

Skills for Employment: A Global Perspective

Abstract:

The recession of the young 21st Century was not proprietary to one country or region of the world and its effect still has a ripple effect on the on the world's economies. Nowadays governments, companies, and non-profit organizations have shorten economic resources or a shortage of knowledgeable manpower. This is the era of doing more with less and the learning in a digital age (Connectivism). Another trait was the massive shifting of jobs across borders and oceans. Companies were forced to shift their operations to cheaper regions in order to stay profitable. The major drawback was to maintain their knowledge and / or their processes in place with a knowledgeable workforce. This shift in paradigm brought new challenger not only for the organization, but for all the citizens of the world. While jobs were moving away from industrialized regions opportunities were created on the less industrialized countries. And there is where the boom in expats arrives.

Keywords: Globalization, Employee Skills, Telework, Connectivism, Business

Objectives

1. Identify those skills that are in demand for global employment.
2. Identify the most desired skills employees should possess.

Hypothesis:

H₀: There is a relation between areas of work with the seven most desired skills.

Literature Review

Modern business requirements have changed as technology have shifted from being regional to being capable of reaching new economic markets (Vitez, 2015). Technology allows to lower operational cost by enabling outsourcing to other countries where highly desired skills can be cheaper. Management styles can make or break a company, many management skills are inappropriate, and can paralyze a firm (Christensen, 1997). As seen in the 1990's management not recognizing the Internet as a disruptive technology proved the failure of many companies during the recession of the 21st Century, as predicted in the book *The Innovator's Dilemma* authored by Clayton M. Christensen in 1997. Many companies such as Unisys, Compaq, 3Com, US Robotics, and many others merged with other or simply disappeared. Efficiency speed and automation are the trend in business in today's economy and information has become more important than energy cost (Satell, 2016).

A New Learning Trend and Desired Skill

Behaviorism, cognitivism, and constructivism are the three broad learning theories most often utilized in the creation of instructional environments (Siemens, 2004). As on

business, technology has played a key role in the day to day business of education. Learning styles have changed since the cavemen to the age of the Internet. Even the most respected and traditional universities are investing in information technology to teach and do research (Dede, 2004). These ideas of learning are not new, in a book published in the 80's the author mentions that information-processing models of learning first level is the holistic, which use a global approach to learning, a broad framework of understanding into which people can fit more detailed information (Claxton, 1987). In today modern classrooms, learning is being supported by technology, and as demonstrated in the study *Revisit the Effect of Teaching and Learning with Technology* demonstrated it is best to use it to build on basic skills (Lee, Waxman, Wu, Michko, & Lin, 2011). It is a trend that most universities are following, to have more online courses than traditional classroom classes.

It is important to understand how people learn and how the era does influences the process. "*I store my knowledge in my friends' is an axiom for collecting knowledge through collecting people*" (Kleiner, 2002). Remember the phrase, "*It is not what you know, it is who you know*", and this comical but rather true argument is the norm in business. Old learning theories do not address learning that occurs outside of people (i.e. learning that is stored and manipulated by technology). They also fail to describe how learning happens within organizations (Siemens). Our ability to learn what we need for tomorrow is more important than what we know today (Siemens). Higher education is preparing students for jobs that yet don't exist (National Association of Secondary School Principals, 2008) and that we are living in a world that is rapidly changing, thus citizens need to adapt or perish in the job hunting market.

Many countries that can't offer job stability to the professional class lose the creative component to solve problems in its society. In the acclaimed book authored by Michael Porter "*The Competitive Advantages of Nations*" mentions the importance of creativity,

“Firms gain competitive advantage from conceiving of new ways to conduct activities, employing new procedures, new technologies, or different inputs”. The individual’s creativity can impact the nation’s capacity to be competitive in a global economy.

Methodology

This was conducted in two phases, the first phase was performed analyzing the data from three major researches that looked into the ideal skillset of the business employee. The studies used are as follows: EMPLOYEE INVOLVEMENT, TECHNOLOGY AND EVOLUTION IN JOB SKILLS: A TASK-BASED ANALYSIS authored by Francis Green, EMPLOYEE CHARACTERISTICS AND SKILLS VALUED BY NORTHERN VIRGINIA EMPLOYERS authored by Dr. George E. Gabriel and his staff of the Northern Virginia Community College, and Critical Skills Needs and Resources for the Changing Workforce A Study by the Society for Human Resource Management. We identified those traits that were mentioned in all of them and they became part of the Global Employee model, Communication, Technology, Creativity / Problem Solving, Ethics, Teamwork, Mathematical, and Leadership. On phase two a survey was handed out to 123 participant with 40 returned for a 32% of participation asking general people in business, academics and students to order the seven attributes in order of importance in regards to a position in a global environment.

Results

To test whether there was a difference between the groups (*Education, Business, Manufacturing, Medical, and Engineering*) and the most sought out skills (*Communication, Technology, Creativity, Ethics, Teamwork, Math, and Leadership*) we used χ^2 test of independence with an $\alpha = .05$ of significance. Professional individuals interviewed in this

research ($n=40$) were broken down in the five groups $n_{ed} = 16$, $n_b = 15$, $n_{ma} = 8$, $n_{me} = 0$, and $n_{en} = 1$, which lead to eliminate the medical group from the study hence no participants identified with it. According to the χ^2 test for independence, there was no statistical significance, $\chi^2 (6, n_o=40)$ hence all the results were above the *critical value* of 12.592.

To further test the results, a Pearson correlation coefficient revealed no significance between the market segments and the skills most sought out, $df=38$, $r=.25$, and $p=.119$ being *Leadership* the strongest correlation but not significant enough.

After analyzing the data we found that the most predominant groups were Education, Business, and Manufacturing with 16, 15, & 8 participants respectively (Figs. 1.0, 2.0, & 3.0). The Medical and Engineering groups were left out for this portion of the study due to the low or none participants.

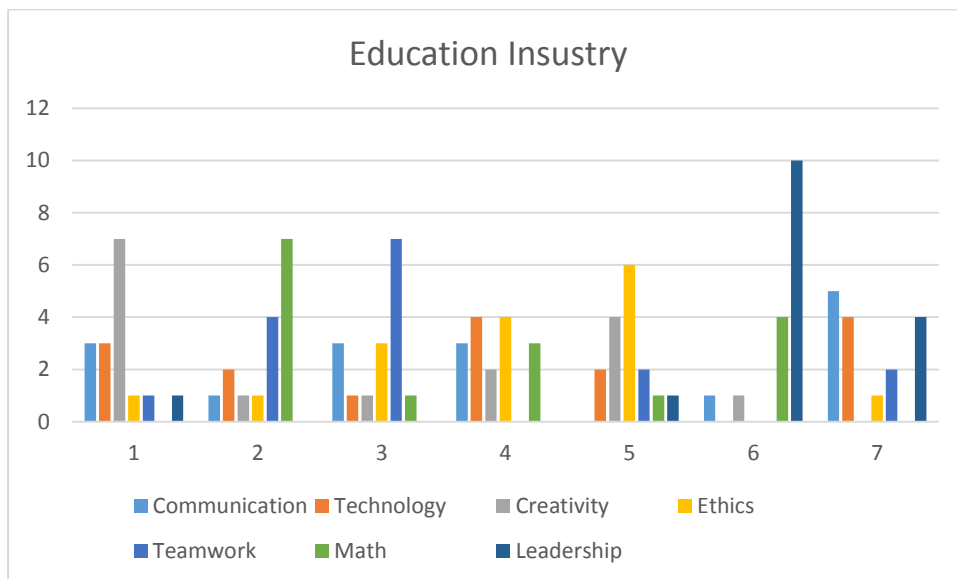


Fig. 1.0 Skills importance in Education Industry

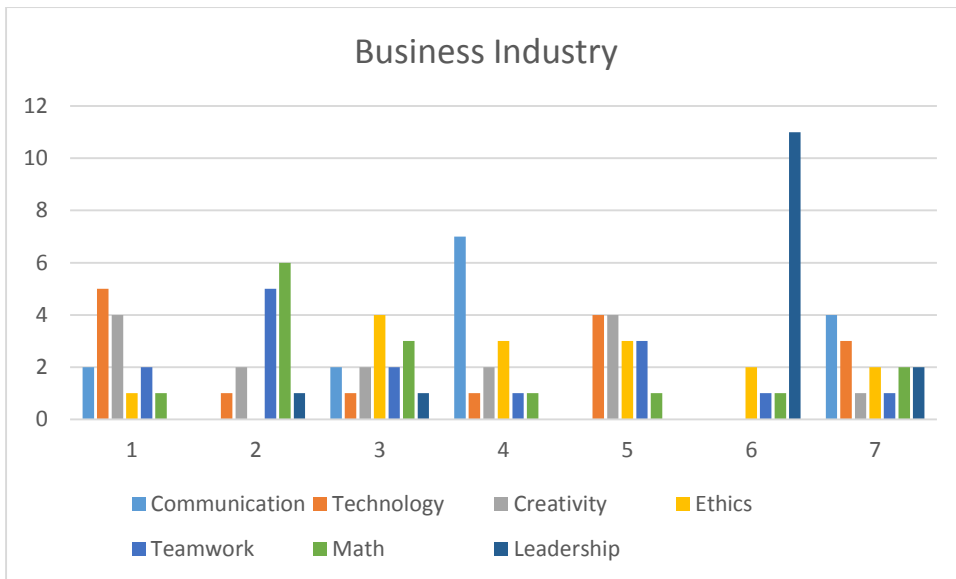


Fig. 2.0 Skills importance in Business Industry

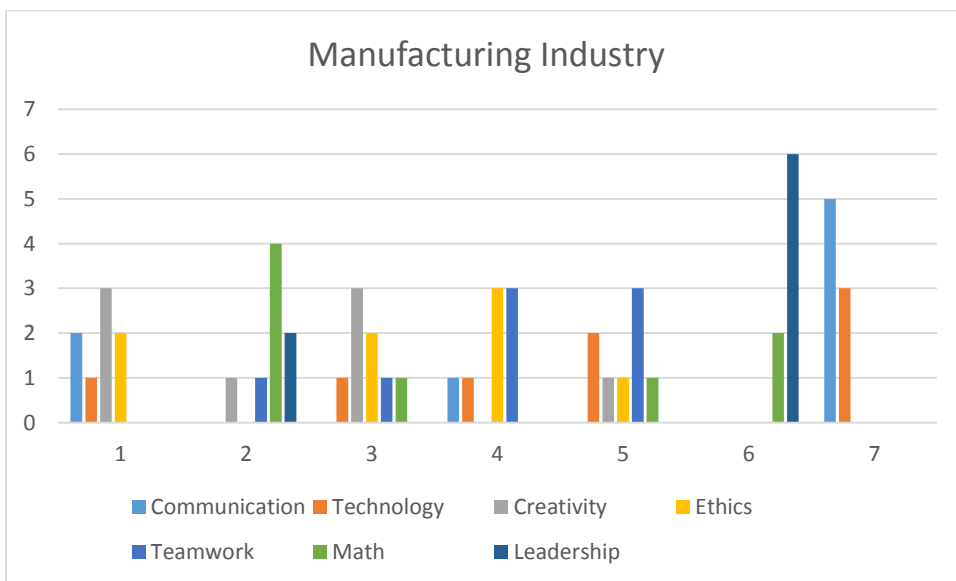


Fig. 3.0 Skills importance in Manufacturing Industry

Conclusion

After examining the data we found that there is no relationship between the industry and the most desired skills. The skills are more general skill not pertaining to any particular industry. Therefore we reject the null hypothesis H_0 : There is a relation between areas of work with the seven most desired skills. Also we found that basic

knowledge skills such as Mathematics is less desired than other skills such as Creativity or Technology and that Teamwork is preferred over Leadership.

It is unclear to understand if the influence of Information Age has an effect on the results when people have vast access to technology and information. Also it is unclear if learning styles affect or that Constructivism is obsolete rather than Connectivism is mandated.

Data Collected

Respondant	Market	Answ_Com	Answ_Tech	Answ_CretPS	Answ_Eth	Answ_TeamP	Answ_Math	Answ_Lead
1	3	3	6	2	5	4	7	1
2	2	5	6	3	4	2	7	1
3	2	4	5	2	6	3	7	1
4	1	4	5	6	2	3	7	1
5	1	3	2	1	4	5	6	7
6	1	3	6	5	1	4	7	2
7	1	3	6	5	1	4	7	2
8	3	4	6	5	1	3	7	2
9	2	3	6	5	1	4	7	2
10	3	1	7	3	4	5	6	2
11	2	6	7	4	1	3	5	2
12	2	2	3	4	1	5	7	6
13	1	7	2	5	3	6	1	4
14	2	1	2	7	3	5	4	6
15	1	1	5	3	4	2	6	7
16	2	2	5	3	1	4	6	7
17	2	5	3	1	2	6	4	7
18	1	2	5	1	4	3	6	7
19	1	2	5	1	4	3	6	7
20	1	1	3	4	6	5	7	2
21	3	4	6	3	2	5	7	1
22	3	3	7	4	5	2	6	1
23	1	5	6	4	3	2	7	1
24	1	3	6	5	2	4	7	1
25	1	3	6	5	2	4	7	1

26	1	3	6	5	2	4	7	1
27	2	3	5	6	1	2	7	4
28	2	3	5	6	1	2	7	4
29	2	2	6	4	5	3	7	1
30	3	1	5	3	4	6	7	2
31	2	2	6	5	4	3	7	1
32	1	3	6	5	1	4	7	2
33	2	1	5	6	3	4	7	2
34	1	2	1	4	6	7	3	5
35	3	2	3	6	4	5	7	1
36	3	3	6	4	5	2	7	1
37	2	2	6	1	4	5	7	3
38	2	3	6	4	1	2	7	5
39	5	1	4	2	6	5	7	3
40	1	1	4	2	6	3	7	5

Chi-square Analysis

		Communication								
			1	2	3	4	5	6	7	
Observed			16	18	28	8	6	2	2	40
Education	1		3	3	7	1	1	0	1	16
Business	2		2	5	4	1	2	1	0	15
Manufacturing	3		2	1	3	2	0	0	0	8
Medical	4		0	0	0	0	0	0	0	0
Engineering	5		1	0	0	0	0	0	0	1
			8	9	14	4	3	1	1	40

Expected										Chi-square	Critical Value
											12.592
1		1.28928571	1.28928571	0.289285714	3.8892857	3.889285714	5.71428571	3.88928571	20.25		
2		2.41428571	0.08928571	0.514285714	3.8892857	2.414285714	3.88928571	5.71428571	18.925		
3		2.41428571	3.88928571	1.289285714	2.4142857	5.714285714	5.71428571	5.71428571	27.15		
4		5.71428571	5.71428571	5.714285714	5.7142857	5.714285714	5.71428571	5.71428571	40		
5		3.88928571	5.71428571	5.714285714	5.7142857	5.714285714	5.71428571	5.71428571	38.175		

		Tecnology								
			1	2	3	4	5	6	7	
Observed			2	6	8	4	20	34	6	40
Education	1		1	2	1	1	4	7	0	16
Business	2		0	1	2	0	5	6	1	15
Manufacturing	3		0	0	1	0	1	4	2	8
Medical	4		0	0	0	0	0	0	0	0
Engineering	5		0	0	0	1	0	0	0	1
			1	3	4	2	10	17	3	40

Expected									Chi-square	Critical Value
1	3.88928571	2.41428571	3.88928571	3.8892857	0.514285714	0.28928571	5.71428571	20.6	40	
2	5.71428571	3.88928571	2.41428571	5.7142857	0.089285714	0.01428571	3.88928571	21.725		
3	5.71428571	5.71428571	3.88928571	5.7142857	3.889285714	0.51428571	2.41428571	27.85		
4	5.71428571	5.71428571	5.71428571	5.7142857	5.714285714	5.71428571	5.71428571	40		
5	5.71428571	5.71428571	5.71428571	3.8892857	5.714285714	5.71428571	5.71428571	38.175		

	Creativity	1	2	3	4	5	6	7	
Observed		10	8	12	18	20	10	2	40
Education	1	3	1	1	3	7	1	0	16
Business	2	2	1	2	4	2	3	1	15
Manufacturing	3	0	1	3	2	1	1	0	8
Medical	4	0	0	0	0	0	0	0	0
Engineering	5	0	1	0	0	0	0	0	1
		5	4	6	9	10	5	1	40

Expected									Chi-square	Critical Value
1	1.28928571	3.88928571	3.88928571	1.2892857	0.289285714	3.88928571	5.71428571	20.25	40	
2	2.41428571	3.88928571	2.41428571	0.5142857	2.414285714	1.28928571	3.88928571	16.825		
3	5.71428571	3.88928571	1.28928571	2.4142857	3.889285714	3.88928571	5.71428571	26.8		
4	5.71428571	5.71428571	5.71428571	5.7142857	5.714285714	5.71428571	5.71428571	40		
5	5.71428571	3.88928571	5.71428571	5.7142857	5.714285714	5.71428571	5.71428571	38.175		

	Ethical	1	2	3	4	5	6	7	
Observed		22	12	8	20	8	10	0	40
Education	1	3	4	2	4	0	3	0	16
Business	2	7	1	2	3	1	1	0	15
Manufacturing	3	1	1	0	3	3	0	0	8

Medical	4	0	0	0	0	0	0	0	0
Engineering	5	0	0	0	0	0	1	0	1
		11	6	4	10	4	5	0	40

Expected									Chi-square	Critical Value
	1	1.28928571	0.51428571	2.414285714	0.5142857	5.714285714	1.28928571	5.71428571	17.45	12.592
	2	0.28928571	3.88928571	2.414285714	1.2892857	3.889285714	3.88928571	5.71428571	21.375	
	3	3.88928571	3.88928571	5.714285714	1.2892857	1.289285714	5.71428571	5.71428571	27.5	
	4	5.71428571	5.71428571	5.714285714	5.7142857	5.714285714	5.71428571	5.71428571	40	
	5	5.71428571	5.71428571	5.714285714	5.7142857	5.714285714	3.88928571	5.71428571	38.175	

Team Player		1	2	3	4	5	6	7	
Observed		0	16	18	20	18	6	2	40
Education	1	0	2	4	6	2	1	1	16
Business	2	0	4	4	3	3	1	0	15
Manufacturing	3	0	2	1	1	3	1	0	8
Medical	4	0	0	0	0	0	0	0	0
Engineering	5	0	0	0	0	1	0	0	1
		0	8	9	10	9	3	1	40

Expected									Chi-square	Critical Value
	1	5.71428571	2.41428571	0.514285714	0.0142857	2.414285714	3.88928571	3.88928571	18.85	12.592
	2	5.71428571	0.51428571	0.514285714	1.2892857	1.289285714	3.88928571	5.71428571	18.925	
	3	5.71428571	2.41428571	3.889285714	3.8892857	1.289285714	3.88928571	5.71428571	26.8	
	4	5.71428571	5.71428571	5.714285714	5.7142857	5.714285714	5.71428571	5.71428571	40	
	5	5.71428571	5.71428571	5.714285714	5.7142857	3.889285714	5.71428571	5.71428571	38.175	

		1	2	3	4	5	6	7	
Math									
Observed		2	0	2	4	2	14	56	40
Education	1	1	0	1	0	0	4	10	16
Business	2	0	0	0	2	1	1	11	15
Manufacturing	3	0	0	0	0	0	2	6	8
Medical	4	0	0	0	0	0	0	0	0
Engineering	5	0	0	0	0	0	0	1	1
		1	0	1	2	1	7	28	40

Critical Value

Expected									Chi-square	12.592
1	3.88928571	5.71428571	3.88928571	5.7142857	5.71428571	0.51428571	3.21428571	28.65		
2	5.71428571	5.71428571	5.71428571	2.4142857	3.88928571	3.88928571	4.88928571	32.225		
3	5.71428571	5.71428571	5.71428571	5.7142857	5.71428571	2.41428571	0.01428571	31		
4	5.71428571	5.71428571	5.71428571	5.7142857	5.71428571	5.71428571	5.71428571	40		
5	5.71428571	5.71428571	5.71428571	5.7142857	5.71428571	5.71428571	3.88928571	38.175		

		1	2	3	4	5	6	7	
Leadership									
Observed		28	20	4	6	6	4	12	40
Education	1	5	4	0	1	2	0	4	16
Business	2	4	3	1	2	1	2	2	15
Manufacturing	3	5	3	0	0	0	0	0	8
Medical	4	0	0	0	0	0	0	0	0
Engineering	5	0	0	1	0	0	0	0	1
		14	10	2	3	3	2	6	40

Critical Value

Expected									Chi-square	12.592
1	0.08928571	0.51428571	5.71428571	3.8892857	2.41428571	5.71428571	0.51428571	18.85		
2	0.51428571	1.28928571	3.88928571	2.4142857	3.88928571	2.41428571	2.41428571	16.825		

3	0.08928571	1.28928571	5.714285714	5.7142857	5.714285714	5.71428571	5.71428571	29.95
4	5.71428571	5.71428571	5.714285714	5.7142857	5.714285714	5.71428571	5.71428571	40
5	5.71428571	5.71428571	3.889285714	5.7142857	5.714285714	5.71428571	5.71428571	38.175

Likert Scale Analysis

Education									
Communication	3	1	3	3	0	1	5	16	
Technology	3	2	1	4	2	0	4	16	
Creativity	7	1	1	2	4	1	0	16	
Ethics	1	1	3	4	6	0	1	16	
Teamwork	1	4	7	0	2	0	2	16	
Math	0	7	1	3	1	4	0	16	
Leadership	1	0	0	0	1	10	4	16	
	16	16	16	16	16	16	16		
Business									
Communication	2	0	2	7	0	0	4	15	
Technology	5	1	1	1	4	0	3	15	
Creativity	4	2	2	2	4	0	1	15	
Ethics	1	0	4	3	3	2	2	15	
Teamwork	2	5	2	1	3	1	1	15	
Math	1	6	3	1	1	1	2	15	
Leadership	0	1	1	0	0	11	2	15	
	15	15	15	15	15	15	15		
Manufacturing									
Communication	2	0	0	1	0	0	5	8	
Technology	1	0	1	1	2	0	3	8	
Creativity	3	1	3	0	1	0	0	8	
Ethics	2	0	2	3	1	0	0	8	
Teamwork	0	1	1	3	3	0	0	8	
Math	0	4	1	0	1	2	0	8	
Leadership	0	2	0	0	0	6	0	8	
	8	8	8	8	8	8	8		

Medical									
	Communication	0	0	0	0	0	0	0	0
	Technology	0	0	0	0	0	0	0	0
	Creativity	0	0	0	0	0	0	0	0
	Ethics	0	0	0	0	0	0	0	0
	Teamwork	0	0	0	0	0	0	0	0
	Math	0	0	0	0	0	0	0	0
	Leadership	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0
Engineering									
	Communication	1	0	0	0	0	0	0	1
	Technology	0	0	1	0	0	0	0	1
	Creativity	0	0	0	0	0	0	1	1
	Ethics	0	1	0	0	0	0	0	1
	Teamwork	0	0	0	0	1	0	0	1
	Math	0	0	0	1	0	0	0	1
	Leadership	0	0	0	0	0	1	0	1
		1	1	1	1	1	1	1	1

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