



Curricula and Employability: An Empirical Study on Tertiary Level Students of Bangladesh

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Aim: The continuous innovation of information technologies accelerates the global economic development. The recent development of artificial intelligence and machine learning theory are not only through a big challenge to the graduates to enter to the job market but also all the stakeholders of entire knowledge economy to stay in the right track for better future. To develop graduates' professionalism with strong foundation of adequate skills are pivotal to meet the future challenges of fourth industrial revolution and artificial intelligence. The aim of the study is to assess the perception and attitude of graduate students regarding future employability in the context of their curriculum.

Data from 750 tertiary level students are collected purposively by direct interview method. A questionnaire is designed based the study aim with suitable well-structured closed ended questions.

Place and Duration of Study: Several tertiary level educational institutes are considered in the north-west part of Bangladesh. Few public and private universities are considered along with Medical colleges affiliated to public universities, engineering university and National university to conduct the study. The data collection period was January 2020 to February 2020.

Methodology: A five-point Likert scale is considered to measure the opinion and attitude towards future employability and curricula. Descriptive statistical techniques are used for basic comparisons

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while Chi-square test is appointed to assess the significance of different determinants to the graduates opinions and attitudes.

Results: We found graduates average age 22.39 years with small standard deviation 1.55. Most of the respondents (66.5%) belonging to below average income group. A clear educational migration observed in secondary to higher secondary education level. Very unexpected response observed when we asked students regarding their curricula for employability. 9.33% respondents think that the curricula is not important and 35.2% think curricula as least important. Significant impact of students gender, age and place of higher secondary level education place observed on their opinion regarding curricula for future employability.

Conclusion: The growing literature on graduate employability suggest that the role of tertiary level educational institutions, the curricula planners and the policy makers fostering graduate employability over the globe. This article endows with a comprehensive analysis of graduates' attitude towards employability. We hope that this study will contribute to promote graduate employability.

Keywords: Tertiary education; employability; curricula; education; graduates.

1. INTRODUCTION

Rowe and Zegwaard, [1] mentioned that work-integrated learning is considered a key strategy for promoting graduate employability. Employability is a complex phenomenon, different scholars define employability in many different ways. Few literatures explain employability as graduates finding jobs and maintaining them through the learning of new skills necessary for different functions of their organizations. Hillage and Pollard [2] explained employability as having the capability to gain initial employment, maintain employment and obtain new employment if required. Harvey [3] explained employability of a graduate as the tendency of the graduate to exhibit attributes that employers anticipate will be necessary for the future effective functioning of their organization. Rowe and Zegwaard, [1] explained employability as an summarize of a diverse range of skills, attributes, and other measures such as networks, professional-identity and active citizenship. However, global secondary and higher education engagement is predicted to reach seven billion people by the year 2100, representing a ten-fold increase since 1970 [4]. No one could have predicted the rapid growth in higher education engagement over the past 30 years; neither could we have foreseen the rapidity of labour market change. Bennett, [5] argued that an oversupply of graduates has its economic benefits: fierce competition for work compels workers to work beyond their brief, limits wage-growth, and creates opportunities for small enterprises to flourish by providing cheap labour. Recent literatures advocated that higher education does not exist to enable a purely economic mission and poorly designed work

grind down worker retention, motivation, productivity and innovation [6-8].

The rapid expansion of higher education resulting challenging employability circumstance. Mok and Jiang [9] mentioned that the massification of higher education marketization accelerate the expansion of education in Asia. This scenario is common over the globe and it has thrown a big challenge to graduates employability. The outcome based education and curricula can be the remedy of graduates' employability stress. Thus, the employability concern and curricula innovation are pivotal. If employability is to align with the broader purposes of higher education, it must be redefined. The educational quality enhancement mechanism and quality assurance intuitions are working for sustainable education quality improvement and to support employability outcomes in home and abroad but it is very much important to assess students attitude towards their learning, curricula innovation and job destination. This study aims to assess tertiary level students opinion towards their curricula and how the curricula helps employability. Different determinants are also being studied for their opinions on curricula and employability. We believe that this study will help educators, education policy makers, employers and graduates to act and react on curricula innovation and employability outcomes.

2. LITERATURE REVIEW

Learning is a vital aspect of all human resource development efforts [10,11] and human capital formation. Therefore, learning is the key to employability outcomes. The adequate learning

might highly depends on appropriate curricula. However, the goal of learning is simply to change the behavior, knowledge or attitude and students' attitudes towards learning determine their ability and willingness to learn.

Tertiary education is the key to sustainable development of any time and horizon. Literatures advocated that yet, limited attention has been paid to curricula and curricula development [12-17]. The role of tertiary level educational institutes on employability has been exhaustively studied in developed countries [5,18,19,20,21,1]. Graduate employability has become one of the most critical topics in higher education research in developed countries [5,22-26]. Particularly, the debate on employability over the last decade has been so fierce that graduate employability has become one of the most critical topics of HE research in Australia [5,22,23,24]. The debate in the United Kingdom on graduate employability has engendered policy shifts epitomized by a teaching excellence framework that largely focuses on whether universities produce employable graduates who fit the dynamic world of work [25,26]. Interestingly, the United States faces a similar problem. Archer & Chetty, [27] studied South African situations and pointed out that like many other countries, South African universities are under pressure to produce employable graduates in response to general dissatisfaction with graduates' failing to meet the expectations of employers.

However, graduate employability is not a problem for the developed countries, it is a global problem [28,25,29,30,31]. But developing and least developed countries are still far behind compared to the developed world in both developing curricula and policy making for better graduate employability outcomes. To foster employable skills among its graduates, many universities are working to align conventional learning aims with the requirements of real-world conditions [32] and using a variety of strategies to improve their graduates' employability.

However, the main objective of this study is to assess Attitude of tertiary level students of Bangladesh towards their curricula and future employability.

3. METHODOLOGY

There are 750 data had been collected through a well structures questionnaire. We use the

purposive sampling technique to collect data. The questionnaire has been developed to meet the aim of the study. We set all the questions closed ended except the quantitative questions. The opinions and attitudes are measured by a five-point Likert scale. We collect data from different tertiary level educational intuitions including public universities, private universities, university of engineering and technology, medical colleges affiliated to public universities and National university of Bangladesh, which is also public university but slightly different from the general public universities. However, we appoint descriptive statistics and the qualitative technique, Chi-square test, to measure the attitudes and opinions. The chi-squares also used to assess the determinants of curricula and employability related opinions of our respondents.

The collected data exhibit the following characteristics.

We observed average age of our respondents 22.39 years with standard deviation 1.55-0.13.41) and kurtosis is -0.08 which is less than 3. Average family income and expenditure observed 37,251.00 TK and 28,713.00 respectively per month with comparatively large standard deviations 44141.07 and 31356.58 respectively. The skewness and kurtosis are also far from zero and 3 respectively.

Data has been grouped for further analysis on the basis of average results found in Table 1. Table 2 shows the grouped age, monthly family income and expenditure along with gender and family types. We observed a well balance age structure, that is, 50.4% of the respondents are of average and bellow average group and rest 49.6% are above average age where average age group.

Maximum respondents are found from the average and bellow average income group (66.5%). Similar status observed for the expenditure (64.3% in average and bellow average group).We also found 60% male respondents male and the rest 40% female respondents. Majority respondents belong to the nuclear family (80.9%) and only 19.1% of them belong to extended and/or joint family. Table 3 bellow focused on educational institution related information.

Table 1. Respondents age, income and expenditure distribution

Variables	Mean	Std. Dev.	Skewness	Kurtosis	Min	Max
Age	22.39	1.55	-0.13	-0.08	18.00	27.00
Family Income	37251.33	44141.07	5.97	48.38	1500.00	500000.00
Family Expenditure	28713.05	31356.58	6.40	57.03	1200.00	400000.00

Table 2. Qualitative characteristics

Characteristics	Frequency	Percentage
Age group	22 years or bellow	378
	Above 22	372
Monthly Income	Less than or equal to average	499
	Above average	251
Monthly expenditure	Less than or equal to average	482
	Above average	268
Gender	Female	450
	Male	350
Family Types	Nuclear	607
	Joint	143

Table 3. Information of educational institutions

Characteristics	Frequency	Percentage
Place of SSC institution	Village	236
	Union Sadar	98
	Upozilla/Pourosova	186
	District	119
	City Corporation	111
Place of HSC institution	Village	72
	Union Sadar	46
	Upozilla/Pourosova	177
	District	227
	City Corporation	227
Current institution	Public University	486
	Engineering	125
	Medical colleges	33
	National University	55
	Private University	51
Current faculty	Science (including medical)	186
	Engineering	143
	Life and Earth Science	51
	Agriculture	21
	Business	98
	Law	21
	Social Science	118
	Arts	112
		14.9

From this table we observed that maximum percentage of secondary level students studied in village educational institutes but the scenario changes when they enter into higher secondary level. maximum percentage of students were from district level and city corporation level institutions. We, therefore, observed a large number of students move from rural to urban. In

SSC level, there were 31.5% students passed from village and 13.1 from union sadar, that is, 44.6% students used to study in rural area. This structure changed at HSC level. Only 15.7% (9.6% at village + 6.1% at union Sadar) students studied in the rural area.

Figs. 1 and 2 clarify the above discussions.

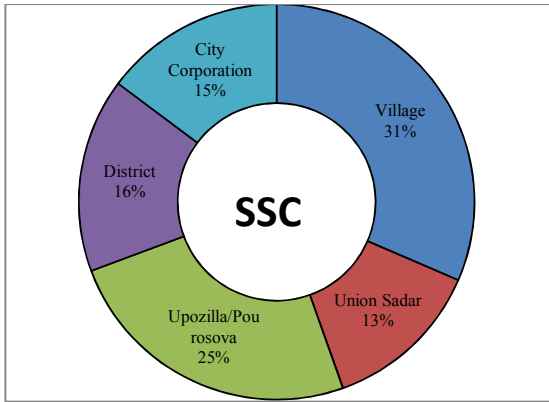


Fig. 1. Place of SSC level institutions

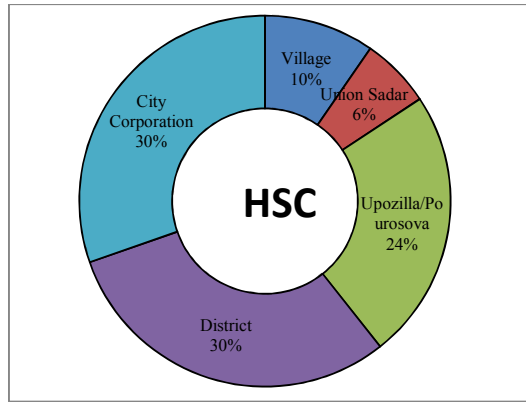


Fig. 2. Place of HSC level institutions

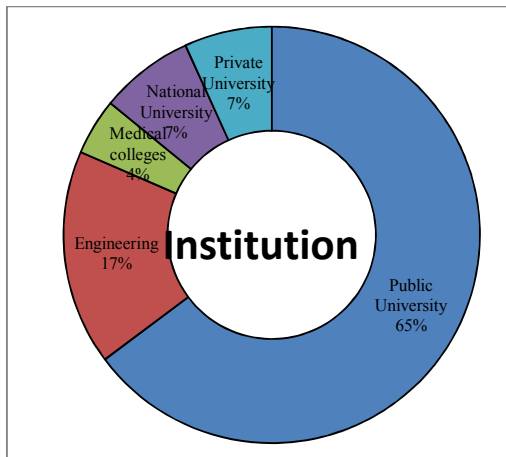


Fig. 3. Current institutions under study

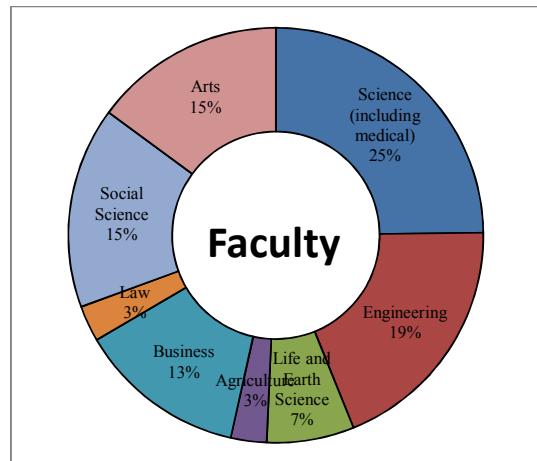


Fig. 4. Current faculties under study

We also observed that the maximum numbers of respondents are from public universities followed by engineering university, national university, private universities and medical colleges. The current faculty under study focused that the majority students are from science faculty including medical university, followed by engineering, social science, arts, business life and earth science and agriculture faculty. Figs. 3 and 4 clarifies this scenario.

4. CURRICULA AND EMPLOYABILITY

Dialogue on tertiary education has long been dominated by the employability debate. Recent literatures affirmed that the objective of higher education institutions is to produce graduates and to ensure employability [33,34,35,36]. Graduate employability is the burning issue to the education researchers, curricula planners, development and education policy makers.

Moreover, educators are very much concern about their graduates' employability. The time demanding and advanced curricula ensure the employability outcomes where the unemployment causes poor economic development and psychological problems [37,38,39]. Pervaiz et al., [40] advocated that the unemployment causes social unrest in some countries. They illustrated with Pakistan's unemployment status that has triggered social unrest and psychological distress there. Bilgiç and Yılmaz [37] empirically revealed the correlation between graduate unemployment and psychological health problems among the sampled graduates in Turkey. Wu, [41] exposed Taiwan's status and enlightened that the graduate unemployment exceeds employment rates at all other educational levels. The growing literatures confirmed that the unemployment is common both in developed and developing countries' graduates [42], (Nghia, 2019); [43,44].

5. RESULT AND DISCUSSION

We know that graduates face very competitive labour market and lots of difficulties to manage job [45,46]. Therefore, the adequate knowledge concerning institutional curricula, job market conditions and employability status are highly essential for the graduate to become prepared for achieving a lucrative job. According to the objective of this study, we shall assess the graduates awareness regarding the effectiveness of their educational curricula and earned GPA better employability outcome. We shall also assess the determinants of our graduates opinion regarding their curricula and earned GPA for employability outcomes. A 5-point Likert scale (ranging from 1= strongly disagree to 5= strongly agree) used to measure students' opinions and attitudes. Table 4 below focus on the job destination of our respondents.

We asked tertiary level students about how their earned GPA and study curricula impact on their employability. We experienced with very unexpected responses. A remarkable numbers of students thought that the earned GPA and the curricula are not responsible for employability.

9.33% respondents thought that the curricula is not important and 35.2% thought curricula as least important. 7.86% of our respondents think earned GPA is not important and 25.6% think least important. 33.47% respondents had no comment when asking about earned GPA to achieve targeted job.

Tymon [47] mentioned that the undergraduate students often lack of understanding regarding the job market and its importance until their final year of study. But tertiary level students should have sufficient knowledge about employability. They should justify their curricula for employability. Why our tertiary level students are careless regarding their curricula and earned GPA, this could be another study. However, we shall now focus on different socio-economic and education related factor responsible for their opinions regarding employability. We shall observe the Chi-square test results of inter association for different attributes considered in this study to measure respondents' opinion regarding employability. Table 5 below represents the outputs.

The figure bellows clarifies respondents opinions.

Table 4. Curricula, earned GPA and employability

Scale	Percent	
	Curricula affects employability	Earned GPA affects employability
Not Important	9.33	7.86
Least important	35.20	25.60
Fare/no comment	9.20	33.47
Important	33.20	24.27
Most Important	13.07	8.80

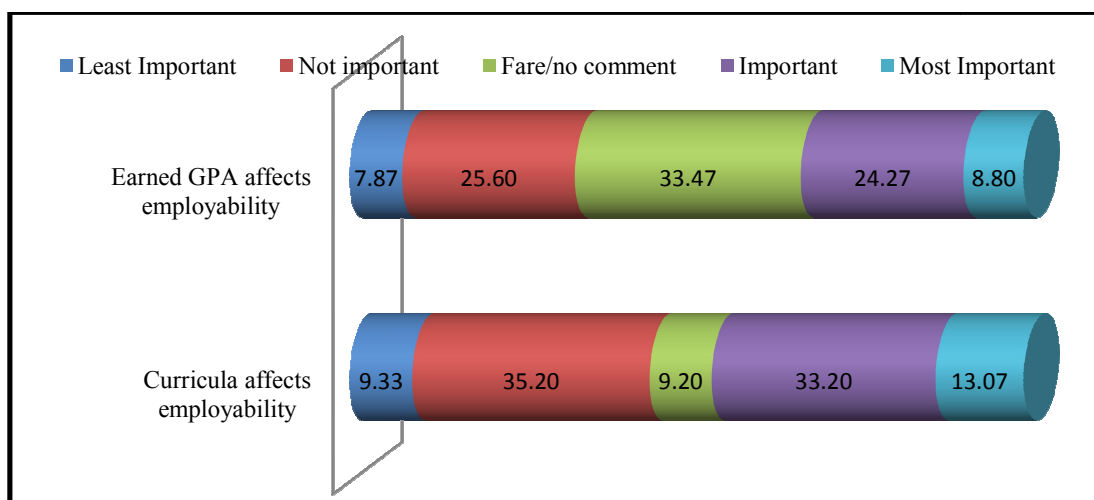


Fig. 5. Curricula, earned GPA and employability

Table 5. Curricula, earned GPA and employability

Attributes	Curricula affects employability	Earned GPA affects employability
Gender	$x^2 = 17.80$ $p = \mathbf{0.00}$	$x^2 = 23.33$ $p = \mathbf{0.00}$
Age group	$x^2 = 9.42$ $p = \mathbf{0.05}$	$x^2 = 9.42$ $p = \mathbf{0.01}$
Family Types	$x^2 = 4.42$ $p = 0.35$	$x^2 = 1.74$ $p = 0.88$
Monthly Income	$x^2 = 1.91$ $p = 0.75$	$x^2 = 18.38$ $p = \mathbf{0.00}$
Monthly Expenditure	$x^2 = 3.64$ $p = 0.46$	$x^2 = 24.96$ $p = \mathbf{0.00}$
Place SSC level education	$x^2 = 11.42$ $p = 0.78$	$x^2 = 34.64$ $p = \mathbf{0.02}$
Place HSC level education	$x^2 = 32.64$ $p = \mathbf{0.04}$	$x^2 = 34.03$ $p = \mathbf{0.11}$
Current Institute	$x^2 = 28.71$ $p = \mathbf{0.03}$	$x^2 = 66.37$ $p = \mathbf{0.00}$
Current Faculty	$x^2 = 29.65$ $p = 0.59$	$x^2 = 36.64$ $p = 0.39$

We observe from the above table that respondent's gender has highly significant association with curricula ($P=0.00$) and their earned GPA ($P=0.00$) for employability. Significant results found for age of the respondents with curricula ($P=0.05$) and their earned GPA ($P=0.01$) for employability which could be similar to Tymon's (2013) findings. Place of HSC level educational institutes and tertiary level education institutes also have highly significant associations with curricula and earned GPA for employability. Current faculties and family types of the respondents have no effect on their earned GPA and study curricula responsible for employability. Monthly income, expenditure and place of SSC level educational institution have no significant association with respondents awareness regarding curricula responsible for employability but has highly significant association with earned GPA for employability.

6. CONCLUSION

This is an empirical study to observe the students' attitude towards employability. We attempted to aware tertiary level students about how their study curricula and earned GPA response for better employability outcomes. Though there are diverse way to improve graduate employability conditions and skill of graduates worldwide, In Bangladesh, still university graduates receive insufficient knowledge from their study curricula for skill development and employability outcomes. The

overall findings of this study help to make this conclusion. In Bangladesh, the quality assurance framework, institutional quality assurance cells, the center for excellence in teaching and learning have been setup and running but our graduates are yet to receives sufficient benefit these institutions. Current study advocates for curricular reformation in order to incorporate the issue of future employability outcomes.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline participant consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Rowe AD, Zegwaard KE. Developing graduate employability skills and attributes: Curriculum enhancement through work-integrated learning. *Asia-Pacific Journal of Cooperative Education*. 2017;18(2):87–99.
2. Hillage J, Pollard E. Employability: developing a framework for policy analysis. Department for Education and Employment (DfEE). Research Report

- No.85. Nottingham: DfEE Publications; 1998.
3. Harvey Lee. Employability: Developing the relationship between higher education and employment. Opening presentation at the Fifth Quality in Higher Education 24-Hour Seminar. 28 October. Scarman House, Warwick University; 1999
 4. Roser M, Nagdy M. Projections of future education. Published online at OurWorldInData.org.2018.
Available:<https://ourworldindata.org/projects-offuture-education>
 5. Bennett Dawn. Graduate employability and higher education: Past, present and future. HERDSA Review of Higher Education. 2019;5:31-61.
 6. Parker SK, Ohly S, Kanfer R, Chen G, Pritchard RD. Designing motivating jobs: An expanded framework for linking work characteristics and motivation. In R. Kanfer G, Chen G, RD. Pritchard, Work motivation. Past, present and future. New York: Routledge. 2008;233–284.
 7. Raja U, Johns G. The joint effects of personality and job scope on inrole performance, citizenship behaviors, and creativity. Human Relations. 2010;63(7):981–1005.
 8. Taylor M, Marsh G, Nicol D, Broadbent P. Good work: The Taylor review of modern working practices. London: Department for Business, Energy and Industrial Strategy; 2017.
 9. Mok KH, Jiang J. Employability and mobility in the valorisation of higher education qualifications: The experiences and reflections of Chinese students and graduates. Journal of Higher Education Policy and Management. 2017;63):264–281.
 10. Bingham T, Jeary T. Communicating the value of learning. T&D. 2007;61(5):80–84.
 11. Daley B, Conceição S, Mina L, Altman B, Baldor M, Brown J. Integrative literature review: Concept mapping: A strategy to support the development of practice, research, and theory within human resource development. Human Resource Development Review. 2010;9:357–384.
 12. Miller R. The future of the tertiary education sector: Scenarios for a learning society. In: A Paper presented at the OECD/Japan seminar (Tokyo, Japan); 2003).
 13. Ritzen J. Scenarios for higher education, 2020 or when will China Invade Iran?. In: Keynote address during the OECD Ministerial Meeting. Paris; 2006
 14. Naeem MA, Peach NW. Promotion of sustainability in postgraduate education in the Asia Pacific region. Int J Sustain High Educ. 2011;12:280–290.
 15. Stephens S. Science or science fiction? The application of scenario techniques to the study of possible futures for learners in higher education. In: Fifth education in a changing environment conference book 2009: Critical Voices, Critical Times. Informing Science; 2011.
 16. Duderstadt JJ. The future of the university: a perspective from the Oort cloud. Soc Res. 2012;79(3):579–600.
 17. Inayatullah S, Ahmed S, Alam P, Davis S, Hashemi S. Alternative scenarios for BRAC University. On the Horizon. 2013;21:275–285.
 18. Ferns S, Lilly L. Driving institutional engagement in WIL: Enhancing graduate employability. Journal of Teaching and Learning for Graduate Employability. 2015;6(1):116–133.
 19. Jackson D. Re-conceptualising graduate employability: The importance of pre-professional identity. Higher Education Research & Development. 2016;35(5):925–939.
 20. Oliver B. Redefining graduate employability and work integrated learning: Proposals for effective higher education in disrupted economies. Journal of Teaching and Learning for Graduate Employability. 2015;6(1):56–65.
 21. Oliver B, Jorre de St Jorre T. Graduate attributes for 2020 and beyond: Recommendations for Australian higher education providers. Higher Education Research & Development. 2018;37(4):821–836.
 22. Clarke M. Rethinking graduate employability: The role of capital, individual attributes and context. Studies in Higher Education. 2018;43(11):1923–1937.
 23. Moore T, Morton J. The myth of job readiness? Written communication, employability, and the “skills gap” in higher

- education. *Studies in Higher Education*. 2017;42(3):591–609.
24. Prikshat V, Montague A, Connell J, Burgess J. Australian graduates' work readiness–deficiencies, causes and potential solutions. *Higher Education, Skills and Work-Based Learning*. 2019;10(2):369–386.
 25. Jenkins C, Lane S. *Employability Skills in UK Economics Degrees*; 2019.
Available:https://www.economicsnetwork.ac.uk/sites/default/files/Ashley/Report%20for%20website%20-%20Final_0.pdf
 26. Steur JM, Jansen EPWA, Hofman WHA. Graduateness: An empirical examination of the formative function of university education. *Higher Education*. 2012;64(6): 861–874.
 27. Archer E, Chetty Y. Graduate employability: Conceptualization and findings from the University of South Africa. *Progression*. 2013;35(1):136–167.
 28. Grotkowska G, Wincenciak L, Gajderowicz T. Ivory-tower or market-oriented enterprise: The role of higher education institutions in shaping graduate employability in the domain of science. *Higher Education Research & Development*. 2015;34(5):869–882.
 29. Metcalfe DJ, Fourie CM, Myburgh CP. Graduate capabilities required of South African food science and technology students. *Journal of Food Science Education*. 2020;19(2):85–96.
 30. Mok KH, Wen Z, Dale R. Massification of higher education and challenges for graduate employment and social mobility. *International Journal of Education Development*. 2016;38(3):44–51.
 31. Small L, Shacklock K, Marchant T. Employability: A contemporary review for higher education stakeholders. *Journal of Vocational Education & Training*. 2018; 70(1):148–166.
 32. Artess J, Mellors-Bourne R, Hooley T. *Employability: A review of the literature 2012-2016*. Higher Education Academy; 2017.
 33. Jackson D. Exploring the challenges experienced by international students during work-integrated learning in Australia. *Asia Pacific Journal of Education*. 2017;37(3):344–359.
 34. McGunagle D, Zizka L. Employability skills for 21st century STEM students: The employers' perspective. *Higher Education, Skills and Work-Based Learning*. 2020;10:591–606.
 35. Mgaiwa Samson John. *Fostering Graduate Employability: Rethinking Tanzania's University Practices*. Saga Open. 2021;1-14
 36. Thomas K, Wong KC, Li YC. The capstone experience: Student and academic perspectives. *Higher Education Research & Development*. 2014;33(3): 580–594.
 37. Bilgiç R, Yılmaz N. The correlates of psychological health among the Turkish unemployed: Psychological burden of financial help during unemployment. *International Journal of Psychology*. 2013;48(5):1000–1008.
 38. da Silva DA, Marcolan JF. Unemployment and psychological distress in nurses. *Revista Brasileira de Enfermagem*. 2015;68(5):493–500.
 39. Paul KI, Moser K. Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior*. 2009;74(3):264–282.
 40. Pervaiz H, Saleem MZ, Sajjad M. Relationship of unemployment with social unrest and psychological distress: An empirical study for juveniles. *African Journal of Business Management*. 2012;6(7):2557–2564
 41. Wu CC. High graduate unemployment rate and Taiwanese undergraduate education. *International Journal of Educational Development*. 2011;31(3):303–310.
 42. Ding X, Yu H, Yu Q. Research on returns on education at all levels and changes for urban residents in China: 2002-2009. In H. Chen & W. J. Jacob (Eds.), *Trends in Chinese education*. Routledge. 2017;73–84.
 43. Chan, WK. Higher education and graduate employment in China: Challenges for sustainable development. *Higher Education Policy*. 2015;28(1):35–53.
 44. Tilak JBG. Dilemmas in reforming higher education in India. *Higher Education for the Future*. 2020;7(1):54–66.
 45. Tomlinson M. Graduate Employability: A Review of Conceptual and Empirical Themes. *Higher Education Policy*. 2012;25:407–31.

46. Helyer R, Lee D. The Role of Work Experience in the Future Employability of Higher Education Graduates. *Higher Education Quarterly*. 2014;68(3):348-372.
47. Tymon A. The Student Perspective on Employability. *Studies in Higher Education*. 2013;38(6):841–56.

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