BEYOND WINDOWS

Toward Strengthening University-Industry Linkages: In Need of an Efficient Industrial Training Management System

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Introduction

Industrial training refers to students’ placements at selected organizations for a predetermined duration ranging from at least eight weeks to 20 weeks, depending on institutions. During the training, students will be exposed to the career world and gain working life experience. At the same time they can equip themselves with the necessary soft skills that require them to interact with the people inside and outside the organizations.

Usually, four parties are involved in the industrial training process i.e. the industrial training coordinator at the faculty, the students, the supervisor at the organisation and the academic supervisor.

However, the placement process is time consuming, and currently done manually in many higher institutions. In UiTM, each program at the faculty has its own industrial training coordinator. For example, in the faculty of Computer and Mathematical Sciences in UiTM Terengganu, one coordinator is assigned for diploma program (CS110) and another one for each respective degree program. Currently, the faculty has four industrial training coordinators for four programs. As a result, each coordinator has her own company database that she would regularly send their students to. Nevertheless, the application process for all the students for all programs in the faculty is very much similar, including the issuance of letters to the organizations.

At the beginning of the placement process, students are required to submit to the coordinator the companies they desire. Upon receiving the information, the coordinators will produce a letter to each company to acquire about the internship opportunity. If the company agrees to offer a place to the student and the student decides to undergo his or her industrial training at the company’s premise, further documentation takes place. During the training, students are required to write about their daily routine into the logbook. In the assessment aspect, all parties i.e. student and both academic and industry supervisors are required to fill in various assessment forms. Upon completing the training, students must submit all the documentation including the final report and the project assigned to them. Consequently, heavy use of paperworks is unavoidable.

Issues

The industrial training process consumes a great deal of energy particularly in acquiring the placements (Collins, 2002). In addition, there are other challenges. First, the process places a heavy workload on the industrial training coordinator since the coordinator needs to manage the entire document required for every student. The documentation is still being managed manually, heavily dependent on papers. Second, the coordinator must handle all the communication to and from the students and the industry regarding the current status of each application. Third, sometimes it takes time for companies to confirm the availability of the internship position, although the students have contacted them personally. When the offer finally arrives, the student has already selected another company to undergo his or her industrial training. Fourth, there has been much concern on the mismatch of the skills and qualification of the students with that of industrial expectations (Renganathan, Karim, & Li,
There were cases where graduates with excellent academic performance were not able to express themselves well (Karim, 2009).

With about 150 to 200 students to handle yearly, the coordinator needs a better management system to handle the industrial training process and activities. An efficient industrial training management system would definitely be able to automate some processes. In addition, apart from improving communication among all parties involved, and eliminating paperworks, another benefit is the ability to get instant status update. Considering the number of students to handle each semester, it is timely that the procedures of industrial internship be simplified (Okay & Sahin, 2010).

**Literature Review**

Industrial training is a bridge from classroom to workplace. The objective of the industrial training is to expose students to the competency, knowledge and skills needed to succeed at the workplace. By undergoing the industrial training, students will be able to relate the theory that they learnt and applied them practically (Jainudin, Francis, Tawie, & Matarul, 2015). Findings show that students benefit from the internship programme that provides them with both the technical and soft skills required in the marketplace (Maelah, Mohamed, & Aman, 2014). Other benefits can be projected such as staff exchange, technology transfer and research and development initiatives (Hasbullah & Sulaiman, 2002).

The collaboration between university-industry partnerships can bring potential benefits to many parties – the university, the industry and the graduates themselves. However, there is a barrier that can hinder the partnership i.e. lack of communication. Yet, networking and personal contact are vital in building synergy between the partner university and industry. Therefore, both parties need to have regular engagement to improve communication (Baharom, Salleh, & Idrus, 2009). In particular, the university coordinators should link with industries to build good relationship in order to have effective internship program (Karunaratne & Perera, 2015).

Therefore, industrial training needs to be well managed since it is important to maintain and develop links between the university and the industry. The management of industrial training process can only be successfully undertaken by electronic means and supported by the web technology (Neill & Mulholland, 2003). In addition, there has not been a structured way of establishing relationships with the outside community. With the advancement of the computing technology, almost all communication can be computer-mediated (Debora & Carolyn, 2014). Thus, it is important to develop a common online system at university level for all students and industry players to access (Gill, 2009).

This online strategy has been opted by Universiti Utara Malaysia (UUM). UUM has developed an Online Practicum Student Placement (OPSP) that allows companies to register, view available students for industrial training by academic programmes they undertake, select potential students for training according to their preference (e.g. academic results, race, language proficiency, hometown, co-curricular activities), and confirm the selection of students electronically through the Internet within minutes.

In addition, due to its potential impact on the management of the industrial training, OPSP has received the Malaysia Civil Service Innovation award in 2007 (Kardi et al., 2009). Furthermore, with the advent of modern technology, the use of content management systems such as the online journal system has also been very beneficial to the students and both the academic and industry supervisors (ChanLin & Hung, 2015). The online journal provides the opportunity to help students document and share their own learning process from internship experiences.

A more strengthened partnership and cooperation between university-industry is very vital and as much as possible be fostered and developed (Nduro et al., 2015). Hence in order to minimise the gap, a process of empowering and strengthening those parties should be conducted (Phang, Yusof, Saat, & Yusof, 2013).

**Government’s Policy**

The Ministry of Higher Education (MOHE), Malaysia has placed graduate employability as an impor-
tant agenda under the National Education Strategic Plan, stressing that all the graduates need to have additional skills to complement their knowledge in order to be employable after their graduation. Consequently, Malaysian universities are urged to produce competent graduates to fulfill national manpower needs with 75% of graduates employed in their relevant fields within six months after graduation (Jainudin et al., 2015).

Further, based on the National Philosophy of Education, the Malaysian Education Development Blueprint’s (2013-2025) has given great emphasis on the holistic formation of students in line with quality human capital formation. This blueprint is in line with the Government Transformation Program (GTP), which propels Malaysia towards becoming a developed and high-income country (Rus et al., 2015). Since then, higher education policies in the country have been formulated to serve ‘national interests’, such as socio-economic development and nation-building (Nikitina & Furuoka, 2012).

At the top, graduate employability has been a global concern for all higher education sectors (Kardi et al., 2009). Consequently, parallel with the national agenda, in UiTM, the office of Industry, Community and Alumni Network (ICAN) has established Academic-Industry and Community Division (AIC) and Graduate Employability Division (GEm) to strengthen the current and existing industry-university partnership in the area of academia industry and graduate employability. Another division of Industry and Community Network is the Malaysian Academy of SME & Entrepreneurship Development (MASMED) with the objective to increase graduate employability and employer-ability (Hamdan et al., 2011).

Therefore, industrial training is considered as an effective tool to enhance graduates’ employability (Khalid et al., 2014). Symbiosis relationships between the university and industry are very significant because the relationship between those two can foster economic development of a nation, leading to national economic prosperity. No doubt, strengthening university-industry linkages is a corner stone of economic development (Hamdan et al., 2011).

Conclusion

The industrial training has long been emphasized as important in higher learning institutions. The industrial training acts not only as a platform in preparing students for jobs and expose them to real situations, but also help develop key competencies in students (Saat, Yusoff, & Panatik, 2014). In the fast changing technology and competitive world, it is necessary for the university to collaborate with the industry to better understand the needs of the industry (Hamdan et al., 2011) and to produce better graduates (Pillai, Khan, Ibrahim, & Raphael, 2012).

One efficient solution to execute the collaboration is to manage the industrial training process in a systematic way via a web-based implementation. It is crucial to see that the success of the industrial training management depends greatly on the implementation through systematic process and efficient delivery system to ensure that all parties i.e. the students, the industry and the university benefit from the technology-based capability.

References


We welcome any feedback, suggestions, questions or comments from the readers. Email them to norizanm@tganu.uitm.edu.my


DEPARTMENTAL ACTIVITY

Bengkel Pemantapan Pengajaran Kursus Pengaturcaraan CSC138

Norizan binti Mohamad
Siti ‘Aishah binti Sa’dan


Objektif bengkel adalah untuk:
(1) Membicangkan kaedah penyampaian kandungan kursus CSC138 yang sesuai, dan
(2) Menyediakan dokumen panduan pengajaran kursus CSC138 yang setara bagi semua kampus.

Dua orang penceramah yang berpengalaman luas dalam pengaturcaraan iaitu Prof. Madya Wan Dorishah Wan Abdul Manan dan Dr. Norlela Samsudin telah dijemput untuk bersama-sama bermukim tips dan pengalaman dalam aspek PnP termasuklah dalam aspek pembinaan soalan serta kandungan bahan pengajaran.

Seramai 20 orang peserta telah hadir. Peserta adalah pensyarah yang mengajar kursus pengaturcaraan di Kampus Dungun serta pensyarah dari seluruh kampus UiTM termasuklah Kolej Bersekutu UiTM. Di dalam bengkel ini, peserta dibahagikan kepada empat kumpulan mengikut topik yang diajari di dalam kursus CSC138. Setiap kumpulan diberikan tugas untuk menghasilkan perancangan penyampaian kandungan kursus mengikut topik yang diberi.

Di akhir bengkel, skema kerja dan perancangan kursus CSC138 telah berjaya dihasilkan dan telahpun diguna pakai pada semester Jun 2015.


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