Role of Higher Education in Bridging the Skill Gap

Pallavi Tomar Mishra, Abhishek Mishra, Sudhinder Singh Chowhan*

Nims Institute of Management, Nims University Rajasthan, India

Received July 25, 2019; Revised September 11, 2019; Accepted September 26, 2019

Copyright©2019 by authors, all rights reserved. Authors agree that this article remains permanently open access under the terms of the Creative Commons Attribution License 4.0 International License

Abstract According to the survey it was found that the current education system focuses more on rote learning of subjects which is leading to the poor quality of education system, but to fill the handed to professional work environment and application oriented. To build this requirement gap, freshers are to be passed through a foundation on training programmer by employees for few months before they come on the job. For long term sustainable outcome, current Indian education system is to be more application oriented. Around the world, employers, educators, policymakers, training organizations and others have recognized the critical importance of tackling the skills gap. The main key characteristics for the teaching and learning across the various fields of i.e. general, academic, vocational and technical, should incorporate various strategies, which wholly depends on learning environment, teaching methods of learners and various supporting factors. In order to increase the economy of the country and to solve the skills gap, it is very much important that higher education (Professional and Technical) should be allowed to increase access and completion, and evolve with career opportunities. These strategies are determined partly on subject matter to be taught and partly by the nature of learners developing reciprocity and cooperation. Through the research paper, researcher want to attempt to find solution in analyzing the role of higher education in bridging the skill gap and other related factors on professional institutes of Jaipur by drawing certain conclusion confronting a problem.

Keywords Higher Education, Bridging the Skill Gap, Economy, Professional and Technical Education

increases the chance of unemployment person to get employment and will emerge with a comparable wage and reduce the time required to search new employment. Unemployment can have a devastating impact both on a household and the general economy.

This study investigates the causal effects of education on individuals' transitions between employment and unemployment, with particular focus on the extent to which education improves re-employment outcomes among unemployed workers.

Present education system is more emphasized and targeted focuses on rote learning of course subjects as opposed to a professional work environment that requires freshers to be hands on and application oriented. That required gap is usually built by the employers by go through the freshers for training before they are on job. However, a long-term sustainable solution to this would be a revamp of the current Indian education system to be more application oriented. There is a need to align the syllabus as per industry needs.

1.1. Bridging the Skills Gap: Higher Education's Opportunity

Around the world, employers, educators, policymakers, training organizations and others have recognized the critical importance of tackling the skills gap.

To help the country solve for the skills gap and allow for higher education institutions to thrive in the economy of the future, consider following: Increasing access and completion and Evolving with career opportunities

1.2. Developing a Model for Technical Teaching and Learning

In order to understand the technical teaching and learning, a model is being developed. According to the model, learner is center. Being learners be the primary recipients and beneficiaries of teaching and learning. Drawing on the literature reviewed the model consist of rings. First learners are being primary as they are the one who are exposed to learning in their primary and secondary

1. Introduction

Aspirants of higher education are always concern about the relevancy of their education for the desired skill development and employability, and possessing these skills and confidence for employability boost the motivation level among them. Higher education level

school education, which prepare them as a characteristic of quality, good learner who prepare them for their further higher education.

The another ring or system of provision presents the characteristics of technical, professional and vocational education, As the review evidence did not attribute exclusive properties to technical education, the model does not differentiate technical from vocational education.

1.3. Key Characteristics of Quality Teaching and Learning

For quality teaching and learning the main key features for the learners across all types of education (i.e. general, academic, vocational and technical), includes various strategies including the learning environment, teacher and learner relationship method of teaching and various supporting factors. These strategies are determined partly on subject matter to be taught and partly by the nature of learners developing reciprocity and cooperation.

During the review of literature and survey discussion, the quality of teaching and learning strategy had been found

According to the Black and Yasukawa's in 2013 the quality teaching in vocational education and training also identified respect as an enabling factor of good teaching. Rowe et al. in 2012 discussed the importance of creating a culture where learners are encouraged to reach their aspirations and achieve and are supported in their learning. Rown also discussed in his research that developing a purposeful and stimulating teaching environment is essential for effective teaching. This includes creating a classroom that is welcoming and provides bright and informative displays of learners' work. These environmental factors can help increase learner's motivation by fostering a sense of achievement.

Plackle et al. in 2014 shown in his research for learning environments identified learning support that is adaptive to the needs of learners as an important characteristic of quality teaching and learning. Research identified the flexibility and support, whilst at the same time they ensure that challenges and attractive both on an individual and collective level.

2. Significance/ Scope of the Study

Significance and importance of this research in following six parts: i.e. For Community, Government bodies, students, teachers, institutional owners and educational sector.

*Source: self

3. Research Methodology

Problem Definition: The problem selected by the researcher for research is "Role of Higher Education in Bridging the Skill Gap" - An Exploratory Study.

3.1. Research Objective of the Study

1. To study the intelligence gathering systems that are relied upon Higher Education and
2. To develop an insight into the Relationship between skills, employment and motivation with higher education.

3.2. Hypothesis

- HA1 = Students from technical and professional courses get more employment than Pass course students.
- HA2 = Students from the technical & professional courses have more skills that suitable for the industry.
- HA3 = Aspirants from the technical and professional courses are motivated have more positive attitude towards the work and future growth.

3.3. Research Design

The research paper is designed for this study is Exploratory followed by Descriptive Research because it consists of surveys, questionnaires and fact findings.

3.4. Measure

Role of education was measured in terms of perceived employability, skill development and motivation level of students. An index of statements was prepared with due investigation of literature. Education is mean to develop the employability after pursuing the particular course (Almeida, 2007; Tomé, 2007; Berntson, Sverke, & Marklund, 2006; Brown & Hesketh, 2004; Forrier & Sels, 2003). To get the employability the desired skills and learning is the most importantly linked with the courses (Yorke, 2003, 2006; Harvey and Bowers-Brown 2003). Employability of any aspirant is interlinked with the employability skills (Andrewson & Mitchell, 2006; Cox & King, 2006; Leitch, 2006). With the skills and employability, the ambition and motivation level of students make them confident for getting success (Nabi, 2001, and Greenhaus Parasuraman & Wormley, 1990). Ten item scale (Table 1) was tailored from the scale developed by Rothwell & Hardie, 2009 to measure role of education in student development. Reliability and validity were checked with factor analysis and Cronbach's alpha. Principal component factor analysis with varimax rotation results in three factors named employability, skill development and motivation level with the factor loading range between .80 to .92, and Eigen values greater than 1.

(Table 2). Cronbach alpha exceed for all three factors than .8 and meet the reliability criteria.

Table 1. Scale items

E1	There is generally a strong demand for graduates of course I am pursuing at the present time.
E2	People in the career I am aiming for are in high demand in the external labor market.
E3	Employers specifically target this University in order to recruit individuals from my subject area(s).
E4	There are plenty of job vacancies in the geographical area where I am looking.
S1	The skills and abilities that I possess are what employers are looking for.
S2	My degree is seen as leading to a specific career & developing skill that is generally perceived as highly desirable.
S3	I feel I could get any job so long as my as my skills and experience are reasonably relevant.
M1	I am generally confident of success in job Interviews and selection events.
M2	My chosen subject(s) rank(s) highly in terms of social status.
M3	I can easily find out about opportunities in my chosen field.

Source: Adapted Rothwell & Hardie, 2009

Table 2. Factor loading, Variance explained, Eigen values and Cronbach's alpha

	Component		
	1	2	3
E1	.808		
E2	.855		
E3	.816		
E4	.814		
S1			.808
S2			.868
S3			.875
M1		.859	
M2		.923	
M3		.880	
Variance explained (%)	28.109	24.239	23.074
Eigen value	3.744	2.281	1.517
Cronbach's alpha	.857	.845	.875
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 4 iterations.			

3.5. Sample Design

Sampling Units / Population: Universities, Institutes & Colleges: Jaipur district from the state of Rajasthan INDIA.

Sample Size: The total sample for conducting this research will be 1200 respondents, out of which 400 were from each segment, professional, technical and pass degree courses. Sample size was determined by cocharan's formula.

$$N = \frac{Z^2 * p * (1-p)}{C^2}$$

N – Sample size required

Z – Z value (e.g. 1.96 for 95% confidence level)

p – Standard of Deviation

C – Confidence Interval (Margin of error)

With the 95% of confidence level .5 standard deviation, and a margin of error (confidence interval) of +/- 5%.sample size will be 385.

Sampling Type: Non-Probability Sampling, Cluster Sampling.

Data Collection: The data was collected from Primary sources as well as Secondary sources.

In this research, researchers used non-probability sampling at Jaipur and surrounding Jaipur territory of Rajasthan, which is selected conveniently but there are so many Universities Institutes and colleges available in the district. Respondents were chosen who were recent pass out or appearing in the final examination. The choice does not afford any basis for estimating the probability that each item in the population included in the sample. No bias is there at the time of entering the sampling technique. Total 1200 student's data was collected from the three segments, i.e. technical, professional and pass courses. Comprising equal sample from each segment. Table 3 shows the demographic profile of respondents from each type of course.

In this research there are few variables on which researchers have no control like number of students, number of admissions etc. Research signifies the current situation of private professional institutes of Jaipur by studying the impact of economic recession and other related factors. Being of this research, researchers aimed to final the causes/factors of the selected problem.

Table 3. Demographic profile of Respondents

		Male	Female	Total
type of Course	Technical	216	184	400
	Professional	276	124	400
	Pass Course	238	162	400
Age Group	Upto 20 years	286	145	431
	20-25 years	328	258	586
	More than 25 years	116	67	183
Location	Urban	498	306	804
	Rural	232	164	396

Source: Author's Computation

4. Research Analysis and Result

4.1. Descriptive Analysis

Table 4 shows the descriptive results for each variable for all three categories of programs i.e. technical,

professional and pass courses. Mean and standard deviation scores are listed in table. The mean score in each variable is higher for technical and professional course. Further, the significance of difference is checked.

Table 4. Descriptive – Mean & S.D. of employment, skills & motivation level

		Mean	S.D.
Employability	Pass Course	5.98	0.977
	Professional	6.01	0.828
	Technical	6.09	0.788
Skill Development	Pass Course	4.7500	1.20102
	Professional	5.2944	1.10204
	Technical	5.5667	1.77467
Motivation	Pass Course	4.8074	1.94258
	Professional	6.0222	0.87775
	Technical	5.8000	0.84165

Source: Author's Computation

4.2. Hypothesis Testing

4.2.1. Employability

H_{A1} = Students from technical and professional courses get more employment than Pass course students.

Education is mean to develop the skills and knowledge that help aspirants to secure the employment in terms of job or entrepreneurial initiatives. Data was analysed to measure the difference between the mean score of employment of aspirants of three categories of higher education. Table 5 described that there is significant difference between the employment of students of technical, professional and pass course students. ANOVA results was significant $F(3, 1196) = 32.18$ at the significance level of .000. Table 5 shows that

employment opportunities are maximum in the technical field and slightly less in the professional courses. Pass courses have a good mean score, however less than professional and technical.

4.3. Skill Development

After securing the job the growth of the aspirants depends upon the diversity and quality of the skills possessed by them. Table 6 describes the mean difference between the skills of technical, professional and pass course students. ANOVA results $F(3, 1196) = 3.64$ at p level of .006 is significant, and so alternate hypothesis was approved that there is significant difference in skill acquired by aspirants of technical and professional course. Mean scores of skills displayed by technical, professional and pass course are respectively 5.5, 5.2 and 4.7, which realize that Indian education system should be nurtured more to develop more skills.

4.4. Motivation & Positive Attitude

When someone gets education, it gives the motivation and positive attitude for the future growth. As the aspirants get the knowledge, skills that match the industrial requirements, students get motivated to achieve the positions that give them the growth opportunities. Curriculum of the different programmes play an important role in motivating aspirants by developing the career-oriented skills, personality and communication that make them future ready for organizations. Table 7 shows the ANOVA results significant at p value .000, $F(3, 1196) = 27.48$, hence alternate hypothesis was accepted. Table 7 shows that students having professional degrees are more confident and motivated to achieve their goals.

Table 5. ANOVA -

		Sum of Squares	df	Mean Square	F	Sig.
Employment - Education	Between Groups	128.736	3	32.184	22.982	.000
	Within Groups	525.146	1196	1.400		

Source: Author's Computation

Table 6. ANOVA- Mean comparison of skills acquired by different students of different courses

		Sum of Squares	df	Mean Square	F	Sig.
Skills - Education	Between Groups	13.143	3	3.286	3.647	.006
	Within Groups	337.846	1196	.901		

Source: Author's Computation

Table 7. ANOVA - Mean Comparison of Motivation level of students of different courses

		Sum of Squares	df	Mean Square	F	Sig.
Motivation * Education	Between Groups	71.042	3	17.760	27.481	.000
	Within Groups	242.355	1196	.646		

Source: Author's Computation

5. Conclusions

Technical and professional courses are giving more contribution in student development in terms of employment. All the factors are having significance value less than .05 (accepted). However the average score of pass courses is also good. The emphasis which is given to develop more employment opportunities in pass courses will encourage students to choose these courses. Higher education system is improving and giving a significant contribution in employment generation through skill development and motivating them by building positive attitude. However, there is a need to give more emphasis on skills development, to compete the global education system. Further results show that colleges and university should also focus on pass courses or traditional degree courses to get more options in other fields like arts, languages, etc.

REFERENCES

- [1] Aid Effectiveness in Education; Setting priorities in a time of crisis; Prepared for the Eight Annual High-level Group Meeting, Oslo, Norway, Washing DC; World Bank; on EFA 2008 December 16-18.
- [2] Almeida, A. J. (2007). Employability, work contexts and labour market in Portugal. *Educational Sciences Journal*, 2, 51–58.
- [3] Andrewson, J., & Mitchell, H. (2006), Employability for students: How to get the best from your education course, Escalate, Higher Education Academy Education Subject Centre, University of Bristol
- [4] Balaji R. Trends, Issues and Challenges in Management Education. *International Journal of Innovative Research in Science, Engineering and Technology*. 2013; 2(4):1257-62.
- [5] Berntson, E., Sverke, M., & Marklund, S. (2008). Predicting perceived employability: Human capital or labour market opportunities? *Economic and Industrial Democracy*, 27(2), 223–244.
- [6] Bowers-Brown, T., & Harvey, L. (2004). Are there two many graduates in the UK? *Industry and Higher Education*, 12, 243–254.
- [7] Bressler C, Rotter C. The Relevance of a Migration Background to the Professional Identity of Teachers. *International Journal of Higher Education*. 2017; 6(1):239-50.
- [8] Brown, P., & Hesketh, A. (2004). *The Mismanagement of talent: Employability and jobs in the knowledge economy*. Oxford University Press.
- [9] Christie BA, Miller KK, Cooke R, White JG. Environmental sustainability in higher education: how do academics teach?. *Environmental Education Research*. 2013 Jun 1; 19(3):385-414.
- [10] Corcoran, Sean, and William N. Evans. "Income Inequality, the Median Voter, and the Support for Public Education.," National Bureau of Economic Research Working Paper 16097; 2010
- [11] Cox, S., & King, D. (2006). Skill sets: An approach to embed employability in course design. *Education + Training*, 48(4), 262–274.
- [12] Dunne C. Exploring motivations for intercultural contact among host country university students: An Irish case study. *International journal of intercultural relations*. 2013 Sep 1; 37(5):567-78.
- [13] Forrier, A., & Sels, L. (2003). The concept employability, a complex mosaic, *International Journal of Human Resources Development and Management*, 3(2), 102–104.
- [14] Gosavi DV. Threat of vacant seats in engineering colleges: Reasons and Remedies. *American International Journal of Research in Humanities, Arts and Social Sciences*. 2013 Mar; 2(1):75-80.
- [15] Harvey, L., & Bowers-Brown, T. (2003). The employability of graduates, cross-country comparisons, in *Learning by Comparison: International Experiences in Education and Training*, DFES Research Conference, Research Report CR2003, available from <http://www.qualityresearchinternational.com/ese/relatedpubs/Crosscountrycomparisons.pdf>.
- [16] Leitch S. (Ed.). (2006). *Leitch review of skills: Prosperity for all in the global economy – world class skills* (final report), HMSO/HM Treasury, London, ISBN-10: 0-11-840486-5.
- [17] Martin AD, Strom KJ. Toward a linguistically responsive teacher identity: An empirical review of the literature. *International Multilingual Research Journal* 16 Oct 1; 10 (4):239-53.
- [18] Metaxas T, Trompatzi G. From the bank panic of 1907 to the great depression of 1929 and the savings and loan crisis of the 1980s: Comparative analysis and lessons for the future. *Applied Econometrics and International Development*. 2015; 15(1):79-96.
- [19] MIAN W. Indian Higher Education System and Quality Teaching. *International Journal*. 2015; 3(7):1256-61.
- [20] Potti SR, KG V, Kurkal R. Roadmaps to Excellence for the Young Self-financing Engineering Colleges in India. *Quality-Access to Success*. 2016 Oct 1; 17(154).
- [21] Potti SR, Viswanadhan KG, Kurkal R. Model of Excellence for the Young Self-financing Engineering Colleges in India: Faculty Members' Perspective. *Quality-Access to Success*. 2018 Feb 1; 19(162).
- [22] Sharma R. Teachers on the move: international migration of school teachers from India. *Journal of Studies in International Education*. 2013 Jul; 17(3):262-83.
- [23] Stephens JC, Hernandez ME, Román M, Graham AC, Scholz RW. Higher education as a change agent for sustainability in different cultures and contexts. *International Journal of Sustainability in Higher Education*. 2008 Jul 11; 9 (3):317-38.
- [24] Tomé, E. (2007). Employability, skills and training in Portugal (1988–2000): Evidence from official data. *Journal of European Industrial Training*, 31(5), 336–357.
- [25] Yorke, M., Knight, P. (2003). *The undergraduate curriculum*

and employability, LTSN generic centre, available from www.ltsn.ac.uk/application.asp?app=resources.asp&process=full_record&section=generic&id=248.

- [26] Nabi, G. R. (2001). The relationship between HRM, social support and subjective career success among men and women. *International Journal of Manpower*, 22(5), 457–474.
- [27] Greenhaus, J. H., Parasuraman, S., & Wormley, W. M. (1990). Effects of race on organizational experiences, job performance evaluations, and career outcomes. *Academy of Management Journal*, 33(1), 64–86.
- [28] Rothwell, Andrew & Jewell, Steven & Hardie, Marie. (2009). Self-perceived employability: Investigating the responses of post-graduate students. *Journal of Vocational Behavior*. 75. 152-161. 10.1016/j.jvb.2009.05.002.