oum.edu.my/extfiles/pdf/Producing%20Graduates%20Who%20Meet%20Employer%20Expectations,%20Open%20and%20Distance%20Learning%20IS%20a%20Viable%20Option.pdf>.
- [22] S. Jeswani, "Assessment of Employability Skills among Fresh Engineering Graduates: A Structural Equation Modeling Approach". *The IUP Journal of Soft Skills*, Vol. X, No. 2, 2016.