EMPLOYABILITY SKILLS: WHAT IS REQUIRED OF CONSUMER SCIENCES GRADUATES?

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ABSTRACT

High unemployment rates, constantly changing market environments and competition among graduates for employment compels a focus on relevant employability skills to ensure employment. The literature has indicated that graduates' employability skills are lacking. There is currently no national board in South Africa describing which skills consumer science students should acquire. The aim of this study was to describe the employability skills consumer science employers require from their employees, and the skills consumer science students and graduates currently lack. A voluntary, anonymous questionnaire survey was completed by consumer science employers (61), lecturers (13), current students (91) and graduates in the workplace (101) to determine which employability skills they thought were needed to succeed in the work environment and to determine their perceptions regarding students' competency in these skills. Questionnaires were completed online or in paper format to ensure maximum response (51% response rate overall with varying response rates depending on the group). The data underwent descriptive and inferential statistical analysis. The different respondent groups' opinions regarding the required skills were compared and the skills that students should attain were determined. Although opinions differed slightly regarding the importance of different employability skills, all groups agreed that 11 skills were crucial and highlighted the importance of cultural awareness in the workplace. Employers identified communication, problem solving and time management skills as the three most valued skills. There were significant differences among the groups about students' competence in different skills. Whereas students mostly viewed themselves as extremely competent, their lecturers and employers thought them to be less so. Identifying the skills necessary in the workplace will enable universities to deliver more employable graduates.

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INTRODUCTION

A competitive, constantly changing workplace expects more than curriculum-specific academic knowledge and technical skills from employees (Marais *et al*., 2012). Therefore, graduates must attain a variety of skills that enhance their employability and help them thrive in their desired careers (Singh & Singh, 2008). Universities emphasising the development of such skills will increase the employability of their graduates (Jordaan *et al*., 2014) while simultaneously raising the quality and standards of their degrees (Oria, 2012). Because there is no national board in South Africa prescribing the skills required of consumer science graduates, lecturers may not know which specific skills to teach with each university focusing on different skills. Certainly, Jordaan *et al*. (2014) have identified a general mismatch between the skills universities are teaching and what the workplace requires from new employees.

Although literature regarding general employability skills is widely available (Kulkarni & Chachadi, 2014; Nagarajan & Edwards, 2014), there is little information on the specific employability skills of consumer science graduates in South Africa. Moreover, not all studies use the term 'employability skills'; some also use 'competencies' or 'soft skills'. A few international studies have reported on employability skills or desired competencies of consumer science students (Dozier, 2015; McGregor & MacCleave, 2007; Mosenson & Fox, 2011). These researchers also used a variety of terms for such skills (McGregor & MacCleave, 2007), but they did not generate a conclusive list of generally applicable ones for all the relevant contexts and graduates in general (Jordaan *et al*., 2014; Tran, 2015).

Employability can be described as the potential of an individual to obtain employment and often includes attributes relating to knowledge, skills and abilities. Employment can be viewed as the reward for somebody who is employable (Kulkarni & Chachadi, 2014). However, employability is more than merely having knowledge and different skills or attributes resulting in employment after graduation; it is also the ability to thrive in a specific career and be an asset for a company (Kulkarni & Chachadi, 2014; Rae, 2007). High unemployment rates, a rapidly changing market environment and high levels of competition among graduates for employment have forced graduates to focus on what makes them employable (Kulkarni & Chachadi, 2014; Oluwajodu *et al.*, 2015).

The requirements for employability include skills defined as nontechnical competencies required to succeed in the work environment (Ju *et al.*, 2011). For the purpose of this study, 11 employability skills were used, namely: communication skills, English language proficiency, information, communication and technology (ICT) skills, interpersonal skills, teamwork, leadership, problem solving, adaptability, risk taking, creativity, and personal organisation and time management (see Singh & Singh, 2008).

The literature has indicated that students lack some of these skills (Oluwajodu *et al.*, 2015). For example, Makani-Lim *et al.* (2014) indicated a lack of ICT skills in business graduates (who have similar learning modules as consumer science programmes) and Havenga and De Beer (2016) pointed out that consumer science students lack the skill of working in groups. The relevance of these skills for the South African consumer science graduate is as yet unknown. Graduates work in different industries including fashion/clothing, food, interior design, marketing, education, and administration and human resources. Graduates are employed as food scientists, product developers, managers for retailers (food and fashion), buyers, planners, visual merchandisers (in store as well as in head offices), and they may work for fashion and food magazines as well as consumer consulting companies (anecdotal evidence).

Although the work opportunities for consumer science graduates are diverse, the careers pursued by these graduates unfold in fast-paced competitive environments and graduates constantly interact with others. This may include working in teams and presenting work to peers and superiors. The wide scope of employment and fields in which consumer science graduates work implies that their employability skills need to be focused on their area of expertise while *concurrently* being comprehensive and applicable in a wider context.

The research question guiding this study was what perceptions exist around desired and perceived employability skills for consumer sciences in South Africa? Given the dearth of information about this issue in the South African consumer science arena, the aims of this study were to determine both (a) which employability skills consumer science employers require from their employees and (b) which skills do consumer science students and graduates currently lack? The intent was to use subsequent data and analysis to emphasise the importance of deliberately developing and enhancing these skills through tertiary education.

METHOD

A cross-sectional observational survey was administered to obtain quantitative data. This design (which does not strive to affect the sample) was used to allow data to be collected at one point in time from four different sample groups (Creswell, 2014). The research formed part of a larger study, namely a mixed method PhD (Du Preez, 2017), on the employability skills of consumer science graduates. Only the quantitative phase forms part of this research article. Ethical clearance was obtained from the Health Science Research Ethics Committee at the University of the Free State (ECUFS 220/2014). All relevant authorities at the two institutions included in this study provided consent for lecturers and students to be included in the study.

Sample Frame

Four groups were involved in the study: consumer science lecturers, final-year consumer science students from two universities, consumer science graduates, and employers who employ or had worked with consumer science graduates. Because the number of lecturers and final-year students in the target population was limited, the whole population was included in the sample. This comprised 16 lecturers and 111 final-year students. The two universities that participated provided the contact details of their graduates who were already employed (n=210). A variety of recruiters were consulted to gather contact details of employers working with consumer science graduates. Job advertisements were also used to identify consumer science employers yielding 188 employers. The sample frame comprised 525 potential study participants.

The final data set comprised 266 respondents (out of a possible 525) indicating a 51% response rate overall with different response rates for different types of respondents. Most of the respondents were graduates (38%, n=101) and final-year students (34%, n=91) followed by employers (23%, n=61) and lecturers (5%, n=13). From a different perspective, people in the university context (lecturers and current students) participated at a much higher rate than those from the workplace context (graduates [employees] and employers). The method of data collection is discussed in a separate section. Nearly all of the lecturers (81%) and final-year students (82%) participated in the study. The response rates for graduates (48%) and employers (33%) were lower but acceptable for an online survey. Consumer science employers and employees (graduates) were often difficult to locate and with busy schedules. Survey completion rates for work-based respondents always tend to be on the low side, often lower than 50% (Muijs, 2011; White & McBurney, 2013).

Instrument

A modified version of Singh and Singh's (2008) previously validated employability skills questionnaire was used. The first section (A) solicited demographic data. Section B listed the 11 employability skills noted earlier. Using a 4-point Likert scale, respondents had to indicate the importance of each component by choosing one of four options: not very, somewhat, moderately important or extremely important. They also had to indicate how competent newly-employed consumer science graduates were regarding components of each skill by choosing among five options on a different 5-point Likert scale: poor, fair, good, very good, or outstanding. The higher the score, the more important they thought that skill to be or the more competent they thought that newly-employed consumer science graduates were in

that specific skill. A further open-ended question was added in the present study to gather qualitative data regarding additional skills other than the above mentioned 11 skills employers may require.

Validity and reliability. In this study, face validity, content validity and construct validity were present (Pietersen & Maree 2016). By using experts from the Faculty of Health Sciences and Department of Biostatistics at the University of the Free State to evaluate the questionnaire before its administration, face validity was ensured. By doing an in-depth literature review regarding all the aspects related to employability skills, comparing different questionnaires to make sure that all the aspects of employability skills were included in the measuring instrument, and presenting the questionnaires to experts in the field before finalising the survey's content, content validity was reached (i.e., represented all aspects of a construct). Construct validity (i.e., how the instrument measured a construct is similar to other instruments) was tested through the use of a principal component analysis.

Because four groups were used, the reliability of the questionnaire was enhanced by making sure the questions were clear and interpreted in the same manner by all respondents (Creswell, 2014). A pilot study helped to minimise errors and identify unclear questions in the questionnaire (Muijs, 2011). Reliability of the final scale was checked through the computation of Cronbach's alpha coefficients for each subscale (ranging from 0.76 to 0.92) (coefficients for items are available on request). According to Field (2009), values above 0.70 indicate reliability. Furthermore, exactly the same data gathering process was used within each sample group; that is, all respondents received the same questionnaire within the same timeframe (Creswell, 2014) but using different modes (online and paper-based).

Data collection

All potential respondents (N=525) first received an information sheet regarding the study. They were then invited to complete the questionnaire as follows. Employers, lecturers and graduates received an e-mail with an electronic questionnaire while students received hard copies in class to ensure a maximum response rate for different sample groups. In more detail, *Evasys*, an electronic survey distribution service, was used to distribute the surveys to lecturers, employers and graduates meaning the questionnaire could not be linked to any individual, which ensured anonymity. The electronic survey stipulated that, by completing the questionnaire, respondents gave consent to take part in the study. Final-year student participation was voluntary with students signing a consent form beforehand. They completed hard copies but did not supply their names on the questionnaire. All 525 potential study participants were assured that no personal identifiers would be used, no company or institution name would be linked to any individual, and data would be safely stored for five years.

Data analysis

Demographic data were analysed using descriptive statistics. Mean subtotals for importance and competency relating to the 11 employability skills were calculated for each group (employers, lecturers, students, graduates). The differences in the scores of the four groups were tested with a multivariate analysis of variance (MANOVA). Post hoc tests were conducted to determine the differences among the means thereby indicating which means differed significantly from each other. Scheffé's tests were used to examine all four groups and possible comparison combinations of the group means indicating significant differences between the groups (Coolican, 2014).

RESULTS

Demographics

Respondents (N=266) were mainly white (95.8%) females (98.9%) (see Table 1). The sample frame comprised graduates (38%) and current students (34%) as well as employers (23%) and lecturers (5%). Ages ranged between 21 and 64 years. Consumer science lecturers and registered final-year consumer science students were from two different universities. In line with the interdisciplinary nature of consumer sciences, both graduates' and employers' work sectors were distributed among fashion/clothing, food, interior design, marketing, education and a variety of other industries serving consumers.

Employability skills of consumer science graduates

Each of the 11 employability skills included in the questionnaire was further divided into different components. Respondents' ratings for

TABLE 1: DEMOGRAPHIC INFORMATION OF RESPONDENTS

		STUDENTS		GRADUATES		LECTURERS		EMPLOYERS	
N		**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
266	**Respondents[1]**	91	34.21	101	37.97	13	4.89	61	22.93
261	**Gender[2]**								
	Male	-	-	-	-	-	-	3	4.92
	Female	91	100	96	100	13	100	58	95.08
263	**Race[2]**								
	Coloured	2	2.22	-	-	-	-	-	-
	Black	2	2.22	1	1.00	1	7.69	3	5.00
	Indian	-	-	1	1.00	-	-	-	-
	White	86	95.56	98	98.00	12	92.31	56	93.33
	Other	-	-	-	-	-	-	1	1.67
		STUDENTS		**GRADUATES**		**LECTURERS**		**EMPLOYERS**	
N		**Years**		**Years**		**Years**		**Years**	
258	**Age**								
	Minimum age	21.00		21.00		29.00		23.00	
	Average age	21.18		24.58		43.30		34.50	
	Maximum age	25.00		31.00		61.00		64.00	
	Median age	21.00		24.00		42.00		31.00	

1: n and percentages represent row values
2: n and percentages represent column values

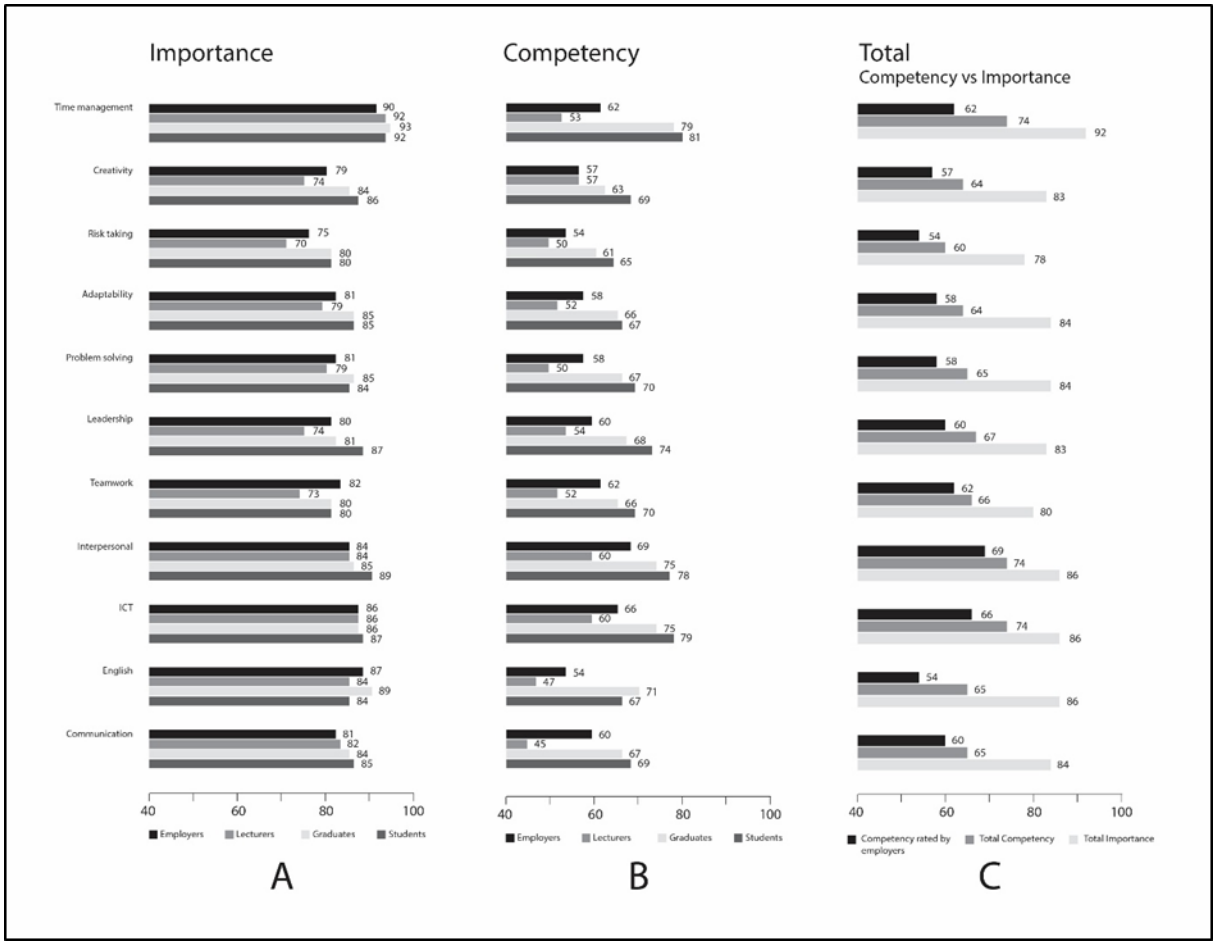

FIGURE 1: IMPORTANCE OF AND COMPETENCY IN EMPLOYABILITY SKILLS

TABLE 2: COMPETENCY SCORES FOR GRADUATES' EMPLOYABILITY SKILLS

Sample group	Highest score	Lowest score	Average score
Students	81.22	65.00	72.06
Graduates	79.07	61.93	69.49
Lecturers	60.83	45.05	53.02
Employers	69.07	54.92	60.60

the different components of each skill were grouped together. A mean score out of 100 was calculated for each skill for every sample group. A mean subtotal for each skill including all respondents (from all four sample groups) was also calculated. The higher the score, the more important that skill or the more competent respondents' thought newly-employed consumer science graduates were in that specific skill.

Despite differences, the majority of respondents thought that the components of the different skills were mostly moderately important or extremely important (see Figure 1, Column A & C). Time management skills received the highest overall score (92.16) followed by English language proficiency (86.85) and ICT skills (86.75). Although risk-taking skills received the lowest overall score (78.82), it was still high. These ratings indicate overall that all 11 skills were regarded as important to some degree. The sample groups' scores for the importance of the different skills were very similar (Figure 1, Column A). However, opinions regarding the competency of newly-employed consumer science graduates varied among the different sample groups, as shown in Figure 1, Column B. Everyone agreed that the 11 skills are important but differed on whether they thought students held these competencies.

Table 2 lists the competency scores for graduates' employability skills. Students gave the highest score for their *own* competency of the different skills with scores ranging from 65.00 for risk taking to 81.22 for time management. Graduates shared this perception but with slightly lower scores for risk taking (61.93) and time management (79.07). Lecturers and employers' competency scores were much lower, however, with lecturers giving students' communication skills the lowest score (45.05) and awarding the highest score for interpersonal skills (60.83). Employers rated graduates' English language proficiency the lowest (54.92) but gave the highest score to their interpersonal skills (69.07).

Lecturers gave the lowest *average* competency score (53.02) followed by employers (60.60) whereas students rated their own competency levels much higher (72.06) followed by graduates (69.49). In effect, lecturers and employers scored students lower than they did themselves. Students (whether current or graduates) had higher impressions of their competency levels than did their university instructors and employers.

Although respondents thought all of the skills were important (high mean scores with importance ranging from 78%-92%) they did not think students were overly competent in these skills (lower mean scores ranging from 60%-74%) (Figure 1, Column C). Employers scored graduates' skill competency lower (54% - 69%) than the average score from the four sample groups (60% - 74%) (see Figure 1, Column C).

MANOVAs were calculated to determine whether or not there were significant differences among the means of the different sample groups. Since MANOVA only indicates whether or not an overall significant difference exists, post hoc Scheffé's tests were conducted to determine between which groups the significant differences occurred. Results can be seen in Table 3. In each case, the MANOVA model F statistic and p-value is reported with p-values below 0.05 considered significant. Because there were four sample groups, the degrees of freedom (df) for each MANOVA is always 3.

Per Table 3, respondents mostly indicated that all 11 employability skills are important. The only significant differences among group mean scores for the importance of employability skills were found for English language proficiency, leadership skills, and creativity skills. Significant differences between the mean scores of the views on competency regarding employability skills among groups were found for *all* 11 skills. Apart from graduates giving themselves a high rating for their English skills, in each instance, students viewed themselves to be more competent than the other sample groups viewed graduates to be.

Respondents were asked to indicate which of the 11 employability skills they thought were most important for career success by choosing the top three of the skills listed (see Table 4).

TABLE 3: MANOVAS AND SCHEFFÉ'S TEST RESULTS

Communication skills						
	Importance (F=1.22, p=0.3018)			**Competency** (F=11.21, p<.0001)		
	Graduates**	Students	Employers	Graduates	Students	Employers
Students	-0.90			-2.28		
Employers***	2.44	3.34		6.73	9.01*	
Lecturers	1.76	2.66	-0.69	22.17*	24.45*	15.44*
English Language Proficiency						
	Importance (F=2.97, p=0.0326)			**Competency** (F=12.17, p<.0001).		
	Graduates	Students	Employers	Graduates	Students	Employers
Students	5.15*			4.57		
Employers	1.90	-3.25		17.02*	12.45*	
Lecturers	4.67	-0.47	2.77	24.43*	19.86*	7.42
Information, communication and technology (ICT) skills						
	Importance (F=0.05, p=0.9841).			**Competency** (F=8.77, p<.0001).		
	Graduates	Students	Employers	Graduates	Students	Employers
Students	-0.63			-3.90		
Employers	0.02	0.65		9.36*	13.25*	
Lecturers	-0.13	0.50	-0.15	15.82	19.71*	6.46
Interpersonal skills						
	Importance (F=3.20, p=0.0239).			**Competency** (F=8.00, p<.0001)		
	Graduates	Students	Employers	Graduates	Students	Employers
Students	-3.91			-3.64		
Employers	1.08	4.99		6.03	9.67*	
Lecturers	1.25	5.17	0.18	14.27*	17.90*	8.23
Teamwork skills						
	Importance (F=1.57, p=0.1964).			**Competency** (F=4.55, p=0.0040)		
	Graduates	Students	Employers	Graduates	Students	Employers
Students	0.27			-3.28		
Employers	-2.07	-2.34		4.01	7.28	
Lecturers	7.38	7.11	9.45	14.85	18.12*	10.84
Leadership skills						
	Importance (F=4.73, p=0.0031)			**Competency** (F=9.51, p<.0001)		
	Graduates	Students	Employers	Graduates	Students	Employers
Students	-5.49			-5.66		
Employers	0.95	6.44		8.47*	14.13*	
Lecturers	7.15	12.64*	6.20	14.32	19.98*	5.86
Problem solving skills						
	Importance (F=2.12, p=0.0975)			**Competency** (F=8.68, p<.0001)		
	Graduates	Students	Employers	Graduates	Students	Employers
Students	1.18			-3.21		
Employers	4.07	2.90		8.39*	11.60*	
Lecturers	6.15	4.97	2.08	17.08*	20.29*	8.69
Adaptability skills						
	Importance (F=2.48, p=0.0617)			**Competency** (F=4.88, p=0.0026)		
	Graduates	Students	Employers	Graduates	Students	Employers
Students	0.52			-0.50		
Employers	4.44	3.92		8.66	9.16*	
Lecturers	6.87	6.35	2.42	14.77	15.27	6.11
Risk taking skills						
	Importance (F=3.28, p=0.0214)			**Competency** (F=5.13, p=0.0018)		
	Graduates	Students	Employers	Graduates	Students	Employers
Students	-0.51			-3.07		
Employers	5.22	5.72		6.97	10.04*	
Lecturers	9.46	9.97	4.25	11.51	14.58	4.54

TABLE 3: MANOVAS AND SCHEFFÉ'S TEST RESULTS—*CONTINUED*

Creativity skills							
	Importance (F=3.90, p=0.0095)				**Competency** (F=4.46, p=0.0045)		
	Graduates	Students	Employers		Graduates	Students	Employers
Students	-2.21				-5.24		
Employers	4.47	6.68*			5.98	11.22*	
Lecturers	6.05	8.26	1.59		5.07	10.31	-0.91
Time management skills							
	Importance (F=1.36, p=0.2543)				**Competency** (F=24.28, p<.0001)		
	Graduates	Students	Employers		Graduates	Students	Employers
Students	0.85				-2.15		
Employers	3.08	2.23			16.12*	18.27*	
Lecturers	1.19	0.34	-1.89		26.10*	28.24*	9.98

Significant differences are indicated by *. Differences shown for scores of group in column less scores of group in row. For example, regarding communication skills: Importance for graduates (column 1 **) was 2.44 more than that for employers (row 2 ***).

TABLE 4: THE THREE HIGHEST RATED SKILLS FOR CAREER SUCCESS

Employability skills	Students n=91	Graduates n=101	Lecturers n=13	Employers n=61
	%	%	%	%
Communication skills	78.02	67.33	84.62	65.57
English language proficiency	15.38	16.83	7.69	19.67
ICT skills	15.38	32.67	23.08	21.31
Interpersonal skills	17.58	16.83	15.38	21.31
Ability to work as a team	25.27	25.74	30.77	19.67
Leadership skills	16.48	11.88	-	21.31
Problem solving skills	37.36	48.51	69.23	50.82
Adaptability skills	19.78	26.73	7.69	13.11
Risk taking skills	7.69	5.94	-	1.64
Creativity skills	35.16	11.88	-	19.67
Time management skills	32.97	44.55	38.46	50.82

Most respondents selected communication skills as the most important for career success, placing problem solving skills second. Personal organisation and time management skills scored third highest among graduates, lecturers and employers whereas students scored creativity skills the third highest. Risk taking was scored lowest amongst all four sample groups; it also received the lowest mean score for importance (see Table 4 and Figure 1, Column A).

In response to an open-ended question that asked what other skills were important for career success, all four groups tendered suggestions culminating in a collection of skills that can broadly be called *personal skills*. These included being 'goal driven', 'hardworking', 'disciplined', 'motivated', 'determined', 'responsible', 'presentable', 'positive', 'confident', 'accountable', 'honest', 'patient', 'resilient', 'dedicated', 'enthusiastic', 'reliable', 'able to work under pressure', 'able to multi-task', and having 'good people skills'. Although identified by respondents in an open-ended question, all of these additional skills were in fact already embedded in the questionnaire. In effect, their responses inadvertently reemphasised the importance of interpersonal, communication and time management skills.

An additional skill also emerged from the graduate and employer respondents pertaining to the importance of 'cultural awareness' in the workplace. These respondents identified the importance of 'effectively communicating and working in culturally diverse teams,' which connects with and highlights specific aspects of communication and teamwork. Those still in the university setting (i.e., current students and lecturers) did not identify cultural awareness as a necessary workplace skill.

DISCUSSION

The job descriptions of consumer science

graduates are extensive and diverse but virtually all are characterised by the need for constant interaction with others and the ability to cope, produce and thrive in a fast-paced, highly competitive environment. Career success demands that workplace skills be customised to match and exceed employers' needs and expectations, and results indicated that employers value the following skills to be discussed. All respondents gave high scores to all 11 employability skills, which emphasised their awareness that it was important for consumer science students to acquire these skills.

Skills for interaction in the workplace

Interaction takes place daily in consumer science work environments. The results of this study highlighted the importance of communication, English language proficiency and ICT, as well as interpersonal, teamwork and leadership skills, all of which are vital for effectively engaging with others. When asked to choose three skills essential for career success, all respondents emphasised communication (see Table 4). This included communicating well with others, which, in a diverse society, entails proficiency in the English language. Listening to others was included as essential for interpersonal relations as was ICT skills for presentations and effective use of electronic devices. Communication is vital for teamwork as well as leadership. The results support the literature about career success, which emphasises the importance of written and verbal communication (including speaking and writing clearly, using appropriate language when communicating with various role players and cultures, and being able to listen) (Dozier, 2015; Herok *et al.*, 2013; Kulkarni & Chachadi, 2014; Nagarajan & Edwards, 2014; Singh & Singh, 2008; Taylor & Govender, 2013).

Although these aforementioned skills are essential for all work spheres, diverse consumer science employment opportunities make communication skills especially important for graduates in this geographic area. South Africa has 11 official languages; however, English dominates in the work environment and is a unifying language, enabling different cultures to communicate and interact (Kamwangamalu & Tovares, 2016). In this study, English language proficiency received the second highest mean score (86.85), indicating respondents' awareness of the value of communicating fluently in English, in writing and orally. English is not necessarily the students' first language, however. This means they need to become proficient in it *before* entering the workplace.

Of the four groups, employers and graduates gave the highest scores to English language proficiency, recognising its importance as part of the interactive work environment. A significant difference was found between final-year students and graduates on this skill (Table 3), which could indicate that final-year students (who scored lower) do not yet realise its practical importance. Results affirm, for consumer science areas, Taylor and Govender's (2013) broader study that found that South African employers desire employees who are both articulate in English and computer literate (see also Omar *et al.*, 2012).

The fast-paced nature of a competitive work environment depends on effective use of new technology. Employees need mastery of these technologies, which could explain the high value placed on ICT skills in this study, which received the third highest mean score (86.75). Ratings were similar from all four groups (Figure 1, Column A & C). Results indicated that consumer science employees need to be comfortable working on a variety of devices using a variety of computer programmes to assist with their everyday workload, including simple word processing, the use of spreadsheets, internet and e-mails, and the creation of presentations. This was supported by Dozier (2015) who indicated the importance of computer skills for the 21st century consumer science graduate.

Constant interaction in consumer science work environments means that employees must be able to work in teams as well as guide and give direction to group members (Nagarajan & Edwards, 2014; Omar *et al.*, 2012), which supports the importance of teamwork and leadership skills. Although these skills received high mean scores for importance by all respondents, lecturers gave both of these skills their lowest ratings (Figure 1, Column A). Furthermore, a significant difference between lecturers and students occurred for leadership skills (Table 3) with students placing more importance on leadership than lecturers. South African universities offer students the opportunity to take part in a variety of peer leadership activities, for example, academic facilitation as well as co-curricular activities including student campus and hostel committees (Frade & Tiroyabone, 2017). Consumer Science students are also constantly busy with group work during class, which they view as an exercise to improve leadership skills (Arendt &

Gregoire, 2006). Being exposed to these different leadership opportunities might influence the value students attach to the importance of leadership skills. That said, lecturers still viewed leadership as important giving it a mean score of 74.58.

Skills for a fast-paced competitive work environment

The literature indicates that fast-paced work environments require graduates to exhibit problem solving, adaptability, risk taking, creativity, and time management skills (Archer & Chetty, 2013; Dozier, 2015; Herok *et al*., 2013; Kivunja, 2015; Kulkarni & Chachadi, 2014; Nagarajan & Edwards, 2014; Steinberg, 2016; Vande Zande *et al*., 2014). Results reflected this overall stance in the literature. Because the consumer sciences environment is so diverse and constantly changing, being able to identify and solve problems, adapt to different situations, take calculated risks that benefit the company, and be innovative and think out of the box were all abilities sought by employers in this study. In addition, consumer sciences' diversity means that graduates often change jobs, which involves new job descriptions and responsibilities and the need to adapt and apply their skills to new circumstances. These realities were reflected by all four groups in this study in rating adaptability as important (Figure 1, Column A).

All four groups identified problem solving as one of the three most important skills for career success (see Table 4). This could be explained by the recognition that being able to identify and solve problems includes adaptability, risk taking and creativity. These three skills are relevant to problem solving, which involves the ability to recognise and suggest alternative ways to meet objectives and adapt to change (Kulkarni & Chachadi, 2014). It is noteworthy that risk-taking skills were regarded as least important amongst all groups (both in scoring and ranking, see Figure 1, Column A and Table 4) even though consumer science graduates are normally placed in dynamic work sectors where risk-taking skills could be regarded as a priority. Job opportunities for consumer science graduates range from buyers to project developers, and risks with unsuccessful outcomes can lead to employer's financial loss. Therefore, consumer science employees need to be able to manage and evaluate risks.

However, even though risk taking is inevitable in a changing work environment (Steinberg, 2016), according to the literature, some employers indicate that risk taking is not always desired because employees may take risks with the company's assets (Galloway *et al*., 2014), which might explain risk taking having the lowest rating for importance. Problem solving, adaptability and being creative all include aspects of risk taking, which could also be a possible reason why risk taking did not score higher. Although it scored the lowest rating overall, risk taking *did* score high among students (78.82) indicating the importance of this skill for them. Lecturers, who gave it the lowest score, still gave it a score of 70.83.

Unlike the other three groups who also gave creativity a high score (ranging from 74 to 84), final-year students regarded creativity as one of the three most important skills for their career success (Table 4), giving it the highest score for importance (86.54) among all four groups. Furthermore, a significant difference was revealed between the value given to creativity by students and employers (Table 3). It could be that preferences guide the choice of disciplines studies. Anecdotally, consumer science final-year students tend to have creative personalities. For these reasons, students in particular may have chosen creativity as one of the most important skills for their field. Whatever the reason, students might not be informed regarding the employability skills that employers value the most (Herok et al. 2013:45).

Although all 11 skills received high scores for importance, time management received the highest score overall (92.16) and was ranked as one of the three most important skills by graduates, lecturers and employers (Table 4). The final-year students gave it the fourth highest rating with a high score of 92.39 indicating that they also realised its importance in the work environment. The fast-moving workplace expects employees to deliver on time and adapt to the environment's rapid pace. Employees must be punctual and complete tasks within expected timeframes while maintaining quality outcomes through planning, organising, prioritising, multi-tasking, or some combination (Nadinloyi *et al.*, 2013). In the consumer sciences work environment, it is essential for employees to always be on time and set priorities to meet deadlines, even as they work in a thorough and methodical way to meet the company's standards (Helyer & Lee, 2014). Results affirm respondents' respect for this reality.

Additional skills

Answers to the open-ended question, which gave respondents the opportunity to provide additional skills that they viewed as important, gave special emphasis to what may be interpreted as 'personal' skills. All four groups listed various desirable characteristics including being 'positive', 'reliable' and having 'people skills'. These can be viewed as aspects of interpersonal skills that could enhance an employee's interaction with others. Together with the further personal attribute of 'hardworking', these skills could also assist employees to thrive in the workplace. All four groups contributed to the profile of these 'other' skills indicating that *all* recognised their value in the workplace. It is therefore important that future researchers focus on how lecturers can ensure these additional skills are implemented in the curriculum.

Both the graduate and employer respondents identified cultural awareness as an important additional workplace skill. The identification of this skill emphasises how those *in* the workplace perceive the importance of working effectively with people from other cultures. The South African labour force is extremely diverse and culturally rich (Roman & Mason, 2015), which highlights the importance of cultural awareness. Given that neither the lecturers nor final-year students raised the importance of cultural interaction, it is possible that they do not yet appreciate its importance. Other employability skills that contribute to cultural awareness include communication skills, teamwork, adaptability and interpersonal skills (Nagarajan & Edwards, 2014). These, in the overt context of cultural awareness, can be considered as a vital additional element for consideration in the training and employment of consumer science graduates.

Graduates' competency in employability skills

There were significant differences among respondents in their perceptions of graduates' actual competency regarding the 11 employability skills (see Table 3). Students rated their own competency highest among all the groups, followed by graduates. Lecturers and employers gave lower ratings. Because final-year students had not yet entered the workplace testing ground, they may not have been able to accurately judge their competency. This was supported by other studies that indicated that students tend to overestimate their own competencies (Lawson *et al*., 2012). English language proficiency was the only skill where final-year students gave a lower competency rating than graduates. This could be because English was not their first language and these final-year students may not have been aware of their possible lack of competency.

That said, final-year students still rated their overall competency on the 11 employment skills significantly higher than did lecturers and employers (Table 3). These high competency ratings (relative to lower ratings by employers) could indicate the need to develop students' metacognitive skills relating to self-assessment. Metacognitive refers to knowledge of one's own thoughts and the factors that influence one's thinking. According to Lawson *et al*. (2012), improving students' self-assessment abilities could help them realise the skills they need to improve and mitigate them being overconfident and then disappointed when they encounter the work environment.

Furthermore, the fact that the employers rated these employability skills as important, but perceived students as less competent than they would wish (Figure 1, Column C), serves to highlight the need to develop these skills in tertiary education. Results reveal the gap that needs to be filled between the importance of different employability skills and students' actual and perceived competency in these skills. Students' mean competency score for the 11 skills was 72.06 compared to employers' mean competency scores of 60.60 (see Table 2). As previously noted by Lawson *et al*., (2012) students are known to overvalue their own competencies.

And, although this study focused mainly on the needs of the employers, with students, graduates and lecturers agreeing that the skills are important, it is worth noting that lecturers gave the lowest mean competency scores (53.02). The employability skills identified in this study, as well as the gap between the importance of and competency in the key skills required, could serve as a guide for lecturers in their educational approach to develop these skills in their students. Although not statistically significant, the disconnection found between employers and lecturers is noteworthy. It matters because the latter are responsible for revising higher education curricula. If they do not see eye -to-eye with employers, the necessary changes to curricula may not happen. Future studies should examine this issue.

Study Limitations

Employers and graduates already in the workplace provided vital opinions regarding skills needed for employability and career success, but their response rates were lower than anticipated (for employers, 32.45%; for graduates, 48.10%). High workloads and lack of time often make it difficult for individuals to complete questionnaire surveys. Enough data were collected for an analysis of their needs, but a future study could benefit from a larger sample size of these two sectors. Including more universities is also recommended to provide a larger sample and wider range of lecturers' and students' views.

CONCLUSIONS AND RECOMMENDATIONS

The consumer science work environment, in all its diversity, is characterised as competitive, fast paced and requiring constant interaction. This study identified 11 skills that consumer science graduates need to acquire if they want to succeed in this environment in light of what employers are looking for. In addition to these 11 skills, the importance of cultural awareness in the workplace was emphasised. Time management, English language proficiency, information-communication technology skills and interpersonal skills also emerged as prominent when taking importance mean scores into consideration. Employers rated communication, problem solving and time management skills as the three most valued skills in the workplace. Further studies could explore ways in which the acquisition of these skills can be incorporated into consumer sciences undergraduate curricula to ensure that students master these skills *before* entering the workplace. The results only showed *which* skills are needed supporting this recommendation for another study that can tease out how to implement these skills. The overestimation by students in this study of their competency, in contrast to employers' and lecturers' perceptions, indicates the need for metacognitive capability development that would enable students to more realistically gauge their own competency level. This employability study is the first that provides information specific to the field of consumer science in South Africa and provides lecturers and students in consumer sciences with a clear picture of what an employable graduate should look like in a dynamic work environment *according* to the skills employers require from employees.

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