

## **IDENTIFYING THE GENERIC SKILLS AMONGST MALAYSIAN UNDERGRADUATE STUDENTS: AN ANALYSIS OF GENDER DIFFERENCES**

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**Abstract.** This paper discusses the generic skills acquired by Malaysian undergraduate students in general and it further explores the differences between genders. A sample of 460 undergraduate students from three public universities in Malaysia was surveyed using an inventory of 54 items. Descriptive statistics such as, t-test and discriminant analysis were employed in analyzing the data. The study found that the undergraduate students generally tend to respond positively to most of the components in prescribed generic skills. Eventhough the sample of female undergraduate students was higher than male undergraduate students, it seemed that the male undergraduate students tended to rate their own abilities higher in almost all skills. Computer skills and communications skills were effective differentiators in explaining genders differences. The research has brought meaningful implications for undergraduate students, employers and policy makers.

*Keywords:* Employment; gender differences; generic skills; undergraduate students

**Abstrak.** Kertas ini membincangkan kemahiran generik yang diperolehi oleh pelajar prasiswazah dan ia seterusnya meneroka perbezaan mengikut jantina. Sampel seramai 460 pelajar prasiswazah dari tiga buah universiti awam di Malaysia telah ditinjau menggunakan satu inventori 54 item. Analisis statistik deskriptif, ujian-t dan analisis diskriminan telah digunakan. Kajian ini mendapati pelajar prasiswazah secara umumnya memberi respon yang positif dalam kebanyakan komponen yang terkandung dalam kemahiran generik. Walaupun dalam sampel ini, bilangan pelajar prasiswazah perempuan melebihi pelajar prasiswazah lelaki, pelajar prasiswazah lelaki didapati menilai kebolehan mereka lebih baik daripada pelajar prasiswazah perempuan dalam kebanyakan kemahiran. Kemahiran komputer dan kemahiran komunikasi menjadi pembeza efektif dalam menerangkan perbezaan gender. Kajian ini memberi implikasi yang bermakna kepada pelajar prasiswazah, majikan dan pembuat dasar.

*Kata kunci:* Pekerjaan; perbezaan gender; kemahiran generik; pelajar prasiswazah

### **1.0 INTRODUCTION**

During recent years, the issue of graduates' quality has received unprecedented attention especially from government officials and employers. Quality of graduates certainly helps the chances of employment and enhances the matching up of graduate-employer

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needs. The crux of the matter is related to the growing number of graduates every year intensely competing employment in the labour market for limited job vacancies. The outlook on employment can change if the economic recovery is much stronger than expected. But for now, against the expectation of a modest recovery, the employers are still unhappy with their staff recruitment. The fast growing technology forced employers to downsize human resources and concentrate on maximising outputs through technology. Compounded by the job mismatch prevailing in the labour market, the unemployment rate in year 2002 could surpass the 4.0 percent full employment benchmark (New Straits Times, 2002). Again, technology-based workplaces are becoming more selective and are only interested in graduates who can cope with present demands.

The changing pace in job demand has led to an increased pressure for the institutions of higher education to provide undergraduates courses, which can equip students with skills that facilitate employment. In relation to this, job recruiters frequently highlighted personal transferable skills that graduates frequently lacking such as team working, informed decision making, and commercial awareness, and they urge the universities to redress rapidly (AGR, 1995). Feedback from various employers in Malaysia also pointed invariably to the tertiary education deficiencies in training students to meet the workplace needs which results in unemployment among graduates (Asma and Lim, 2000; Lee, 2000; Quek, 2000; Kanapathy, 2001). These same studies also reported that the crux of the deficiencies in tertiary education lies largely in the lack of promising learning transferable competencies. This is in agreement with an earlier press released by the Malaysian manufacturing and service sectors expressing the view that most employers were unfavourably inclined to employ graduates who do not have transferable competencies (New Straits Times, 1998). Graduates who do not have transferable competencies are liabilities to corporation. For example, graduate employees who lack innovation and creativity were reported to hinder the sharing of expertise among workers, and were also reported to be unresponsive to new technologies in the workplace (Minister of Education, 2000; Lee *et al.*, 2001; Quek, 2004).

University education must respond appropriately to the lack of skills since preparing undergraduate students with needed skills is one of the major purposes of university education. Nevertheless, university education cannot be expected to provide students with complete and comprehensive skills. Indeed, this is not what the employers expected as variations in job specifications and natures. Different organisation will use different criteria for recruitment and these may change frequently in response to the market demand (AGR, 1995). However, it is very timely for the two parties to reach a consensus in highlighting the transferable skills. An agreeable statement certainly helps the students to acquire a broad range of personal reliance-skills regardless of their discipline which in return can contribute to the organisation.

Two decades ago, the problem of deficiency in skills surfaced. De Cenzo and Robin (1994) stated that our workforce was deficient in the skills. With the new millennium,

further cautions must be taken towards acknowledging the non-discipline skills. Recently, The New Strait Times (2004) claimed that one noticeable difference in job requirement was the manufacturing sectors requiring more technical knowledge while the services sector calling for relatively more 'soft skills' such as communication and language skills. It seems that 'soft skills' outside the degree discipline skills are equally important in workforce environments. In lieu of these, the challenges go to the university authority to identify which transferable skills have been assimilated to the undergraduate students.

Apart from the skills, there are many other independent variables which hamper recruitments. For example, personality, values and gender orientation which can have great impact on the success at the workplace. With the increasing number of female undergraduates at universities, it is important to understand the complexity in the role of gender in skills acquisitions. The issues of female undergraduates dominating university activities and their excellence in academic achievement are relevant in studies of gender differences. Whilst they differ in many areas, they can also differ in soft or transferable skills. It is timely and relevant to explore the type of skills possessed by present undergraduate students particularly in terms gender differences. An initiative has been undertaken by the author to address the issue. The term soft or transferable skills will be replaced by 'generic skills'.

## 2.0 DEFINING GENERIC SKILLS

Defining the full range of generic skills that are useful for university students is a continuous process. There has been a growing interest in the concept of generic and key skills as outcomes of education. The Finn Report (1991) may have introduced this concept in Australia using the term key competencies to describe 'certain essential things that all young people need to learn in their preparation for employment'. The subsequent Mayer Committee (1992), further clarified the concept of employment related key competencies in compulsory education and training. The key competencies proposed by the Mayer Committee were as below:

- (1) collecting, analysing and organising ideas and information
- (2) expressing ideas and information
- (3) planning and organising activities
- (4) working with others and in teams
- (5) using mathematical ideas and techniques
- (6) solving problems and
- (7) using technology

Alternatively, Crebert, *et al.* (2000) definition of the generic skills is specifically tailored for Griffith Graduates. Among others were:

- (1) Oral communication which emphasises on the ability of graduates to communicate confidently and effectively with a range of audiences, in a variety of oral modes, and using a number of different means.
- (2) Written communication in which graduates will be skilled in using the conventions of their disciplinary discourse to communicate effectively in writing with a range of audiences, in a variety of written modes, and using a number of different means.
- (3) Problem- solving needed by graduates to be able to identify, define and solve problems using logic and lateral thinking.
- (4) Analysis meant for graduates to be able to refine problems and issues into their component parts, explore their significance and interrelationships, and synthesise the parts back as a whole.

Crebert *et al.* (2000) also included the skills of critical evaluation, information literacy and teamwork to complement his definition of generic skills.

It seems that the definition mainly focus on a set of individual skills, which can be achieved through daily living. Many terms have been used to conceptualise the generic skills. They are described by a number of synonyms including personal, soft, transferable, generic, common, work and employment related skills. In university teaching, the skills set is focused to those which are not be taught as discrete components of coursework. At the same time, the generic skills sought by university education assumed that learners were numerate and literate as consequence of requirements on university entrance. Most of the universities tend to include generic skills that students need to develop to be successful and become self-sufficient learners, for example information literacy and metacognitive skills (Candy *et al.* 1994). Other literature on generic skills for university graduates include the development of intellectual and imaginative powers, understanding and judgement, problem solving skills, critical thinking skills and ability to foresee relationships (Ramsden, 1992).

### 3.0 RESEARCH OBJECTIVES

This research aims to examine the undergraduate students' generic skills with emphasise on gender differences. Specifically, the current study is to fulfil the following three objectives.

- (1) To rate the agreement of components in generic skills as perceived by Malaysian undergraduate students.
- (2) To study the differences in generic skills between genders.
- (3) To identify the component of the generic skills that can differentiate between genders.

#### 4.0 METHOD AND INSTRUMENT

The Generic Skills Survey designed by Institutional Research Unit, The University of Western Australia (1996) was employed as the original source of instrument. Development of the instrument was done by Peter Stuckey and Joan Kelly. The questionnaire measured ten components of generic skills which are named as Decision Making Skills, Problem Solving Skills, Work in Team Skills, Thinking Skills, Oral/Written Communication Skills, Computer Skills, Ethics and Tolerance Skills, Organizational Skills, Communication Skills and Personal Development Skills. Each component comes with six items that try to explain the scope of the respective skills. For example, the two items under the component of decision making skills are 'I take responsibility for my decisions' and 'I am able to make effective decisions'. In the context of plural societies in Malaysia, the example of two items under the component of Ethics and Tolerance Skills are 'I understand what racist behaviour is and try to exhibit non-racist behaviour' and 'I interact with and appreciate people from ethnic background differently own'. A pilot study was administered to 87 undergraduate students from a public university.

The final version of the questionnaire contained 54 items that were scored on a five point Likert Scale with option from 1 (completely disagree) to 5 (completely agree) and were administered to 460 undergraduate students of three public universities. Responses were obtained directly from undergraduate students after getting an approval letter from the university authorities. Two hundred and seventy eight undergraduates were in the field of science-based courses such as computer science, pharmacy, food technology and chemistry and 182 undergraduates were in the field of social sciences courses such as education, law and political science. Out of these undergraduates, 343 were females.

#### 5.0 ANALYSES AND RESULTS

The analysis began with determining the Cronbach Alpha for every component. The Problem Solving Skills yielded a very low 0.3943 reliability and was subsequently removed from the questionnaire. An overall reliability coefficient Cronbach alpha of a final version yielded an acceptable 0.8834 with reliability for each component listed in Table 1.

The subsequent analysis was to determine the mean scores of agreement level and standard deviations as perceived by the respondents. Mean scores for each component were then computed and tabulated (see Table 2). The results showed that Personal Development Skills appeared to have the highest score followed by Ethics and Tolerance Skills. The undergraduates considered these two skills as very important for undergraduates and employees. Apart from these two skills, the undergraduates also tended to have a greater awareness in the Decision Making Skills, Works in Team Skills, Thinking Skills, Computer Skills, and Communication Skills (mean scores above 3.5 at 1-5 point of a Likert scale). On the other extreme, the undergraduates had not

**Table 1** Cronbach alpha for the components of the generic skills

<b>Component of Generic skills</b>	<b>Alpha Value</b>
Decision Making Skills	0.7127
Work in Team Skills	0.6693
Thinking Skills	0.7848
Oral/Written Communication Skills	0.6501
Computer Skills	0.7184
Ethics and Tolerance Skills	0.7427
Organizational Skills	0.6147
Communication Skills	0.7594
Personal Development Skills	0.8336

**Table 2** Computed means for components of the generic skills

<b>Component of Generic skills</b>	<b>Mean Score</b>	<b>Std. Deviation (S.D)</b>
Decision Making Skills	3.8267	0.4221
Works in Team Skills	3.6722	0.4439
Thinking Skills	3.8369	0.4128
Oral/Written Communication Skills	2.8323	0.6271
Computer Skills	3.8338	0.5993
Ethics and Tolerance Skills	4.0260	0.4113
Organizational Skills	3.4909	0.4651
Communication Skills	3.7679	0.4707
Personal Development Skills	4.0751	0.4234

displayed very high scores in the Oral/Written Communication category. With the mean score at 2.8323 plus a relatively high data dispersion (s.d = 0.6271), it was an issue to be further discussed.

Apart from descriptive analysis, t-test was also conducted to examine any differences in generic skills between genders. The results revealed that male and female respondents had a different understanding about the generic skills, particularly in the components of Decision Making Skills, Thinking Skills, Oral/Written Communication Skills, Computer Skills and Organizational Skills (see Table 3).

Differences between sexes were further explored by measuring the mean scores for each significant component. By comparing the mean scores between genders, it was found that male undergraduates scored slightly higher than the female in all identified components (see Table 4).

There were five components of generic skills, which noted statistically different between the genders. Further analysis was done to determine the most efficient components of skills which can be the differentiators in comparing the two groups. Discriminant analysis was used to maximally differentiate the two groups. The five components of skills were analysed and later summarised in Table 5.

**Table 3** T-test on the generic skills between sexes

<b>Components of Generic skills</b>	<b>Levenes's Test for equality of variances</b>	<b>t-values</b>	<b>Sig. (2 tailed)</b>
Decision Making Skills	Equal Variances Assummes	4.152	0.000*
Work in Team Skills	Equal Variances Assummes	0.355	0.722
Thinking Skills	Equal Variances Not Assummes	4.704	0.000*
Oral/Written Communication Skills	Equal Variances Assummes	5.013	0.000*
Computer Skills	Equal Variances Assummes	5.293	0.000*
Ethics and Tolerance Skills	Equal Variances Not Assummes	0.480	0.632
Organizational Skills	Equal Variances Assummes	3.410	0.001*
Communication Skills	Equal Variances Assummes	1.539	0.124
Personal Development Skills	Equal Variances Not Assummes	0.058	0.954

\* p &lt; 0.05

**Table 4** Mean score of components of the generic skill between sexes

<b>Components of Generic Skills</b>	<b>Mean Score</b>		<b>Std. Deviation (S.D)</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
Decision Making Skills	3.943	3.787	0.4322	0.4118
Thinking Skills	3.960	3.795	0.3816	0.4150
Oral/Written Communication Skills	3.040	2.762	0.6423	0.6069
Computer Skills	4.043	3.763	0.6101	0.5796
Organizational Skills	3.597	3.455	0.5097	0.4442

**Table 5** Discriminant analysis: variables in the analysis

<b>Step</b>		<b>Tolerance</b>	<b>Sig. of F to Remove</b>	<b>Wilks' Lambda</b>
1	Computer Skills	1.000	.000	
2	Computer Skills	0.942	.000	.963
	Oral/Written Communication Skills	0.942	.000	.960

There was an F and p-value associated with Wilks' Lambda that indicates the level of significance. In the two steps analysis, there were two components of skills identified at maximum significance of F ( $p = 0.000$ ) and eventually become the components, which can discriminate between genders. Computer Skills and Oral/Written Communication Skills evidently become 'the differentiators' in exploring the generic skills that relate to gender.

## 6.0 DISCUSSION AND SUGGESTIONS

Generally, the undergraduates appeared to perceive that they have mastered all the components of the generic skills but one component was noted at the mediocre level. The component of Oral/Written Communication Skills was scored relatively lower than the rest and it needs further attentions. Communication skills were already recognised as one of the many other skills required by employers. Binks and Exley (1992) identified communication attributes (written and oral skills) as one of the three groups in 25 specific skills as desirable graduate attributes for employment. It was emphasised 13 years ago and until now (2007) the importance of communication skills is undeniable. It would be too harsh if communication skills are said to be in the state of 'dying' but at least with this research, the skills seemed to be 'deteriorated'. This should be a serious concern to all parties and appropriate strategies should be taken immediately to inculcate the skills.

The next issue is the impact of gender differences in skills acquisition. The findings indicated that the males and females had different views about the skills. One point worth nothing is, after identifying the five components of skills that they differ in, the males rated their own abilities higher for all five components of skills. These findings are in line with the research done in Britain by Felstead *et al.* (2002). They have showed that there were great differences between genders in describing generic skills. In their research, there was only one skill that the females were better than males. With the differences indices at 0.19 for females and 0.15 for males, the females outperformed the males in the skills of planning and communication while the males dominated most of the other skills. Again, the study in Britain by Felstead *et al.* (2002) supported the finding that the males rated themselves higher than the females in at least two skills. It was reported that on the average, the male undergraduates rated their own abilities higher on communication and problem-solving/IT skills (Nabi and Bagley, 1999). There was no concrete evidence available in explaining the genders differences in most of the skills. It could be true in the sense that perceptions play their part. There is a male perception that believes the males were more competent than females in the five components of skills. Still, differences need to probe further in future research.

Further analysis on five components of skills revealed that the efficient differentiators were Computer Skills and Oral/Written Communication Skills. Again, communication skill was a differentiator between genders even with a reversal finding as described in Felstead *et al.* (2002). In Malaysia, at least the present male undergraduates' samples rated their ability to communicate better than female undergraduates. This might be one of the factors supporting the claim that the male graduates could easily obtain a job than female graduates. At the same time, it was also reported that there was a significant difference between the males and females in term of their perceived levels of communication skills at the level of 0.05 (Nabi and Bagley, 1999). They found that the males perceived themselves to be significantly better than females.



In addition of that, computer skill was the other effective differentiator. Much has been said about the competent of male over female in computer skills. For example, Arel (2004) stated that the males performed better on average than females in computer-related majors. One possible reason was that computer usage had often been perceived to be a male-oriented activity and males have also been found to have greater liking to computers compared to females (Teo and Lim, 1996a). The imbalance between the genders in the computer skills acquisition is hardly acceptable to a developing nation like Malaysia. The citizen of Malaysia regardless of their ethnic groups and genders must work together to achieve government policies. Presently, in Malaysia, public policies recognised the increasing importance of technology as an enabler for Malaysian to achieve the National Vision, which is to attain the status of a developed country by the year 2020 (Percetakan Nasional Malaysia Berhad, 1996, 2001).

These findings revealed that not only the males and females perceive the five components of skills differently but most appalling were the males and females differ highly in skills related with computer and communication. The findings related to gender differences in the present research are not surprising as many factors force different social roles and values for the males and females. Parental upbringing and societal pressure are two factors that shape the social roles and values for the males and females. For example, the parents and teachers tended to reinforce boys take masculine subjects such as engineering and computer science, and girls to take more feminine subjects such as life sciences and literature.

The gender differences appeared to be managed by the authorities. Gender differences must put into the perspective when planning skills development courses so that individual needs are precisely targeted, especially in relation to computer and communication skills where gender gap appears to be the most evident. In these respects, corrective measures should be taken to create a balance in gender-skills distribution. This study recognised the inequality in skills acquisition between genders and new measures should be steered toward a balance point. The problem associated with a gender disparity in generic skills should be fairly tackled before the gaps are more apparent. The equilibrium systems in skills acquisition should be moving toward stability and open up for a fair competition between genders in the employment market.

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