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The Competency in Professional Internship of Industrial Vocational Pre-service Teachers

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ABSTRACT

The purpose of this project was to study competency and responsibility from professional internship subject of 5th year students of pre-service teachers from the faculty of Industrial Education and Technology, King Mongkut's University of Technology Thonburi. The evaluation on the professional internship of pre-service teachers was manipulated by mentor using questionnaires. The evaluation aimed to develop pre-service teachers to gain a competency of technical teachers, and experiences to deliver knowledge efficiently. The result of the study was that the responsibility of pre-service teachers assigned by the mentor was to teach the specific majoring courses for 6-12 hours per week. The other was to control the students, check the student's participation in the morning activity. The best competency of pre-service teachers was on human relation approach with mean at 4.48. And the expectation of mentor to pre-service teachers was to gain the responsibility in the career.

Keywords: Pre-service Teachers, Professional Internship, Technical Teachers Responsibility

Introduction

The instruction and learning are the main functions of country development. The curriculum and instruction take an important role in Educational system to identify the characteristics of the students. Not only learning achievement of the students, but also the teachers or instructors are very important to drive the country development. The teachers must have knowledge in the majoring field and should be able to apply for instructional management. The teachers should have a competency of being teachers to deliver knowledge for students, principles, and instructional management for the learners.

The professional internship of curriculum of industrial teachers production identifies the pre-service teachers must have been practiced as a technical teacher in a government technical college. The professional internship aims to apply the theoretical knowledge to practical knowledge in the instruction and harmonized to the competency of technical teachers. This led the researchers to study the competency of the pre-service teachers in industrial education according to the opinion of mentors toward the instructional management in terms of applying the theoretical knowledge to practical knowledge as the competency identified in the curriculum.

Research Objectives

1. to study the responsibility of pre-service teachers in industrial education according to the opinion of mentors in government technical colleges.

2. to study the competency of pre-service teachers in industrial education of King Mongkut's University of Technology Thonburi.

Theories in the Research

Competency of Industrial Education Teachers

The study and research on the competency of industrial education teacher mentioned the competency of industrial education teacher as follows:

Surapan Tansriwong (1988) mentioned on the competency of industrial education teacher that included

1. Competency on planning – this included the planning of the variety tasks of teachers and the lesson planning to apply knowledge in the curriculum, material preparation for the students to learn any lesson, and the maintenance of the machine.

2. Competency on instruction – this concerned the use of instructional technique that appropriated to the content, the atmosphere of instructional activity for the students to share idea while studying, solved the problem while teaching, and also advised the practical knowledge for students.

3. Competency of professional technical teacher – this included the knowledge and ability of technical academic in the industrial education fields as follow;

3.1 Knowledge and proficiency in technical education

3.2 Be proficient in industrial education

3.3 Skillful in using equipment and technical tools

3.4 Ability in repairing and maintenance of instruments and equipment

3.5 The selection of appropriate technique for professional work

3.6 The application of expense theory in professional work

4. Competency on educational evaluation

5. Competency on guidance and rules

6. Competency on personality to behave appropriately, positive attitude to the profession of teacher, and being a good model for students, believed in right and fair, eager to learn, and always develop for academic progress.

7. Competency on human relation and social.

Narongwit Santhong (1972) mentioned the competency of technical teachers as follow:

1. The advance skill and be proficient in the technical field, including the ability to demonstrate the technical skill

2. The ability to manage and administrate the workshop

3. The knowledge of educational goals, and the ability to adapt for learners' experience

4. The ability of instructional media production

5. The good relationship to the students

6. The ability to create the progress, knowledge and ability to the students

7. The knowledge of professional guidance

8. Understanding of behavior and child development

9. The knowledge of intelligence and skill of the students and instruction

10. The awareness of individual difference

11. The knowledge of learning principle

From the literature review, the researcher classified the competency of industrial education teacher into 7 approaches; the instructional planning approach, instruction approach, industrial education teacher profession approach, educational evaluation approach,

professional guidance and rule approach, personality approach, and human relation and social approach.

Instruction of Industrial Education

The instruction of industrial education is different from the basic courses. In the technical education, the practical and theory are going together, but the basic courses focus mostly on the theory. So the technical education is specific on practicing most to gain the skill on using instrument or tools and applied the theory in the work process in the industrial factory.

The study of theoretical industrial education composed of 4 steps:

1. Motivate the students to the problem – the teacher raised up the problem and let the students think critically to stimulate the students to study individually
2. Deliver the content on the lesson and let the students solve the problem. The content should be easy to difficult. The knowledge learned was used to apply in daily life or in working
3. Do the exercise and practice solving problem until the students gained the competence
4. Use the evaluation process for course objectives

The practical teaching composed of 4 steps:

1. Teaching preparation – the teachers prepare to describe the work process
2. The teachers demonstrate the work process, for example, to make clear for the students
3. The students practice the work process by the teachers take care and help to work correctly and safely
4. The evaluation process was used for individual ability inspection

In the practical teaching, the teachers must have knowledge, skillful and pre-practice before teaching. The teachers should identify the quality of practical work such as the correctness of working.

The practical teaching is different for theoretical teaching in terms of the use of equipment in the work process. The teachers should be skillful in working with the assignment and the teachers should attend the learning objectives of the students, safety, neatness, and also the work habit. Amnuay (1995 cited in Suwit, 1992)

Data Analysis and Collection

Data Collection

The researcher collected data as follow:

1. The research asked for data collection from the academic institution participants between OVEC and KMUTT
2. The questionnaires were sent to the mentors from both in Bangkok and other provinces and some of the questionnaires were collected by the researcher.
3. The 140 questionnaires were sent to the mentors and received back 120 questionnaires (71.42%)

Data Analysis and Statistics Used in the Research

The data was analyzed as follow:

1. The personal information and the responsibility of the pre-service teachers was analyzed by frequency distribution and percentage

2. The study of responsibility in professional internship of pre-service teachers of industrial education students was analyzed by 7 approaches. The data was analyzed with SPSS program to get the mean and standard deviation

Results of Data Analysis

The result on data analysis from the mentor of the pre-service students in 4 fields of study in industrial education of the academic year 2015 was shown in table 1.

Table 1

Numbers of mentors that take care of the industrial education teachers in a professional internship

Field of study	Numbers	Numbers of mentors
Electrical Education	91	77
Industrial Education	55	36
Civil Education	32	31
Mechanical Education	30	29
Total	208	173

The 120 samples were selected by Yamane table

The result of data analysis of mentor's opinion on responsibility of professional internship of pre-service teachers harmonized to the competency of industrial education teachers in the colleges

The pre-service teachers had been interned in profession in a practical course at 41-60% and in theoretical courses at 0-20%. The pre-service teachers mostly took 6-12 hours per day. The exceptional task from the instruction was to take care of the students in the morning activity such as controlling and checking name list of the students. The less was sport activity in the college, and important day. The mentor expected the pre-service teachers to develop the skill of instructional management, responsibility and patience. The data analysis was shown in table 3-5.

Table 3

Task on teaching of pre-service teachers

Responsibility of pre-service teachers on teaching per week	Percentage)n=120(
Less than 6 hours	5.8
6-12 hours	54.2
12-18 hours	31.7
18-24 hours	3.3
24-30 hours	3.3
More than 30 hours	0.8

The pre-service teachers mostly took 6-12 hours per day.

Table 4

Exceptional responsibility form the instructional task

Ordinal Number	Exceptional responsibility form the instructional task)n=120(Percentage
1	Control and check the students in line	76.7
2	Control and check the name list of students at the flagpole	70.0
3	Sport activity in the college	69.2
4	Important day activity	66.7
5	Take care of cleanness in the department and workshop	64.2
6	Documents in the department	60.8
7	Invigilator for midterm and final examination	57.7
8	Take care of the students for educational field trip	55.8
9	Take care of classroom	46.7
10	Advisor of the students' project	40.8
11	Giving advice for student in homeroom	40.0
12	Documents in the department	36.7
13	Take care of the other students (out of class)	35.8
14	Helper in research and development of innovation	35.8
15	Adviser of the student's club	35
16	Help other department in the college	35
17	Document for SAR	30
18	Bulletin board of course schedule	27.5
19	Committee in ceremony of the college	25.5
20	Helper in academic affair	23.3

The exceptional task form the instruction was to take care of the students in the morning activity such as controlling and checking name list of the students. The less was sport activity in the college, and important day.

Table 5

The expectation for learning development of pre-service teachers

The expectation for learning development of pre-service teachers	Percentage)n=(120
Responsibility on duty	90.8
Patience	84.2
To learn the learner's behavior	81.7
To learn on team working	80.8
Problem solving	77.5
To practice of students' discipline	73.3
To learn the system in the college	71.7
To practice working discipline	69.2

To practice on demeanor	68.3
To practice on patience	68.3
Carefully do the assigned task	62.5
To learn speaking skill and communication	51.7
Coordinate to the other department	50
Be ready for invigilation	49.2
To practice in making and sending government document	48.3
To learn about form and fill out information	46.7

The mentor expected the pre-service teachers to develop skill of instructional management, responsibility and patience.

Analysis on Competency of Industrial Education Teachers

Table 6

Competency of Industrial Education Teachers of Pre-service Teachers

Competency of Industrial Education Teachers	\bar{X}	S.D.	Level of Competency
Human relation and social approach	4.48	0.60	Much
Personality approach	4.46	0.63	Much
Evaluation approach	4.25	0.72	Much
Guidance and rule approach	4.24	0.77	Much
Planning approach	4.24	0.70	Much
Instruction approach	4.17	0.73	Much
Industrial education teacher profession approach	4.02	0.77	Much
Total Average	4.27	0.70	Much

The study found that the industrial education teachers had a competency of industrial education teachers on human relation and social approach according to the mentor's opinion at the most level with mean at 4.48. The less was personality approach with mean at 4.46, on evaluation approach with mean at 4.25, on guidance and rule approach with mean at 4.24, on planning approach with mean at 4.24, on instruction approach with mean at 4.17, and on industrial education teacher profession approach with mean at 4.02 respectively as shown in table 6

Conclusion

General Information

Most of the mentors in the government college under the Office of Vocational Education Commission: OVEC had a position of senior professional level and gained experience for more than 10 years. The large institute with more than 2001 students and the number of students in each department were about 100-200 and identified the appropriateness for professional internship of pre-service teachers.

The Result on Responsibility of Pre-service Teachers in Professional Internship of Industrial Education Teacher

The ratio of mentor and pre-service teacher was 1:1 and the pre-service teachers of KMUTT had responsibility to teach in practical course more than theoretical course. The average of the task of teaching was 6-12 hours per week which harmonized to the manual of professional internship (2014) of the faculty of Industrial Education and Technology that identified at least 1 year for professional internship in the government college. The pre-service teachers must have task of teaching at least 10 hours per week. The responsibility on control and check the name list of the students in line on the flagpole was to practice the basic responsibility for pre-service teachers. The responsibility on instruction, the pre-service teachers had to plan the instruction and approved by the mentor and supervisor. This was harmonized to the objective of professional internship to practice the students on instructional planning systematically. The learning activity in any week of the pre-service teachers was to examine the posttest after the learning unit was finished. The immediate evaluation for the students was to practice the pre-service teachers to be the professional teacher. (Amnuay, 1995 cited in Suwit, 1992) The mentors had mostly opinion on the integration of moral, value, and desirable characteristics, the less was that the pre-service teachers assigned the students to study the lesson and learn more in the class with student-centered approach. This study was harmonized to the instructional model of the faculty of Industrial Education and Technology to use the identity of student-centered approach to provide the students to make instructional media by power point presentation. The pre-service teachers evaluated the learning process by standard learning objectives according to the manual of professional internship of the faculty of Industrial Education and Technology, KMUTT. And one of the three best of learning development of the pre-service teachers was the responsibility on duty of teaching (Amnat, 1983) that mentioned for the pre-service teachers to realize on the responsibility on assignment task in the college.

The Result on the Study of Competency of Pre-service Teachers of Industrial Education Teacher

The competency of pre-service teachers on human relation and social approach of KMUTT students by the mentor's opinion was that the pre-service teachers were able to do the best in all of 7 competencies; the instructional planning approach, instruction approach, industrial education teacher profession approach, educational evaluation approach, professional guidance and rule approach, personality approach, and human relation and social approach. The pre-service teachers opened the opportunity for the students to share idea and ask questions during the learning activity. This was harmonized to the learning process of the faculty of Industrial Education and Technology, KMUTT. The theoretical course focused on the student-centered approach by microteaching and be able to transfer knowledge, (Kanittha, 2012) but the least on opinion of mentors were the practical course in industrial education which was different form Kanittha (2012) which mentioned on the instruction should be able to transfer knowledge and practical in action accurately.

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