

Thesis Title	A Study of Job Characteristics in Industries to Develop Curriculum Programme for Higher Diploma in Mechatronics Engineering :A Case Study of Pathumwan Technical College.
Thesis Credits	6
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Abstract

The objectives of this research were to study the general background, the Higher Diploma in Mechatronics Engineering graduates' knowledge, skills and equipments / tools utilized at the workplace, and the congruent opinions upon the knowledge, skills and equipments / tools utilized at the workplace between the graduates while studying and working as well as their entrepreneurs. The population used in this study were 14 vocational diploma holders while studying and working of academic year 1997 and 7 entrepreneurs of the graduates. The instruments for data collection were a questionnaire and an observation form. The data were analyzed by using Ranking, Rating Scale, Percentage, Means (\bar{X}), Standard Deviation (S.D.) and Content Analysis.

The results of the study were as follow :

1. Most of Mechatronics Engineering diploma holders worked at the private companies in Bangkok. Their rooms were clean, with air-conditioned and electric light. The most prominent characteristic of vocational diploma holders were the eagerness to study something new/modern and keeping up with the new technology.

2. The opinions of Higher Diploma in Mechatronics Engineering graduates while studying and working as well as their entrepreneurs concerning knowledge, skills and equipments / tools utilized at the workplace were as follows:

A. General Courses :

1. All of 3 groups moderately agreed on Report Writing, The Library Usage and General Physics I, II.
2. All of 3 groups completely showed different opinions on Calculus and Analysis I, II. Graduates while studying and working and entrepreneurs showed that their opinions were at great, average and less levels respectively.
3. One or two groups disagreed from the other/ others as in : Mechatronics Engineering Science Courses, Science and Mathematics Courses, Language Humanities and Social Science Courses, Design and Drafting Courses, Automatic Robot and Producing Science Courses, Control System Courses and selective courses such as Mechatronic Engineering Science Courses.

B. Specific Courses :

1. Three groups moderately agreed on Electric Circuit Theory, Electromagnetics Fundamentals, Digital Control Systems, Microcomputer Systems, Hydraulics and Pneumatics, CNC Mechanics and Applications, Power Electronic Laboratory and Digital Electronics Laboratory.
2. All of 3 groups completely showed different opinions on Industrial Robotics and Measurements Engineering. The graduates while studying and working and the entrepreneurs indicated their opinions at great, average and less levels respectively.
3. One or two groups disagreed from the other / others as follows : Automatic Robot and Producing Science Courses, Operating Mechatronics Engineering Science Courses, Electric and Electronic Science Courses, Control Science Courses, Computer Science Courses and Design and Drafting Courses.

C. Elective Courses :

1. All of 3 groups moderately agreed on Industrial Study and Hydraulics and Pneumatics Courses.
2. One or two groups disagreed from the other / others as follows : Design of Materials Courses, Industrial Managements Courses and Mechatronics Engineering Science Courses.

D. Special Equipments / Tools :

1. Three groups moderately agreed on CNC Turning.
2. One or two groups disagreed from the other / others as follows : Robotic Scorbot
SS Courses, Robotic Fanuc-S5 Courses, Robotic XY State Courses, Robot C Simax Courses,
CNC Wirecut Courses, CNC Milling Courses and CNC Grinding Courses.

Keywords : Mechatronics / A Comparative Study / Knowledge / Skills / Equipments / Tools.