Work Readiness of Select Graduating Students of Mindanao State University Iligan Institute of Technology

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Abstract

As thousands of students graduate each year, many find themselves unemployed because of skills gaps that are brought about by low work readiness levels. Work readiness is defined as the collection of soft and hard skills that employers require from job applicants to be employed in a specific field. Literature claims that skills gap is a result of a variety of inherent factors in students, and a failure to establish links between schools and companies to prepare students with the right skills set currently demanded in the workplace. In response, this paper studied the work readiness levels of select graduating students from Mindanao State University - Iligan Institute of Technology (MSU-IIT) to investigate the presence of skills gaps with respect to the graduating students' profile, and the relationship between such gaps, and the ethnicity and sex of the graduating students. Findings reveal that there are significant differences in the required and perceived

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workreadiness levels of all Business Management graduating students, including Visayan, Moro, male and female, but not for any of the Computer Studies graduating students. The findings also establish a relationship between the differences noted for all graduating students sampled and their ethnicity. Results show that Visayan graduating students tend to have smaller differences or skills gaps, thus, have higher work readiness levels, than Moro graduating students.

Keywords: skills gap, work readiness levels, ethnicity, Business, Management, graduating students

INTRODUCTION

Organizations around the world face a workforce dilemma: lack of job applicants with the right skills needed to help them grow and succeed. This phenomenon, which has come to be known as skills gap has alarmed governments, industries and schools, and had urged them to look for ways to correct education and training issues in order to produce better skilled and work-ready graduates.

In the Philippines, skills gaps have also emerged. The Philippine Skills Report (PSR 2010) and reports by the Department of Labor and Employment claim that many Filipino employers in the services and manufacturing industries are finding it increasingly difficult to fill entry level vacancies in various fields, including business management and information technology, because of the skills gap.

Skills gap is defined as a gap between the skills needed for a job requiring a given level of education versus those skills possessed by workers or job applicants with a similar level of education (LeFbvre, 2013). Literature explains that this gap can be the result of two skills-mismatch situations, either there is an outright lack of or insufficient number of applicants for a particular field of occupation and thus workforce supply cannot fulfill the labor demands of an industry, or applicants lack basic soft and hard skills that employers deem necessary for an individual to be employed in a specific occupation.

In the Philippines, it appears that the leading reason why employers have difficulty filling in vacancies despite large number of applicants is because of quality issues (shortage of applicants with the right competencies for the job). This leads to the emergence of educated yet unemployed youth, which further suggests a disconnection between skills produced in the skills system and the requirements of the labor market (Riguer, 2009). Filipino college graduates accordingly lack generic, technical or job-specific and sometimes even basic academic skills (PSR, 2010; Buendia, 2011).

In addition to these factors, there are also personal factors inherent in students that are attributed to the skills gap. Studies show that certain ethnicities and genders tend to have smaller skills gaps and are thus considered to be more work-ready than other students (Goldammer, 2012).

This stresses the need to closely study the skills mismatch in order to address the gap. This also calls for the use of an appropriate term to identify the collection of skills needed for employment, and an instrument or measure to help us quantify the gap. Currently, there are many different terms for this purpose, all referring to a collection of soft or hard skills, or a combination of both. These terms include among others employability skills, personal skills and transferable skills.

A term comprehensive enough to include personal, organizational, academic, technical and social skills is work readiness, which is defined as the extent to which graduates are perceived to possess work-necessary skills, attitudes and attributes that make them prepared or ready for success in the work environment (Raftapolous, 2006; Caballero & Walker, 2010)

Researchers believe that improving the work readiness levels of graduates can narrow the skills gap and decrease youth unemployment rate. This places heavy pressure on the involved key players: schools that educate these graduates, companies that anticipate employing them, and the graduates themselves. The need arises for these key players to cooperate in order to build a successful education-to-employment system to improve the work readiness and consequently the employability of the graduates (Barton, Farrell & Mourshed, 2012; DOLE, 2012).

As technology and job structures change because of the globally competitive environment, companies and schools need to regularly exchange information on the job skills needed and available (Riguer, 2009). In fact, to build this system, each key player must participate in

assessing the work readiness levels required by the different industries and that of the graduates in order for each party to properly anticipate the demand and supply of the labor market (Raftapolous, 2006; Wagner, 2006).

Using the scenario discussed above, this paper studied the concepts of skills gaps and work readiness as they apply to graduating students in the fields of Business Management and Computer Studies at the Mindanao State University – Iligan Institute of Technology. The selection of these students was based on a survey indicating that the fields are currently experiencing difficulty in hiring entry level applicants due to skills gaps (Talent Shortage Survey Research Results, 2012; PSR, 2010). The study measured the work readiness levels required by local employers and the perceived work readiness levels of graduating students to identify significant gaps and determine the graduating students' level of preparedness for the demands and challenges of the workplace. It also compared the work readiness levels of Visayan and Moro, male and female graduating students, to determine the level of skill proficiency among them, and if racial background and sex are factors in the acquired work readiness level of a graduating student. From a local perspective, there is no available data on the skills gaps and work readiness levels of the Institute's graduating students. Nevertheless, the information is vital for educators as they update their instruction strategies in response to industry needs. Furthermore, it paves for understanding and improving the employability of graduates amidst the vast Filipino labor market.

Research Objectives

The general objective of this study is to investigate the presence of skills gaps among MSU-IIT graduating students from the fields Business Management and Computer Studies. This is accomplished by comparing required work readiness levels of select Iligan employers and the graduating students' perceived work readiness levels. The study was conducted during the first semester of the 2013-2014 academic year.

Specific objectives of this study are:

1. To identify the required work readiness levels of employers in terms of personal characteristics, organizational acumen, work competence, and social intelligence;
2. To identify the perceived work readiness levels of graduating students in terms of personal characteristics, organizational acumen, work competence, and social intelligence;
3. To determine if there are significant differences between the required and perceived work readiness levels in terms of the graduating students' profile; and,
4. To determine if there are significant relationships between the differences in the required and perceived work readiness levels and the graduating students' ethnicity and sex.

Methodology

Primary data was collected through survey questionnaires based on the Work Readiness Scale of Caballero, Walker and Tyszkiewicz (2011). The instruments were administered to graduating students, educators and employers. For graduating students, questionnaires were either group administered or administered via web through the use of an online survey. As for educators and employers, questionnaires were personally delivered, explained to them, and collected after an average period of two weeks. Graduating students and educators came from the College of Business Administration and Accountancy (CBAA) to represent the Business Management field and School of Computer Studies (SCS) to represent the Computer Studies field, while employers came from the manufacturing, banking, and fast-food local industries.

In computing sample sizes of graduating students, the two-stage stratified random sampling technique was used to determine sample sizes by college, course, ethnicity and sex. This ensured an adequate representation of each group of respondents. First, percentages and sample sizes of each ethnicity and sex per college and course were computed. An initial random sample was drawn from each course to represent the ethnicity; a second random sample was also drawn to represent the sex of the graduating students. Samples were drawn at a 5% margin of error.

For the educators, a list of faculty teaching the randomly selected graduating students from CBAA and SCS during the first semester of school year 2013-2014 was secured. These educators were then given questionnaires to assess the graduating students' work readiness. Finally, companies surveyed were Pilmico Foods Corporation, Holcim, BDO, Security Bank Corporation, Alrose Corporation and McDonalds. For each company, the HR manager as well as department heads of business and computer-related processes were requested to participate in the study.

The total actual sample size is of 272 graduating students can be seen below in Table 1. In addition to the students, there were 16 educators and 17 employer-respondents who participated in this study.

Table 1. Breakdown of the Sample of Graduating Students

	BUSINESS MANAGEMENT	COMPUTER STUDIES	TOTAL ACTUAL SAMPLE	PERCENT OF SAMPLE
FIELD OF STUDY	**155**	**117**	**272**	**100**
ETHNICITY				
Visayan	136	107	243	89
Moro	19	10	29	11
Total	**155**	**117**	**272**	**100**
SEX				
Male	44	62	106	39
Female	111	55	166	61
TOTAL	**155**	**117**	**272**	**100**

To develop the work readiness profile, the average mean of perceived work readiness levels of graduating students was compared to the average mean of required work readiness levels of employers on four work readiness factors: personal characteristics, organizational acumen, work competence, and social intelligence. The table below shows the themes of each factor.

Table 2. Work Readiness Categories and Themes

CATEGORY	THEME
PERSONAL CHARACTERISTICS	
Resilience	Resilience to negative feedback, capacity to deal with competing work demands/challenges
Adaptability	Open to change (flexibility), acceptance of diversity, able to adapt behaviour
Maturity	Sense of responsibility/accountability, self awareness, mental/emotional maturity
Personal Development	Willingness to learn, openness to feedback, development insight
ORGANIZATIONAL ACUMEN	
Organizational Awareness	Understanding of organizational structures, awareness of organizational culture, rule/process conscious
Attitude to Work	Optimism, respect for others, realistic expectations, humility
WORK COMPETENCE	
Technical Focus	Confidence in technical/theoretical knowledge, initiative, personal structure, task management
Motivation	Commitment, drive, persistence, achievement orientation
Problem Solving	Analytical/evaluative, decision making, ideas generation
SOCIAL INTELLIGENCE	
Interpersonal Orientation	Communication skills, social confidence, collaborative/teamwork, building relationships/engaging with others, social intelligence

The perceived work readiness level is the average weighted mean of the students' self assessment of their work readiness levels and the educators' assessment of the students' work readiness levels. A weight of 60% was given to the responses of students, while a weight of 40% was given to educators. This method was employed to decrease the bias inherent in the graduating students' self-assessment.

Furthermore, the Welch-Satterthwaite t-tests and Chi Squared tests were performed to identify significant differences between the required and perceived work readiness levels, and the relationship of these differences to the graduating students' ethnicity and sex.

Results

Tables 3 and 4 below present the results of the required and perceived work readiness levels by college or field of study. It appears from the data that on the average, employers require **excellent** work readiness levels, while students possess only **good** work readiness levels.

Table 3. Summary of Business Management Graduating Students Work Readiness Levels

WORK READINESS FACTOR	EMPLOYERS (Required WRLs)	BUSINESS MANAGEMENT GRADUATING STUDENTS (Perceived WRLs)				
		All	Visayan	Moro	Male	Female
Personal Characteristics	3.48	3.19	3.19	3.15	3.16	3.20
Organizational Acumen	3.34	3.15	3.16	3.12	3.15	3.16
Work Competence	3.31	3.04	3.05	3.00	3.00	3.06
Social Intelligence	3.27	3.09	3.10	3.07	3.05	3.11
TOTAL WRL	3.35	3.12	3.12	3.09	3.09	3.13
REMARK	Excellent	Good	Good	Good	Good	Good

Table 4. Summary of Computer Studies Work Readiness Levels

WORK READINESS FACTOR	EMPLOYERS (Required WRLs)	COMPUTER STUDIES GRADUATING STUDENTS (Perceived WRLs)				
		All	Visayan	Moro	Male	Female
Personal Characteristics	3.39	3.19	3.19	3.23	3.21	3.16
Organizational Acumen	3.29	3.09	3.09	3.14	3.09	3.10
Work Competence	3.31	3.01	3.02	2.96	3.09	2.93
Social Intelligence	3.25	3.06	3.05	3.14	3.12	3.01
TOTAL WRL	3.31	3.09	3.09	3.12	3.13	3.05
REMARK	Excellent	Good	Good	Good	Good	Good

Gaps can be seen in the overall required and perceived work readiness levels shown in previous tables. The data reveals that on the average, employers require **excellent** work readiness levels, while students possess only **good** work readiness levels. This finding is consistent with the World Bank Philippines Skills Report, which revealed that university graduates have gaps in foundational skills, such as problem-solving, critical thinking, initiative and creativity. To a lesser extent, they also have gaps in job-specific technical skills (Buendia, 2011).

To test if the differences are indeed significant, the researcher subjected the data to a series of Welch-Satterthwaite t-tests. In the subsequent section, the tests of difference are conducted for each component of the graduating students' profile. Chi Square tests were also performed to determine the relationship between these differences and the graduating students' ethnicity and sex.

Field of Study

The data from Table 5 reveal that there is a significant difference between the required and perceived work readiness levels for students in the field of Business Management, further suggesting that there is a considerable gap between the skills set required by employers and the

skills set possessed by graduating students. This implies that on the average, the work readiness levels of graduating students from CBAA tends to be lower than the work readiness levels required of them.

The opposite is true for the field of Computer Studies where no significant difference was noted.

Table 5. Difference between Required and Perceived Work Readiness Levels of Graduating Students by Field of Study

FIELD OF STUDY	BUSINESS MANAGEMENT			COMPUTER STUDIES		
	t value	*p*-value	Remark	t value	*p*-value	Remark
Difference in required and perceived work readiness levels	-2.5058	0.0226	**Significant**	-1.3914	0.2053	**Not Significant**

*Significant at *p*value < 0.05

Skills gaps have been observed across many countries, industries and fields of occupation as well. Hence, it is not surprising that the results above are consistent with the expected skills gap. The findings are partially consistent with the Philippine Skills Report, 2012 Global Talent Shortage report and the Philippine Education Sector Assessment Project where it was claimed that the quality of training and skills acquisition of graduates have deteriorated, thus leading to a skills gap. Several studies have been conducted to assess the job readiness of business graduates. For instance, it was reported that while business graduates possess high ratings in certain skills, they still face gaps in non-technical aspects such as social, leadership and communication skills (Chapman & Jackson, 2010). On the other hand, it was a surprise to note that the Computer Studies field did not register any significant differences in light of the global skills gap.

Ethnicity

For ethnicity, Table 6 shows significant differences between the required and perceived work readiness levels of Visayan and Moro graduating students from the field of Business Management. This implies that on the average, the work readiness levels of Visayan and Moro graduating students from CBAA tend to be lower than the required work readiness levels. This is not true however for Visayan and Moro graduating students from the field of Computer Studies, where no significant differences were noted.

Table 6. Difference between Required and Perceived Work Readiness Levels of Graduating Students by Ethnicity

ETHNICITY	VISAYAN			MORO		
	t value	*p*value	Remark	t value	*p*value	Remark
Difference in work readiness levels of Business Management graduating students	-2.4518	0.0249	**Significant**	2.3149	0.0275	**Significant**
Difference in work readiness levels of Computer Studies graduating students	1.4075	0.2006	**Not Significant**	1.0873	0.3011	**Not Significant**

*Significant at *p*value < 0.05

Sex

Finally, the test of difference between required and perceived work readiness levels by sex presented in Table 7 shows significant differences noted for male and female graduating students from the field of Business Management. This implies that on the average, the work readiness levels of Female and Male graduating students from CBAA tend to be lower than the required work readiness levels. On the other hand, there were no significant differences noted for the male and female graduating students from the field of Computer Studies.

Table 7. Difference between Required and Perceived Work Readiness Levels of Graduating Students by Sex

SEX	MALE			FEMALE		
	t value	*p*value	Remark	t value	*p*value	Remark
Difference in work readiness levels of Business Management graduating students	2.6125	0.0157	**Significant**	2.382	0.0291	**Significant**
Difference in work readiness levels of Computer Studies graduating students	1.1558	0.2834	**Not Significant**	1.6325	0.1437	**Not Significant**

*Significant at *p*value < 0.05

It appears that the overall significant difference computed for students in the field of Business Management has an impact on the differences noted by students' ethnicity and sex. This explains why significant differences among Visayan and Moro, male and female, were noted for the graduating students in the field of Business Management but not in the field of Computer Studies, since the latter did not register

an overall significant difference. These results have so far answered our objective of determining significant differences in required and perceived work readiness levels of graduating students in terms of their profile.

Relationship to Ethnicity and Sex

To answer the next objective and determine if the differences noted in the previous section are indeed related to the graduating students' ethnicity and sex, chi square tests were conducted on the data. The findings can be seen in the succeeding tables.

Table 8. Test of Relationship between Ethnicity and Difference in Work Readiness Levels of Graduating Students

Ethnicity	Level of Work Readiness with respect to the Level of Difference				Total
	Poor	Fair	Good	Excellent	
Visayan	0	135	106	2	243
Moro	1	15	13	0	29
Total	1	150	119	2	272
Chi-Square Value = 8.696 *p*value = 0.034		Significant	Contingency Coefficient = 0.176 *p*value = 0.034		Significant

*Significant at *p*value < 0.05

Table 8 shows the frequency of Visayan and Moro graduating students with differences in work readiness levels under the categories *poor, fair, good* and *excellent*. Accordingly, most of the graduating students' levels are concentrated in the *fair* and *good* categories, with 135 and 15 Visayan and Moro respondents, respectively in the *fair* category; and 106 and 13 Visayan and Moro respondents, respectively in the *good* category. On the extreme, there was 1 Moro respondent who scored poor, and 2 Visayan respondents who scored excellent.

The table also shows that there is a significant association between the ethnicity of the graduating students and the differences in required and perceived work readiness levels. This implies that Visayan graduating students tend to have higher work readiness levels and, thus, smaller skills gaps than Moro graduating students.

This major finding is consistent with the results of two separate studies where racial background of the respondents has proven to be a factor in skills gap. In one study, it was reported that black students had significant skills gaps in functional literacy, intelligence, employability, and trainability in comparison to white students (Gottfredson, 2000), while in another, Asians (students) showed an advantage over White (students) in teacher-rated non-cognitive skills (Goldammer, 2012).

Table 9. Test of Relationship between Sex and Difference in Work Readiness Levels of Graduating Students

Sex	Level of Work Readiness with respect to the Level of Difference				Total
	Poor	Fair	Good	Excellent	
Male	1	59	44	2	106
Female	0	91	75	0	166
Total	1	150	119	2	272
Chi-Square Value = 4.906 p value = 0.179	**Not Significant**		Contingency Coefficient = 0.133 p value = 0.179		**Not Significant**

*Significant at p value < 0.05

Similarly, Table 9 above shows the frequency of male and female graduating students with differences in work readiness levels under the same categorical classification used in the previous table. It also shows that most of the graduating students' levels are concentrated in the *fair* and *good* category, with 59 and 91 male and female respondents, respectively in the *fair* category; and 44 and 75 male and female respondents, respectively in the *good* category. In addition, there was 1 male respondent in the poor category, and 2 male respondents in the excellent category.

The main finding, however, is that no significant association could be established between the gender of the graduating students and the differences in required and perceived work readiness levels. It shows that males and females have almost the same work readiness and skills gap levels, thus implying that gender and difference in work readiness levels are independent and therefore unrelated to the skills gap. This is inconsistent with the results of a previous study which revealed that

white and black males have lower average cognitive and non-cognitive skills than their female counterparts, and gender differences in non-cognitive skills are substantially larger than in cognitive ones (Aucejo, 2013).

Conclusion

The results of this study reveal that gaps exist for graduating students of both fields of study, Business Management and Computer Studies. However, the t-tests conducted show that Business Management graduating students of MSU-IIT have significant differences between their required and perceived work readiness levels. This is in contrast to the t-test results of Computer Studies graduating students, where no significant differences were noted in their required and perceived work readiness levels. The disparity suggests that on the average, Business Management graduating students tend to have lower work readiness levels and larger skills gaps. The ratings under the four components of the work readiness scale show that Business Management graduating students are mostly lacking in workplace skills and attributes associated with personal characteristics and work competence. The results suggest that to a certain extent Business Management graduating students are deficient primarily in soft skills, and secondarily in hard skills.

In addition, the study has established a relationship between ethnicity and the difference in required and perceived work readiness levels of graduating students. The results reveal that on the average, Moro graduating students tend to have lower work readiness levels and consequently larger skills gaps than Visayan graduating students. This finding is highly significant because it impacts the employability chances of Moro graduating students. Likewise, it will compel educators and schools to be sensitive to the racial skills gap among Moro and Visayan students, and diversify their educational and training strategies to address the skills needs of different ethnicities.

Recommendations

The researcher recommends to future researchers the development of a national Philippine Work Readiness Scale that gathers perceptions from employers of different industries across the nation on the skills required from applicants who are recent college graduates. This will allow schools to benchmark against a scale that is based on the national economic and industrial environment than on a foreign scale. It will also allow the government to develop policies to address problem areas in higher education.

In response to the results of this paper, future studies can be carried out to investigate why SCS graduating students did not test for significant differences between their required and perceived work readiness levels. It would also be helpful to understand in which work readiness factors CBAA graduating students tested the poorest in order to address the gaps.

Future researchers may further consider studying contributing factors of ethnicity on work readiness levels, possibly including other racial profiles to test if similar gaps exist. There is currently little evidence as to how racial background can impact the learning process of students. Moreover, other socio-demographic factors, such as income, can be studied for their influence on work readiness of a student. Lastly, researchers can compare the work readiness levels of MSU-IIT students to that of students from other schools to determine if quality of education and teaching methods have an impact on students' work readiness levels.

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