

Exploring Generic Competences of University Students

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Abstract

In this age of vast spread of education, there is a demand from the society to higher education institutions to produce labour force with applicable knowledge for the requirements of the knowledge economy. Marketable skills are expected from university graduates round the globe. Pakistan is lacking both in competence based higher education curriculum and a relevance of higher education with labour market. Feeling the need to fill the gap, there appeared to be an inevitable need to create awareness among university students through measuring their existing level of generic competences in a public sector university in Pakistan. For the study, a selected list of competences was adapted. Four null hypotheses were tested by applying 2-sample tests and K-sample tests. Results indicated that students were well aware of their generic competences. The only need is to document those competences and make them a part of learning outcomes.

Keywords: Generic competencies, University students

Introduction

Advancement in information technology has transformed the earth into global village in 21st century. The two synonymous and highly interchangeably used terms, Information society and knowledge economy, are the hallmarks of 21st century society inhabiting the globe. This knowledge economy is to be nurtured by more competent and flexible graduates as knowledge is the core of this economy (Shah, 2009).

For international citizen of today's knowledge economy, competence is a crucial point in his life. Only the competent members of information society are considered successful in the better contribution to this economy. As Basford and Slevin (2003) reflected, for the achievement of total competence, an individual is required to demonstrate the knowledge, skill and understanding of each part of related practice that develops into a comprehensive portfolio. In order to assert their point, they have given example

of a nurse who, without having knowledge and understanding, may develop the skill component of the competence, but the total competence is not at all achieved.

Competences stand for a blend of attributes, with respect to knowledge and its application, attitudes, skills and responsibilities that describe the level or degree to which a person is capable of performing them. Pukelis (2009) calls competence as skill which has formally been confirmed by some document and is utilized to perform some function of an occupation that is valid, concrete and reliable. Competence is a component of an already described professional standard (Moon, 2002). A recent shift from discipline specific to generic competences has been observed by Meng and Heijke (2005). Generic competences are context free competences not context bound. Generality is the major characteristic of such competences. Public relation officer and university teacher, for example, are expected to possess such type of

competences. Bennet et al (1999) presented Hyland's (1994) analysis of the term competence which discloses that generic competences (which ensures the transferability of occupational skills) and by the identification of Meta skills (that work on other competences) have almost completed the ever developing universe of competence.

Key competences were defined by the Mayor Committee (1992) with relation to employability. To them, these are the competences necessary for patterns of work emerging in the present scenario. Application of knowledge and skills in a coherent way in work situation is focused by these competences. Key competences are generic in the sense that they are applied to work generally instead of being specific in particular profession or industry. This characteristic implies that the key competences are essential for participation in work as well as effective participation in further education and more generally in adult life. According to the principles articulated by the Mayer Committee (1992), these competences should;

1. Be vital for employment
2. Be generic in the range of occupations rather than occupation specific
3. Enable individuals to take part effectively in workplaces in particular and in adult life in general.
4. Involve the application of skill and knowledge.
5. Be easy to learn
6. Be assessed credibly

There has been considerable increase in the importance of generic competences in higher education during the last few years (Bridgstock, 2009; Barth et al., 2007; Canto-Sperber, Dupuy, 2001; Holmes, Hooper, 2000; Bennett et al., 1999). Maintenance or improvement of the learning outcomes of study programs of higher education institutions is one of the most important reasons behind the

development of the research into higher education graduates' competences that are developed in study programs. In addition to professional training, the aim in this case, is to promote development of personality, enabling a person to be able to cope with complex situations, to be able to act upon reflection and to make decisions. It is also about the state of being able to take on responsibility while considering ethical standards acting and judging the consequences (Barth et al, 2007). Gracia-Aracil et al (2004) advocated the idea of generation and promotion of competences through higher education. Hager et al (2002) suggests that competences should be assessed formally in higher education and this is only possible if we take them explicitly.

Shah (2009) enlists following generic competences that are usually associated with university education.

1. Written communication
2. Oral communication
3. Critical and analytical thinking
4. Problem-solving
5. Teamwork
6. Independent learning
7. Information literacy

Besides the above mentioned competences, many skills and attributes can be added to the list. For example, "think and reason logically", "to be open to new ideas" etc.

The tools available in the literature are more culture specific- they are more applicable to a specific culture. Most of the researchers who have worked in the field use organization specific tools often developed after a job analysis. Some researchers feel that a simple, reliable, valid, and easy-to-use tool of generic competences can facilitate further research and practice in the field of competence management (Nikolaou, 2003).

Self-assessment tools for competence assessment can be proved to be more helpful amidst the fact that learner's performance in standardized knowledge test is regarded more objective

and convincing. It is agreed by a number of studies (Chur-Hansen, 2001; Garrigan, 1997; Yorke, 2001) that ability for self-assessment can help learners to gain self-awareness, mature and progress, and explain their developmental needs (Fung et al, 2006). But the implied nature of generic skills works against their being recognized and conceptualized both by observers and the people who possess them. Self-assessment tools provide an appropriate support to make a reflective self-assessment a task that is manageable to undertake the comparatively simpler task of recognizing instead of identification of generic skills (Lizzio & Wilson, 2004). Literature reveals development of self-assessment tools for competence assessment round the globe. They have successfully been applied after validation (Fung et al, 2006; Thomas et al, 2008; Gillespie et al, 2011).

Objectives of the Study

- i) To explore gender and residential differences in generic competences in the university students.
- ii) To investigate programme wise and department wise differences in generic competences among university students.

Hypotheses

- H₀₁: There is no significant difference between the assessment of competences by male and female students.
- H₀₂: There is no significant difference between the assessment of competences by urban and rural students.
- H₀₃: There is no significant difference among the competence of the

students enrolled in different study programmes.

- H₀₄: There is no significant difference among the competence assessment of the students enrolled in different departments.

Methodology

All the public sector universities of Punjab constituted the target population of the study. All the students enrolled in University of Sargodha constituted the research population of the study.

Nine hundred and thirty two (932) students of University of Sargodha from ten teaching departments and nine study programmes were selected on the basis of purposive sampling. Sample was taken from study programmes i.e. B.Ed (ELT), B.Ed (SS), B.S., M.A, M.Com, M.Ed, M. Phil, M.Sc., and Pharm. D. Departments from where these programmes were selected are University Agriculture College, Commerce, Education, English, Math, Pharmacy, Physics, Psychology, Sociology and Zoology.

For the current study, a selected list of generic competences was adopted. It has been taken from the work of Shah (2007). The questionnaire developed by Shah has similarity with the list found in the Reflex Master Questionnaire (RMQ) which was administered in 15 European countries. This tool was based on self-assessment with seven (7) point rating scale. The tool included nineteen (19) generic competences which are applicable in different fields of study and professions. The study deals with the assessment of generic competences of university students through a selected list. The list is given below:

Table 1 List of Selected Generic Competences

No.	Competence
1.	Mastery of your own field or discipline
2.	Knowledge of other fields or disciplines
3.	Analytical thinking
4.	Ability to rapidly acquire new knowledge
5.	Ability to negotiate effectively
6.	Ability to perform well under pressure
7.	Alertness to new opportunities
8.	Ability to coordinate activities
9.	Ability to use time efficiently
10.	Ability to work productively with others
11.	Ability to mobilize the capacities of others
12.	Ability to make your meaning clear to others
13.	Ability to assert your authority
14.	Ability to use computers and the internet
15.	Ability to come up with new ideas and solutions
16.	Willingness to question your own and others' ideas
17.	Ability to present products, ideas or reports to an audience
18.	Ability to write reports, memos or documents
19.	Ability to write and speak in a foreign language

It was first pilot tested by administering it on 20 students. From the obtained responses, it was observed that some of the demographic variables were not relevant to the socio-cultural and socio-economic environment of the respondents as well as particular needs of the study. Data was collected by administering the list through a survey from the respondents. Most of the respondents were approached by the researcher in person. To ensure the privacy and anonymity of the respondents, name column was optional to fill in. The tool was validated through expert opinion and focus group discussion comprised of the students of MPhil Education. Reliability coefficient was .690 which ensured that the tool was reliable to be administered.

Data Analysis and Results

To identify the differences in competence scores among more than two

groups, Kruskal Wallis test was applied. One consisted of ten teaching departments second consisted of nine study programmes going on in these departments. Two groups of variables were analysed by the k-independent sample tests. Median test was also used on teaching departments and study programme variables. This test checked the number of respondents rating themselves above and equal or below the median. This test was helpful to check that students of which department or study programme had rated themselves higher or lower than the median in each competence.

Gender and Domicile-Wise Comparison of Acquired Competences

This section contains Mann-Whitney statistics.

Table 2 Gender wise differences in Acquired Competences

Sr No.	Competences	Gender	N	Mean Rank	Mann Whitney U	P
1	Mastery of your own field or discipline	Male	408	463.06	105492.000	.718
		Female	524	469.18		
2	Knowledge of other fields or disciplines	Male	408	435.82	94377.500	.002
		Female	523	489.55		
3	Analytical thinking	Male	408	465.8	106612.000	.941
		Female	524	467.04		
4	Ability to rapidly acquire new knowledge	Male	408	452.69	101260.500	.145
		Female	524	477.25		
5	Ability to negotiate effectively	Male	408	446.53	98747.000	.035
		Female	524	482.05		
6	Ability to perform well under pressure	Male	408	483.42	99994.000	.076
		Female	524	453.33		
7	Alertness to new opportunities	Male	408	481.05	100961.000	.127
		Female	524	455.17		
8	Ability to coordinate activities	Male	408	467.37	106540.500	.928
		Female	524	465.82		
9	Ability to use time efficiently	Male	408	452.56	101209.000	.142
		Female	524	477.35		
10	Ability to work productively with others	Male	408	470.2	105387.000	.696
		Female	524	463.62		
11	Ability to mobilize the capacities of others	Male	408	462.46	105247.000	.667
		Female	524	469.65		
12	Ability to make your meaning clear to others	Male	408	454.9	102161.500	.217
		Female	524	475.54		
13	Ability to assert your authority	Male	408	476.8	102695.500	.274
		Female	524	458.48		
14	Ability to use computers and the internet	Male	408	494.68	95398.500	.003
		Female	524	444.56		
15	Ability to come up with new ideas and solutions	Male	408	437.62	95112.500	.002
		Female	524	488.99		
16	Willingness to question your own and others' ideas	Male	408	461.96	105045.500	.632
		Female	524	470.03		
17	Ability to present products, ideas or reports to an audience	Male	408	473.71	103954.500	.446
		Female	524	460.89		
18	Ability to write reports, memos or documents	Male	408	480.43	101213.000	.140
		Female	524	455.65		
19	Ability to write and speak in a foreign language	Male	408	474.27	103726.500	.416
		Female	524	460.45		

The U-test statistics in Table No. 2 indicate that 14 competences (No. 1, 3, 4, 7, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19) show no significant difference between responses of both the genders. Males and females showed differences only in following five competences. Female assessed themselves higher than males in three competences: “Knowledge of other

fields or disciplines”, “Ability to negotiate effectively”, and “Ability to come up with new ideas and solutions”. Males assessed themselves higher than females in following two competences: “Ability to perform well under pressure” and “Ability to use computers and the internet”. Hence H_{01} was failed to be rejected.

In Table No. 3, the U-test statistics show that 16 competences (No. 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 15, 16, 17, 18, 19) show no significant difference between responses of both the groups. Rural students assessed themselves higher than the urban students in the competences

“Ability to use time efficiently” and “Ability to work productively with others”. Urban students assessed themselves higher than the rural students in competence “Ability to use computers and the internet”. Hence H_{02} was failed to be rejected.

Table 3 Domicile wise Differences in Acquired Competences

Sr. No.	Competences	Domicile	N	Mean Rank	Mann Whitney U	P
1	Mastery of your own field or discipline	Urban	536	470.97	102661.500	.448
		Rural	394	458.06		
2	Knowledge of other fields or disciplines	Urban	536	457.83	101478.500	.323
		Rural	393	474.78		
3	Analytical thinking	Urban	536	466.48	105068.500	.891
		Rural	394	464.17		
4	Ability to rapidly acquire new knowledge	Urban	536	472.47	101855.500	.331
		Rural	394	456.02		
5	Ability to negotiate effectively	Urban	536	458.35	101760.500	.318
		Rural	394	475.22		
6	Ability to perform well under pressure	Urban	536	471.45	102401.000	.408
		Rural	394	457.4		
7	Alertness to new opportunities	Urban	536	462.24	103844.000	.651
		Rural	394	469.94		
8	Ability to coordinate activities	Urban	536	472.14	102031.000	.359
		Rural	394	456.46		
9	Ability to use time efficiently	Urban	536	447.97	96197.500	.015
		Rural	394	489.34		
10	Ability to work productively with others	Urban	536	452.92	98850.000	.078
		Rural	394	482.61		
11	Ability to mobilize the capacities of others	Urban	536	474.74	100642.000	.193
		Rural	394	452.94		
12	Ability to make your meaning clear to others	Urban	536	473.57	101266.500	.256
		Rural	394	454.52		
13	Ability to assert your authority	Urban	536	471.74	102248.000	.381
		Rural	394	457.01		
14	Ability to use computers and the internet	Urban	536	480.9	97337.500	.032
		Rural	394	444.55		
15	Ability to come up with new ideas and solutions	Urban	536	470.68	102817.000	.471
		Rural	394	458.46		
16	Willingness to question your own and others' ideas	Urban	536	467.7	104411.000	.758
		Rural	394	462.5		
17	Ability to present products, ideas or reports to an audience	Urban	536	455.3	100125.500	.154
		Rural	394	479.37		
18	Ability to write reports, memos or documents	Urban	536	474.26	100896.500	.220
		Rural	394	453.58		
19	Ability to write and speak in a foreign language	Urban	536	465.09	105371.500	.955
		Rural	394	466.06		

Programme and Department-Wise Comparison of Acquired Competences

This section exhibits nonparametric analyses of variance.

Table 4: Study Programme wise K Independent Samples Test Statistics

Study Programme Wise K-Independent Samples Test Statistics		% of Above Median Responses										
Sr. No.	Item	Chi-Square	P	BED(ELT)	BED(SS)	BS	MA	MCOM	MED	MPHILL	MSC	PHARM D
1	Mastery of your own field or discipline	60.9	.000	35	38	32	48	50	49	100	36	40
2	Knowledge of other fields or disciplines	40.7	.000	82	50	48	32	43	45	100	48	40
3	Analytical thinking	49.2	.000	65	57	36	43	43	40	100	43	75
4	Ability to rapidly acquire new knowledge	61.5	.000	79	52	45	34	55	38	100	54	75
5	Ability to negotiate effectively	46.2	.000	71	38	49	35	39	40	100	58	55
6	Ability to perform well under pressure	26.2	.001	68	38	42	44	41	47	80	38	55
7	Alertness to new opportunities	57.5	.000	74	43	34	40	52	26	100	37	75
8	Ability to coordinate activities	64.3	.000	32	10	22	3	0	2	50	12	40
9	Ability to use time efficiently	54.9	.000	71	60	41	27	39	36	90	47	50
10	Ability to work productively with others	45.9	.000	38	21	11	6	20	17	60	11	10
11	Ability to mobilize the capacities of others	63.7	.000	47	38	40	39	66	66	100	34	65
12	Ability to make your meaning clear to others	30.9	.000	38	45	37	48	36	49	100	33	70
13	Ability to assert your authority	51.1	.000	44	50	36	36	55	51	100	25	50
14	Ability to use computers and the internet	40.4	.000	41	36	38	22	52	21	30	19	55
15	Ability to come up with new ideas and solutions	81.2	.000	79	62	42	35	48	57	100	35	85
16	Willingness to question your own and others' ideas	38.6	.000	44	48	42	45	52	40	100	31	65
17	Ability to present products, ideas or reports to an audience	28.4	.000	47	45	37	44	39	43	90	25	55
18	Ability to write reports, memos or documents	48.4	.000	53	43	38	41	61	64	70	30	40
19	Ability to write and speak in a foreign language	51.9	.000	44	38	38	60	41	42	100	36	45
Total of more than 50% above median responses				09	05	00	01	07	04	17	02	11

Table No.4 shows the result of Kruskal Wallis as per study programmes along with item-wise percentage of above

median responses of students placed in nine study programmes. P significance results show significant difference among the assessments of the students enrolled in different study programmes in all the competences. Percentages show that students of MPhil assessed their competences above the median in seventeen competences. Students of B.Ed (ELT) assessed nine of their competences above the median and Pharm-D rated themselves above the median in eleven of the competences.

Therefore H_{03} was rejected. Here, rejection of null hypothesis is validating the list of competences because the study programmes selected for the study range from undergraduate to post graduate programmes i.e. from BS to M. Phil. So, students enrolled in different study programmes were expected to be at different levels of competences.

Table No.5 below shows the result of Kruskal Wallis Test as per teaching departments. P significance results show significant difference among students' assessments of competences belonging to

different teaching departments. Therefore H_{04} was rejected.

As it is in the case with study programmes, rejection of null hypothesis here is validating the list of competences because the teaching departments selected for the study belong to sciences and social sciences with variety of levels ranging from undergraduate to post graduate programmes i.e. from BS to M. Phil. So, students enrolled in different teaching departments were expected to be at different level of competences.

Table 5 Department Wise K Independent Samples Test Statistics

Department wise K-Independent Samples Test Statistics		% of Above Median Responses											
Sr. No.	Item	Chi-Square	P	AGRI	COMM	EDU	ENG	MATH	PHARM	PHY	PSY	SOCI	ZOO
1	Mastery of your own field or discipline	47.989	.000	34	50	46	47	18	40	34	31	35	39
2	Knowledge of other fields or disciplines	126.047	.000	21	43	55	32	71	40	78	54	43	47
3	Analytical thinking	92.379	.000	37	43	52	39	31	75	69	23	39	55
4	Ability to rapidly acquire new knowledge	132.964	.000	34	55	55	34	78	75	85	34	52	37
5	Ability to negotiate effectively	88.185	.000	35	39	48	43	78	55	75	45	57	68
6	Ability to perform well under pressure	25.325	.003	37	41	49	47	49	55	51	40	30	26
7	Alertness to new opportunities	50.539	.000	35	52	42	39	57	75	61	23	39	34
8	Ability to coordinate activities	68.721	.000	24	0	12	3	39	40	29	14	9	0

9	Ability to use time efficiently	26.45 5	.00 2	34	39	47	30	41	50	47	44	48	58
10	Ability to work productively with others	42.18 9	.00 0	9	20	20	7	16	10	25	6	9	8
11	Ability to mobilize the capacities of others	33.75 1	.00 0	39	66	49	33	43	65	44	35	35	39
12	Ability to make your meaning clear to others	18.49 4	.03 0	36	36	48	38	37	70	36	33	39	42
13	Ability to assert your authority	40.11 2	.00 0	37	55	44	45	29	50	24	26	52	45
14	Ability to use computers and the internet	60.25 9	.00 0	48	52	26	20	45	55	39	27	4	5
15	Ability to come up with new ideas and solutions	76.24 9	.00 0	33	48	59	41	51	85	54	34	39	24
16	Willingness to question your own and others' ideas	31.89 4	.00 0	39	52	48	41	61	65	41	32	39	32
17	Ability to present products, ideas or reports to an audience	26.74 6	.00 2	39	39	45	41	49	55	31	26	30	32
18	Ability to write reports, memos or documents	60.04 7	.00 0	35	61	48	47	45	40	47	24	43	45
19	Ability to write and speak in a foreign language	125.7 54	.00 0	34	41	42	78	41	45	66	24	61	50
Total of more than 50% above median responses				00	07	04	01	06	11	08	01	04	03

Conclusion

As discussed earlier, competences are becoming the focus of higher education curriculum the world over. This shift is the outcome of the need of linkage between higher education institutions and labour market. Today's labour market, as observed by various studies, demand graduates who are skilled not only in the major area but also have command over the skills required in all the professions. When we have a look on Pakistani situation, no significant work is seen in this area. So, need was felt for some initiative. For the purpose, generic competences of university students were assessed through a tool mentioned earlier. Aim of the effort was to create awareness among university students about the importance of generic competences among higher education students in Pakistan. It is important to note that the tool consisted of selected generic competences produced the similar results to those of Europe where it was administered earlier. This reflects that our students are generally aware of generic competences and are able to assess themselves through a self assessment tool although awareness is not inculcated in them through any formal curriculum or from their teachers.

It seems that our social mechanism has not kept up with need of sorting adequate people to perform adequate job. Out of the several views on education, only one advocate that what is learnt in educational institutions should be what is necessary to fulfil the roles in professional life. Another issue is that requirements of professional life and labour market keep on changing. So, it is very challenging for the educational institutions to keep themselves in pace with these changes. Due to the increasing mobility of jobs and increasing shift in employment, it seems employers are becoming less intended to employ the people leaving their schools and universities,

keep them up to date through training and motivate them according to the rapidly changing job requirements. Hence, there is an increasing pressure on the higher education institutions to provide work-ready graduates (Grant & Young, 2010). As generic competences of university students have been assessed, it can be recommended that university teaching should be competence focused. Objectives of every course should be based on clearly mentioned generic competences. University teachers should focus their teaching learning activities on competences as universities are responsible to provide skill based graduates to labour market.

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