A Study on the Effectiveness of Industrial Attachment Programme

Mohd Ridzuan Nordin & Raihani Md Kasim
Kolej Universiti Teknikal Kebangsaan Malaysia

A model of professional competence has been proposed by Cheetham and Chivers (1996). At the core of the model are four core components of professional competence. These are functional competence, personal or behavioural competence, knowledge or cognitive competence and values or ethical competence. Industrial attachment programme is an important component in the training of undergraduates. The programme exposes students to the real job situation and helps them develop core competencies that are increasingly important for graduates.

Arthur D. Little Plc (1998), as in Mohd Shariff et al. (2000), found that most of the graduates from Malaysian higher education institutions have high technical know-how but lack the aspects that make them well rounded. Seven attributes were identified as the important aspects that make graduates well rounded and these consist of technical know-how, communication and behavioural skills, analytical and critical thinking, practical aptitude, solution synthesis ability, lifelong learning capacity and entrepreneurial skills (Mohd Shariff et al. 2000). There is a growing awareness among educators that it is important to increase students' participation in the learning process and to provide skill-based education as well as one based on academic achievements (Humpreys et al. 1997).

This paper presents feedback from students and industrial training administrators on the effectiveness of industrial attachment programme. A total of nine respondents who administered the industrial attachment programme at their respective institutions (USM, UKM, UPM, UNITEN and UTP) were asked to indicate their agreement on statements pertaining to industrial attachment (IA). Their agreements to these statements are summarised in Table 1.

The highest agreements were for 'Students acquire new skills while on IA' followed by 'My institution has done its best in preparing students for IA'. The lowest agreement was for 'IA does not enhance students' capability' and this is consistent with the highest agreement given pertaining to acquisition of new skills by students. Respondents also agreed with the statement 'Supervisors in the organisation are given clear guidelines on how to assess students on IA'.

An interesting observation made here is in relation to the period of training, interaction between supervisors in the organisation with lecturers and the review of industrial training by the senate of the university. All items pertaining to these aspects secured low agreement. Respondents disagreed that eight weeks is sufficient for meaningful industrial attachment suggesting that a longer period is necessary.

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A total of 600 questionnaires were administered to predominantly engineering students in six universities. A total of 346 completed questionnaires were returned. 65 respondents were from KUTKM, 68 from UKM, 40 from UNITEN, 26 from UPM, 40 from USM and 107 from UTP. The respondents from UTP comprised 66 information technology students and 41 engineering students.

The student respondents were asked to indicate their agreement to statements describing their industrial attachment experiences. Their responses are summarised in Table 2. The respondents strongly agree on the statement 'Students are able to acquire new skills in the industry' followed by 'Students give the best effort to gain knowledge and experience during Industrial Training'.

The lowest agreement is for 'The institutions decide on the training experiences that students should undergo'. The statements 'Supervisors are given clear guidelines on how to assess the students on industrial attachment' and 'The contact between the university and the company pertaining to the students on attachment is sufficient' also scored among the lowest agreement, confirming the observation made earlier.

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The findings identified areas of opportunities to enhance the effectiveness of industrial attachment. These include a closer work relationship between institutions and organisations pertaining to industrial attachment, clearer expectations on industrial attachment by all parties involved through specially prepared documents and dissemination of information.

Table 1: Perception on industrial attachment (As it is now)

No	Statements	Mean	S. Dev.
1	Students acquire new skills while on IA	4.56	.52
2	My institution has done its best in preparing students for IA	4.50	.75
3	Supervisors in the organisation are given clear guidelines on how to access students on IA	4.33	.86
4	Generally the students are keen to contribute to the organisation	4.33	.50
5	My institution secured good cooperation from the IA supervisor in the organisation	4.33	.70
6	Relationships established through the implementation of the IA led to collaborative activities between my institution and the industry	4.22	.66
7	Students are able to adapt to the working environment	4.11	.60
8	Students have the right attitude towards IA	4.00	.70
9	My institution provides sufficient guidelines for the company to supervise students on IA	4.00	.70
10	There is sufficient interaction between the supervisors in the organisation and the lecturer to ensure quality of student training	3.67	.86
11	IA practices are regularly reviewed by the Senate of my institution	3.22	.97
12	Eight weeks is sufficient for a student to undergo a meaningful IA	2.00	1.00
13	IA does not enhance students' capability	1.67	1.00

Scale used: 1=Strongly disagree 2=Disagree 3=Neither agree nor disagree 4=Agree 5=Strongly agree

Table 2: Agreement on Statements Pertaining to Industrial Attachment Experience

No	Statements	Mean	S. Dev.
1	Students are able to acquire new skills in industry	4.23	.67
2	Students give the best effort to gain knowledge and experience during industrial training	4.22	.67
3	Students are able to adapt to the working environment	4.18	.63
4	Students are able to complete the work assigned to them by organisation successfully	4.12	.69
5	Students have the right perception and clear objectives towards industrial training	4.06	.74
6	Students have very high motivation	4.03	.73
7	Generally the students are keen to contribute to the organisation	4.05	.72
8	Generally the students have good communication skills	4.01	.71
9	The industrial attachment students are well briefed by their institution	3.89	.88
10	The university provides sufficient guidelines for the company to supervise the students	3.93	.84
11	The knowledge that students possess are relevant to their industrial training	3.86	.98
12	The company has done its best in providing students with the necessary work exposure	3.87	.95
13	Plan of work during industrial training was prepared by the industry	3.84	.98
14	The contact between the university and the company pertaining to the students on attachment is sufficient	3.86	.86
15	Supervisors are given clear guidelines on how to assess the students on industrial attachment	3.80	.94
16	The institutions decide on the training experiences that students should undergo	3.15	1.15

Scale used: 1=Strongly disagree 2=Disagree 3=Neither agree nor disagree 4=Agree 5=Strongly agree

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