

Identify gaps between the mismatch of soft skills offered to students by university and those that are needed by industry: A case of Vaal University of Technology:

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ABSTRACT

This paper reports findings of a project that explored the mismatch of soft skills offered to students by university and those that are needed by industry. The objectives were to identify whether personnel at industry do find themselves in the situation where they have to teach soft skills for Work Integrated Learning and internship, and to report the extent to which they possess identified soft skills. In addition the project reports on skills that were identified as essential by industry; and individuals who should be responsible for these. A questionnaire comprising of close-ended and open-ended questions used for the purpose of this project and was administered to personnel who interact with students during work integrated learning and internship. Quantitative and Qualitative data analysis was employed. Results show that all participants reported that they found themselves having to discharge the task of teaching soft skills to student interns as they lack some of the skills and are somewhat below expected level in those they possess. Finally, findings from this project indicate that the university should take a lead in addressing the gap of the identified mismatch.

Keywords: Soft skills, world of work, work Integrated Learning, internship, mismatch of skills

INTRODUCTION AND BACKGROUND

Universities in South Africa are now facing an even more challenging world of work than in previous years. The needs of industry are changing fast, and competition comes from everywhere (Council on Higher Education, 2011). In this regard, Mazhar and Arain (2015: 434) attests that Academic institutions have a responsibility to

address this emerging need of the industry to support national economy. . According to the National Skills Development III (2011-2016), South Africa is challenged by low productivity in the workplace, slow transformation of labour market and the lack of mobility of the workforce. On the other hand South Africa is challenged. Basic skills can be sharpened through classroom and work experience. This should be done by promoting Universities systems by identifying and developing the competencies that are believed to be needed by industry. This should be the case because the requirement of skills and competencies in the global organisation is forever changing. Keeping abreast of the situation, learning institutions are becoming learning organisations with a view to update the skills and competencies of their graduates. This is also the process of professionally oriented manpower readiness for future organisations (Somalingam & Santhakumari, 2013:37).

In the Vaal University of Technology, most programmes or disciplines particularly, in the faculty of Engineering and Technology, require students to do 12 months' work integrated learning (WIL) in industry (VUT Graduate Development Handbook, 2014). At the time of work integrated learning, students must be well prepared by the university to use knowledge they gained at university, but also apply skills necessary for their programmes. The acquisition of skills and competencies of students involves many factors such as local availability of education opportunities, graduates attributes, ability of the resources personnel/institution and industry perceived attributes. Griesel (2002) posit that industry desire clusters of knowledge, skills and competencies that graduates lack. Generic skills development has been a key focus in curriculum changes and renewal and has been promoted by stakeholder view that suggests an expectation gap exists between the employers and the students and what is being delivered by institution of higher learning programmes (Kavanagh & Drennan, 2008).

During the training of the students, most of industry partners often complain about the skills that students lack, particularly the soft skills. Soft skills are now key to making businesses more profitable and enhancing the work environment (Pop, 2009:20). This reality is one of the reasons why companies are not just assessing their current staff and future recruits on their business and technical skills but also on their soft skills (Clymer, Roberts and Strawn, 2001).

PROBLEM STATEMENT

The interface of education and work has long been seen to be problematic (Ori, 2013: VI). While Blom (2013: viii) confirms that work experience hugely enriches the learning experience and reduces the mismatch of educational outcomes and workplace requirements, Ori, (2013: VI), on the contrary, argues that higher education institutions are keen to ensure that their graduates are valuable assets to their prospective workplace. However, the refrain for many years has been that there is a mismatch between the outputs of institutions and the expectations of workplaces (Ori, 2013:VI).

Similarly, Scottish Higher Education Funding Council (2003:20) supports the above statement by stating that generally the supply from higher education does not meet the industry demand. Consequently, McClelland (1996) also concur with the above statements by alluding that industry prefers students who can contribute from day one and possess soft skill that will enable them to cope in the day-to-day working environment. Very little is known about the mismatch of soft skills between university and industry. Undertaking this project will provide platform for closing the gap that has been identified.

AIM OF THE STUDY

In the light of the above, this study aims to identify gaps between the mismatch of skills offered to students by the university and skills that are needed by industry. At the end, to disseminate findings to management so that they can address the gap that have been identified.

Based on the problems identified above, the objectives of the study were to:

- To establish the extent of soft skill preparedness students bring to industry.
- To find out which skills the employment consider to be essential for work integrated learning and internship.

- To find out who should be responsible for the provision of soft skills to students.

LITERATURE REVIEW

A literature review of secondary data sources was undertaken to achieve the theoretical objectives of the study. According to Holt (1997) a literature review allows students to understand peripheral issues and measure the extent to which other research and current understandings have been incorporated. For the purpose of this study, specific emphasis was placed on literature pertaining to the skills gap and Work Integrated Learning.

The South African labour market moves away from labour intensive to capital intensive operations that require highly skilled human resources (Coetzee, Botha, Kiley and Truman, 2007:4). Griesel (2002) posit that employer desire clusters of knowledge, skills and competencies that graduates lack. Generic skills development has been a key focus in curriculum changes and renewal and has been promoted by stakeholder view that suggests an expectation gap exists between the employers and the students and what is being delivered by institution of higher learning programmes (Kavanagh & Drennan, 2008).

The National Skills Development Strategy (NSDS) III (2011-2016:4) essentially responds to eight pressing challenges that impact on the ability of our economy to expand and provide increased employment opportunities, and are as follows:

- The inadequate skills levels and poor work-readiness of many young people leaving formal secondary and tertiary education and entering the labour market for the first time, and the many who enter the world-of-work without a formal qualification.
- The longer-term unemployment who lack basic numeracy and literacy, and do not possess entry-level skills, and do not have the work experience needed to enable them to seek and obtain

- The continuing skills shortages in the artisan, technical and professional fields. That are fundamental to the development and growth of our economy.
- The over-emphasis on NQF level 1-3 learnerships, with insufficient progression towards more appropriate skills required for growth sectors in a knowledge economy.
- The failure of business in many sectors of the economy to equip their workforce to adapt to change as the economy becomes more knowledge-based.
- Systemic blockages, such as the lack of synergy between the various post-school sub-systems, the lack of role clarity of the various parts of the skills development systems, inefficiency and waste and the silo mentality which prevents the partnerships and alignment needed to improve effectiveness.
- The absence of coherent strategies within economic and industrial sectors, compounded by the lack of systematic skills development to support and sustain growth and development.
- The urban bias of our economic development and therefore the urban bias in our skills development initiatives, resulting in skills for rural development being neglected.

However, the combination of the theoretical aspects of learning (academic learning) and the application to work situations (WIL) according to Engelbrecht (2003:5) is an integrated learning mechanism that facilitates the identification and utilisation of embedded knowledge.

In South Africa, a key aspect of South Africa's National Development Plan: Vision 2030 (2011) is sustainable development with business, government and civil society playing inter-related roles in order to improve the lives of all South African (Taylor and Govender, 2013:14). The White Paper for Post-School Education and Training (2013) is one of a range of recent skills development and human resource draft legislation that highlights the responsibility of higher and further education and training institutions to ensure that the education and training they deliver meets the needs of the economy.

Kumar & Jain (2010:3) posit that what makes graduates more likely to gain employment and be successful in their chosen occupations which benefit themselves, the community and the economy is set of achievement skills, understanding and personal attributes. Universities are being placed under increasing pressure to produce employable work ready graduates who are able to cope in a rapidly changing work environment. Emslie (2011) ascertain that universities can embrace work integrated learning (WIL) as an effective educational tool and the truth is that its success depends entirely on the full involvement of employers and ideally also government.

Grebert, Bates, Bell, Patrick and Cragolini (2004) stated that WIL is a concept that can create the social setting for students to interact with more knowledge and can equip students with generic skills and facilitate their transfer skills into the workplace. Nixon, Smith, Stafford and Camm (2006) concur with the above statements by stating that WIL should be considered by Higher Education Institutions if they are to continue to contribute to the knowledge economy.

Similarly, Cassidy (2004) is of the same opinion that WIL improves a student's self-confidence and self-concept, improve social skills, increase practical knowledge and skills and enhance employment. However, the basic skills can be sharpened through classroom and work experience by identifying and developing the important competencies that are believed to be needed by employers, WIL programmes have the purpose of preparing students for the real world of work.

Soft Skills

Soft skills are now key to making businesses more profitable and enhancing the work environment. This reality is one of the reasons why companies are not just assessing their current staff and future recruits on their business and technical skills but also on their soft skills (Clymer, Roberts and Strawn, 2001) and was also highlighted in a recent study by a major South African organisations (Collective Resources, 2008). The above study on skills audit and efficiency showed conclusively that soft skills development is very important in retaining both organisation cohesiveness and productivity.

The study indicated that there are obvious traits of cognitive ability and accuracy which are vital in successful teams. Another factor to consider is the graduate's inability to work independently due to a lack of workplace exposure and experience. In South Africa, the Universities of Technology have instituted the Work-Integrated Learning (WIL) model of training, where students spend some time at the workplace. The Scottish study states that the most frequently cited reason for obtaining their job by graduates surveyed who were very satisfied with their career progress to date was having had relevant work experience. The benefits of undertaking work experience while studying include developing a work ethics, personal skills, time management and workplace etiquette.

Skills Training

The lack of soft skills, workplace readiness and experience are the key consideration of the graduates in the research setting as part of the strategy to retain the graduates. When the students starts their career, many of them lack the soft skills (Henson, 2006). The lack of soft skills is the main reason many graduates are unsuccessful in the recruitment phase. Relevant to this study is the concern by the Development Policy Research Unit (DPRU) study (2007:7) states that many students come from historically Black Institutions where they do not have the opportunities to develop these skills by participating in co-operative education initiatives or extra-curricular activities which facilitate character building.

The study by Purcell, Pitcher and Simm (1999) found that in many cases, it was considered that skills and attributes had been developed outside the course of study. In many cases such skills proved more market able in the graduate labour market than the type of degree acquired and associated formal qualification. In support of the above, Hillage and Pollard, (1998) maintained that employability assets of an individual and graduates as well, comprise knowledge (what they know), skills (what they do with what they know) and attributes (how they do it).

From the above views, Kruss (2004) concluded that employers and graduates are of the opinion that although undergraduate studies contribute to the personal

development and workplace effectiveness of the graduates, a tertiary qualification does not necessarily prepare students for the real world of work. The above studies shows that there is a serious mismatch between graduates aspirations and the reality of the labour market and that new graduates are insufficiently prepared for the world of work. It is therefore understandable that employers are dissatisfied with the skills and attributes of recently qualified graduates and concerns are raised about their lack of generic skills (Scottish Higher Education Funding Council, 2003:16).

Kruss (2004) found that work experience and occupational specialisation are the preserve and domain of the employers in labour market who build on the general foundation laid by higher education institutions to develop the requisite specialised skills, knowledge and dispositions to produce skilled employees. The employer focus on providing the specialised practice and experiential knowledge required (Kruss, 2004:678).

RESEARCH DESIGN AND METHODOLOGY

The study is non-experimental and adopted a descriptive approach.

RESEARCH METHODOLOGY

Research methodology is defined as the study of methods by which knowledge is gained (Creswell, 2003).

Sample and sampling design

The target population relevant for this study were industry partners who normally take Vaal University students for Work Integrated Learning and Internship. Some of these industry often complain about the soft skills that the university offer to the students; in line with Malhotra (2010:375) they possess the information sought by the researcher and regarding which inferences to be made. A non-probability convenient sampling design was deemed appropriate for this project. A non-probability convenience sample allows a large number of respondents to be reached and is

suitable for respondents who are geographically dispersed (Churchill, 2001:453), as is the case with the VUT industry partners.

Method of Collecting Data

A structured questionnaire was employed as the method of collecting data for this study because the respondents are scattered over a large geographical area. Three sets of questions were developed. Question 1 comprises of one question which was yes or no, question 2 comprises of 9 questions which were developed in a form of a 5 point Likert Scale. The respondents were supposed to rate quantitatively the level at which they consider students display the identified soft skills, by assigning values, 5= strongly agree 4=agree; 3=neither agree nor disagree; 2=disagree and 1=strongly disagree to the self-evaluative statements. Question 3, comprised of 2 questions which were open-ended. The respondents were made aware that information derived from their analysed responses would be used as a preparatory programme to students before they are sent out for WIL and internship. The questionnaire was delivered to the respondents by means of e-mails. Of the 50 selected respondents, only 44 returned completed questionnaires. The identification of soft skills within the syllabi was also analysed in comparison of what the structured questionnaire regarding soft skills was answered by respondents.

Data Analysis

The captured data was analysed manually: quantitatively and qualitatively. Data for question one was analysed manually by quantifying the “yes” and “no” responses. Data for question two which was a five-point scale was also computed manually by counting frequencies of the five scales of each individual respondent and grouping them in terms of numerical similarity. For example, all the responses that were ticked under the scale one were counted as a category quantifying all responses that stood for strongly disagree.

For the purpose of the open-ended questions of question three, qualitative analysis was employed. From the quality of responses that were furnished, a variety of soft skills that were extracted were divided into categories and quantified.

RESULTS AND DISCUSSION

The results and discussion have been tabled according to the objectives and they follow sequentially. The first objective sought to establish if participants experience a situation where they have to teach soft skill to WIL and internship students.

The respondents, being the Mentor of the students during WIL and internship as well as HR Managers hiring VUT students for WIL and Internship were asked if they find themselves in the situation where they have to teach soft skills for Work Integrated Learning and to internship students. All the respondents 44 (100%) reported that they found themselves having to discharge the task of teaching soft skills to student interns. This is illustrated in Table: 1 below. This in essence means that universities put their emphasis on theory at the expense of embedded learning; thus disadvantaging students and overburdening Industry partners.

Table 1: Involvement in teaching soft skills

YES	NO	Total
44	-	44

The conclusion that can be drawn from these findings of is that all industry partners are in agreement that students come to the industry for work integrated learning and internship ill-equipped. These findings echo the sentiments of Kruss (2004) that work experience and occupational specialisation are the preserve and domain of the employers in labour market; higher education institutions have to develop the requisite specialised skills, knowledge and dispositions to produce skilled employees. The industry must focus on providing the specialised practice and

experiential knowledge required (Kruss, 2004); but that seems not to be the case as the findings revealed.

The second objective sought to establish the level at which students possessed skills which were assumed to be essential for work integrated learning and internship. Soft skills that were considered to be a priority by the researcher were included in a questionnaire in a form of a 5- point Likert scale so that the respondents could indicate the extent to which students display them. The researcher included these soft skills on the assumption that these are a requirement for qualification programme. The extent to which students display the skills in question plus the percentages is displayed in Table: 2 below.

Table 2: Soft Skills rating

		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	TOTAL %
1	Do the students participate effectively in team activities in the workplace?	-	3 7%	2 5%	31 70%	8 18%	44 100%
2	Are the students able to solve problems effectively?	-	16 36%	3 7%	25 57%	-	44 100%
3	Do the students communicate professionally within the organisation?	-	15 34%	10 23%	19 43%	-	44 100%
4	Do the students have the ability to deal effectively with conflict in the workplace?	1 2%	13 29%	21 48%	6 14%	3 7%	44 100%
5	Do the students have the ability to dress properly in the workplace?	9 21%	22 50%	7 16%	5 11%	1 2%	44 100%
6	Do the students consider time management?	11 25%	29 66%	1 3%	3 7%	-	44 100%

7	Do students show leadership in the tasks they carry out?	6 14%	7 16%	4 9%	14 32%	13 29%	44 100%
8	Do the students apply creative thoughts, knowledge and skills in practice?	-	6 14%	1 2%	23 52%	14 32%	44 100%
9	Are students able to adapt in the multicultural workplace environment?	6 14%	6 14%	15 34%	15 34%	2 4%	44 100%

The skills involved participating in team work, problem solving, communication skills, conflict management, dressing appropriately, time management, leadership skills, creative thinking and adapting to the multicultural environment. The majority of respondents 70% agree that students participate effectively in team activities and 18% strongly agree that students participate in team activities. The combination of these two positive responses indicate a high level of satisfaction regarding how students are receptive to working as a collective. Ability to work as a collective might be a result of the fact that some tasks at university involve group work; which in turn instils team work.

The results (57%) show that participants agree that students are able to solve problems effectively and 36% disagree. This implies that this area also need attention. Participants further agree that students are able to communicate professionally within the organisation (43%); though not strongly agree (0%) and disagree (34). This in essence means that there is still a need for improvement in this area. 48% of respondents neither agree nor disagree that the students have the ability to deal effectively with conflict in the workplace. This means that conflict amongst students during learning might not be rife like permanent employees. 21% disagree with this statement and this shows that this area should also be looked at when preparing the students for the world of work.

71% of respondents has a concern about the dress code of the students. It must be noted that the manner in which students dress when they present themselves for WIL and internship is a cause for concern as indicated by the results in the above table. It means the issue of dress code and professionalism is neglected as a soft skill in student's preparation. The findings from the above table revealed that the

worse-case scenario is 91% of the respondents stated that our students do not consider time management as important skill. This area need a serious and speedy attention.

61% of respondents displayed a satisfactory results about the leadership role that the students carried out in their tasks. This area should also be improved as 30% of the respondents are still not happy about the leadership role of our students in carrying out their tasks. Findings revealed that 84% or our students apply creative thinking in the work place. Although this is a good indicator of creativity in our students, this need to be emphasised to the students so that they should be more creative. The results also showed that 38% of respondents agreed that our students adapt in the multicultural workplace environment. Some have not been equipped with skills for adapting in a multicultural environment yet they are placed in industry sites with mixed races.

The findings revealed that students are not adequately prepared for work place. The fact that scores fell in the category neither agree nor disagree and disagree and strongly disagree is suggestive that respondents had reservations about the skills the students brought to industry.

The third objective sought respondents to provide soft skills which they perceived as a necessity for students to cope in the world of work and in addition wanted to establish who should be responsible for equipping students with soft skills. The skills have been quantified to indicate the need of the urgency of each skill as indicated by the number of participant responses. The following skills were listed as essential for employment purposes:

Table 3: Essential skills listed by industry

SKILLS	NUMBER OF RESPONDENT	SKILLS	NUMBER OF RESPONDENT
Creativity	10	Interpersonal skills	2
Self-management	9	Interview skills	2
Personal awareness	8	Championship	2

Goal directedness	7	Alertness	2
Self-motivation	5	Listening skills	2
Verbal Communication	4	CV writing skills	1
Business Etiquette	4	Business skills	1
Resilience	4	Job hunting skills	1
Workplace readiness	2	Report writing skills	4

Table 3 outline the essential skills listed by industry. On taking a glance at the list, one concludes that the work place requires a wide variety of soft skills. Besides the variation of soft skills expected, the findings results reveal that the soft skills necessary vary in terms of importance. There are skills which are a 'must have'. These based on the findings are those that have high frequencies as compared to others. The fact that creativity (10) topped the list as a soft skill that employers felt student require, is suggestive to the fact that industry expect students to come to the work place ready to contribute to the company not only theoretical knowledge but they must be able to think out of the box and come with innovations as they practice. This finding further imply that most students who present themselves for work place experience have been found wanting in this aspect.

Self-management (9) was the second prominent soft skill necessary at the practice site. This in essence means that interns pose a problem of being monitored all the time as they cannot manage themselves. One imagines that it is taxing for supervisors to be managing students who are on site particularly for internship over and above their other duty loads that they have to discharge. Personal awareness (8) was another area of urgent need looking at its score. This relates one knowing who she/ he is in terms of strengths, weaknesses, potential ability, likes and dislikes among others. Personal awareness enables one to understand oneself and thus be able to relate to the workplace environment and its demands. It also facilitate the relationship between one and the supervisor and others in the work place.

Personal awareness is related to goal directedness. Seven participants viewed goal directedness (7) as an essential soft skill. The inclusion of this soft skill as

requirement is not a surprising finding as it is obvious that no company will employ an individual who is not goal directed. The workplace is about driving production and it requires individuals who work on stipulated goal or set goals for achieving required tasks and this self-motivation. Hence the inclusion self-motivation (5) by some participants.

Other soft skills were :Verbal communication (4);Business etiquette (4);Resilience (4);Report writing (4);Workplace readiness (2); Interpersonal skills (2);Interview skills (2); Championship (2); Alertness (2); Listening skills (1); CV writing (1); Business skills (1);Job hunting (1);listening skills (1); were also indicated as necessary skills. Looking at the fact that they were mentioned minimally, it means some students present themselves at WIL and internship sites already equipped with these. For example work place readiness may be tied with the fact that on the question of team work (check Table: 2, Question 1) they were highly rated. On the other hand some of them (the soft skill identified) are not a priority yet in the actual job practice but might be used in future when seeking employment. For example interview skill, CV writing, and job hunting skills.

On inspecting the engineering VUT curriculum and course design, very limited soft skills were identified. Communication skills featured prominently. In addition the very communication was more inclined to verbal communication as against other aspects of communication which involve soft skills that are essential in the work place. The paucity of relevant soft skills in the VUT curriculum and course design is an indication of lack of awareness that industry are not just assessing their current staff and future recruits on their business and technical skills but also on their soft skills as Clymer, Roberts and Strawn (2001) have already noted as early as the year 2001. This actually means theory without soft skills is detrimental not only to the students' future; but to industry and the good name of the university.

Looking at both the vast variety of this list from participants and the VUT curriculum and course design , one can deduce that the skills provided by the university are limited, hence the industry partners often complain that they have to teach soft skills during work integrated learning periods. The findings accord

with those of Ori (2013:VI) and Scottish Higher Education Funding Council (2003:20) who documented in their research that there is a mismatch between the outputs of institutions and the expectations of workplaces and that generally the supply from higher education does not meet the industry demand. These findings are worrying as they depict that to this end the situation of addressing skills and competencies that graduates lack (Griesel; 2002) has not been addressed. This situation demands urgent attention. Failure to attend to it will impact the economic expansion and employment opportunities.

On the issue of who should be responsible for equipping students with skills; different stakeholders were identified as responsible for ensuring that soft skills are provided. - The University was found to be the key role player in ensuring the provision of soft skills for students (29). This was followed by Parents (6) and guardians (4); the primary schools (3), and finally all parties should (2). The fact that the majority of respondents has identified the university as a responsible source for the provision of soft skills in students, this indicates that the university has neglected its responsibility of equipping students with the necessary skills for use in the workplace; thus points to the weakness of the curriculum. This also demonstrates that industry have become agitated by the neglect practiced by us in not fully preparing students as they should.

These findings also reveal absence of partnership between universities and industry with regard to designing the work integrated learning content. A few respondents mentioned that the responsibility should not always be placed with the institution, but it should also be shouldered by parents and guardians, including the primary school. Emslie (2011) clearly stated that universities can embrace work integrated learning (WIL) but its success depends entirely on the full involvement of industry and ideally also government. Basically all stakeholders should be involved. It should not only be involvement but 'full involvement' as (Emslie, 2011) rightly argues.

Based on literature studies and conclusions drawn from empirical investigation, implications and recommendations were made. The contribution and limitations of the study were also addressed.

LIMITATIONS

The study also focused on Mentors and supervisors of interns only - a further study to be undertaken should focus on students. Mentors and Supervisors' responses might have been biased because they are the position of authority. However, regardless of these limitations, the study managed to gather useful information about the gap that exists in soft skills between the work place and the university.

CONTRIBUTION

Among other things, the study will contribute in the following ways:

- Sensitize the University of concerns of the industry regarding the fact that the university has relegated their task of equipping students with skills to them (staff in internship sites).
- Make the university aware that of the mismatch of soft skills that exists between the institution and the work place.
- Sensitize the university about the importance of partnerships with industry in terms of designing the work integrated learning programme in order to close the gap that exists.

IMPLICATIONS AND RECOMMENDATIONS.

The researcher has observed that soft skills are essential in the workplace yet they are not prioritized. An appropriate understanding why the inclusion of these in the curriculum is essential will encourage university lecturers to prioritize them. This essentially implies that instilling these skills does not amount to doing students a favor but affording an educational imperative that will make them economic asserts.

The findings of this study have highlighted that all participants agree that there is a mismatch of skills and that universities do not play their role. This findings are a pointer that partnerships formed with universities should not only be based on student placement only but should extend to partnering in deciding which soft skills universities must equip students with. Based on the findings full involvement of employers and ideally also government is highly recommended; that does not exclude other stakeholders.

The underlying premise of the study is that stakeholders who interact with students during work integrated learning and internship should be afforded an opportunity to express themselves regarding students' performance re-soft skills. This is the only way mismatch can be identified and attended to.

CONCLUSION

The conclusion that can be drawn from the findings of this report is that all industry partners are in agreement that students come to the industry for work integrated learning and internship ill-equipped as demonstrated by the fact that they have not mastered a lot of requisite skills for the work-place. The findings have revealed that a mismatch of soft skills offered to students at the university and those needed by industry exists; and that the university must take leading role in identifying and to closing the mismatch for the benefit of students and complaining stakeholders. The list of skills that have been offered by participants can be used for closing the mismatch and strengthening the curriculum. Other stakeholders are also required participate in this endeavor. It is hoped that the findings will be of benefit to the university and stakeholders in strengthening the curriculum.

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