

Effects of Instructional Supervision by Using MIAP Approach of Technical Education Students at King Mongkut's University of Technology, North Bangkok

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Abstract

The purposes of this research were 1) to study effects of instructional supervision by using MIAP approach of technical education students at King Mongkut's University of Technology, North Bangkok from a supervisor's assessment 2) to assess effects of self-assessment about instructional supervision of the students according to six aspects; generality, personality, instructional activities, learners, timing in teaching-learning, and evaluation, 3) to compare the effects of self-assessment about instructional supervision of the students according to genders and 4) to gather supplemental suggestions about instructional supervision.

The research samplings were 25 undergraduate students and 1 lecturer who taught in second semester of 2015 academic year derived through purposive sampling technique. The instruments for gathering the data were a questionnaire and an evaluation form. The statistics for analyzing the data were frequency, percentage, mean, standard deviation, and content analysis.

The research findings were as follows; 1) effects of instructional supervision by using MIAP approach of technical education students at King Mongkut's University of Technology North Bangkok in overall were at good level, 2) effects of self-assessment about instructional supervision of students according to six aspects; generality, personality, instructional activities, learners, timing in teaching-learning, and evaluation were assessed at high level, 3) the students' self assessment with different genders had no statistically significant differences at 0.05 level, and 4) supplemental suggestions about instructional supervision were as follows: Teacher students should have confidence in teaching, good communication with the learners,; clearly speech, and motivate the learners in learning; Teaching materials should be various such as projector, transparencies and power point presentation to motivate the learners more and more; The time for teaching in a stage of presentation is used less than normal; Giving information is not various. Therefore, teacher students should use time in this stage in order to practice the learners' skills; the teacher students should assess the learners by using knowledge test in reading and writing a plan in order to check comprehension of the learners.

Keywords: *Instructional Supervision, Using MIAP Approach*

Introduction

Supervision is a fundamental part of teachers' careers. As Gebhard (1984) advocated that it is likely that most teachers have experienced teacher supervision, at one time or another, either as a supervisor, as a teacher being supervised, or as an outside observer. A supervisor is anyone who has a duty of monitoring and improving the quality of teaching done by other colleagues in an educational setting (Wallace, 1991: 107). Teacher supervisors may play many roles.

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According to Bailey (2009), some supervisors are senior staff with responsibility of guiding junior colleagues. Others may hold positions as program directors, coordinators, or consultants, and do not have concurrent teaching responsibilities. Supervision may also take various forms. Furthermore, Gebhard (1984) devised five models of language teacher supervision. These models are direct *supervision*, *alternative supervision*, *non-directive supervision*, *collaborative supervision*, and *creative supervision*.

The MIAP instructional approach can be divided into 4 important processes: motivation, information, application, and evaluation (Surat Promchan, 2014: 14) which related to Suchart (2011) who stated that Faculty of Technical Education, King Mongkut's University of Technology, North Bangkok, Thailand, is the faculty which has a major duty of technical and vocational teacher development. The faculty has been established for 40 years under the name of Thai-German Technical Teacher College (TGTTC), there were German teachers practiced research providing with practical industrial practice of MIAP model (M=Motivation, I=information, A=application and P=progress) which this model is suitable for Thai learners. It has also long widely applied as a model for vocational education.

On the other words, Nataya et al. (2013: 3) advocated about an advantage of using MIAP teaching model for specific purposes that it can be the conceptual pattern for creating specific teaching model. It is helpful for the deaf to effectively learn and able to work on industrial work, it also should be the solution to the shortage of industrial technical workers as well. The diagram was suggested as follows:

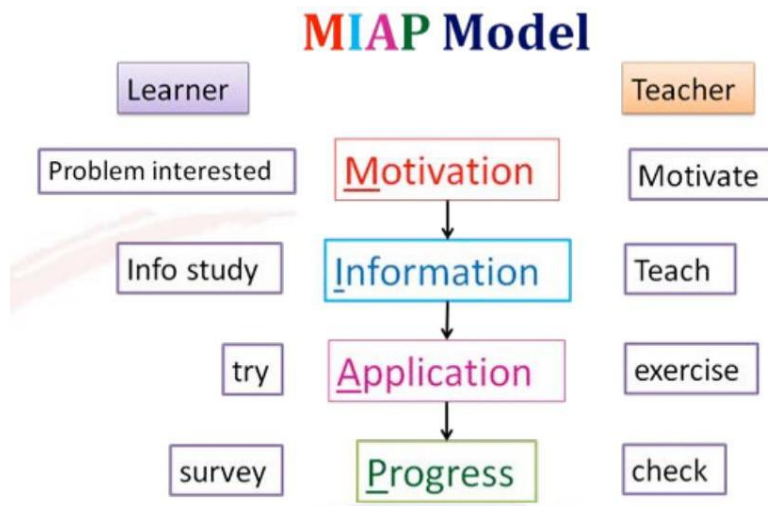


Figure 1: Diagram of MIAP Model (cited in Nataya et al., 2013)

The processes of teaching-learning in the class must be run on as following steps (Surat Promchan, 2014), (Nataya et al. (2013), and (Suchart, 2011)

1. Before teaching, the learners must be motivated and then, information will be produced.
2. The Information means the practical contents and knowledge. So, the learners should gain for their problem solving on the process of Application, or the defined practice of the learners.
3. The trainers or the teachers then could process to inspect and correct the work pieces of the learners to have the approval for them and to provide some helpful advice on the works.
4. Finally, it would be the process of learner evaluation for finding abilities of learners.

Research Purposes

- 1) To study effects of instructional supervision by using MIAP approach of technical education students at King Mongkut's University of Technology, North Bangkok from a supervisor's assessment
- 2) To assess effects of self-assessment about instructional supervision of the students according to six aspects; generality, personality, instructional activities, learners, timing in teaching-learning, and evaluation
- 3) To compare the effects of self-assessment about instructional supervision of the students according to genders and
- 4) To gather supplemental suggestions about instructional supervision.

Research Design

The data was gathered and analyzed as follows:

1. Population and samples

1.1 The population is technical education students at King Mongkut's University of Technology, North Bangkok, in 2015 academic year. There were 200 students from Technical Education.

1.2 The samples consisted of 25 students, and 1 lecturer was derived from a purposive random sampling technique.

2. Duration in experiment

The experiment ran for 12 weeks (3 hour per week)

3. Variables

Variables in this study were as follows:

3.1 Effects of instructional supervision by using MIAP approach of technical education students

3.2 Self-assessment about instructional supervision of the samples

4. Research Instruments

4.1 A questionnaire constructed by the researcher to assess effects of instructional supervision by using MIAP approach

4.1 A supervision form

5. Construction of Research Instruments

The researcher constructed a questionnaire constructed by the researcher to assess effects of instructional supervision by using MIAP approach in the following way:

The Questionnaire

The researcher created a questionnaire to investigate effects of instructional supervision by using MIAP approach. The questionnaire was constructed using open-ended questions. The data from the experts was applied with the following formula:

$$IOC = \frac{\sum R}{N}$$

IOC replaces Index of item-Objective Congruence

R replaces Experts' opinions

N replaces Number of experts

Questions rated less than 0.5 by the experts were considered and improved.

Statistic Used in Data Analysis

1. The statistics for analyzing the data were frequency, percentage, mean, standard deviation.
2. The data from the questionnaire in a part of open ended were analyzed by using content analysis method.

Results

Results of the data analysis

Phase 1: The results of effects of instructional supervision by using MIAP approach

The analysis of the data from effects of instructional supervision by using MIAP approach reported by a supervisor in the second semester of 2015 academic year is presented in the first section deals with instructional supervision by using MIAP approach as following table.

The assessment of effects of instructional supervision by using MIAP approach, the researcher used percentage of scores which was calculated from criteria as following; (adapted from Thaweerat, 2000; Wongsothorn, 1995)

91 % - 100 %	means	Very good
81 % - 90 %	means	Good
71 % - 80 %	means	Fair
61 % - 70 %	means	Need to improve
Lower than 60 %	means	Fall

Table 1: Table of the effects of instructional supervision by using MIAP approach of 25 technical education students from a supervisor's assessment

Supervisee	Scores	%	Meaning
1 st Supervisee	88	80.00	Fair
2 nd Supervisee	91	82.72	Good
3 rd Supervisee	83	75.45	Fair
4 th Supervisee	85	77.27	Fair
5 th Supervisee	101	91.81	Very good
6 th Supervisee	92	83.63	Good
7 th Supervisee	81	73.63	Fair
8 th Supervisee	79	71.81	Fair
9 th Supervisee	77	70.00	Fair
10 th Supervisee	85	77.27	Fair
11 th Supervisee	90	81.81	Good
12 th Supervisee	89	80.90	Good
13 th Supervisee	97	88.18	Good
14 th Supervisee	84	76.36	Fair
15 th Supervisee	96	87.27	Good
16 th Supervisee	89	80.90	Good
17 th Supervisee	85	77.27	Fair
18 th Supervisee	90	81.81	Good
19 th Supervisee	92	83.63	Good
20 th Supervisee	81	73.63	Fair
21 st Supervisee	84	76.36	Fair
22 nd Supervisee	96	87.27	Good
23 rd Supervisee	91	82.72	Good
24 th Supervisee	83	75.45	Fair
25 th Supervisee	89	80.90	Good
Total	87.92	80.02	Good

Table shows that the average mean scores of supervisee were 87.92 (79.92%) which were interpreted at good level, when considered in each supervisee, it was found that the highest scores were 101 (91.81%). For the lowest scores, it was 77 (70%).

Phase 2: the results of self assessment about instructional supervision by using MIAP approach of technical education students at King Mongkut’s University of Technology, North Bangkok in six aspects

These rating scales were calculated to find out mean and standard deviation and then translated based on criteria developed by Best (1981) as follows:

1.00 <= \bar{x} < 1.50 refers to students strongly disagree on self assessment about instructional supervision by using MIAP approach

1.51 <= \bar{x} < 2.50 refers to students disagree on self assessment about instructional supervision by using MIAP approach

2.51 <= \bar{x} < 3.50 refers to students neither disagree nor agree on self assessment about instructional supervision by using MIAP approach

3.51 <= \bar{x} < 4.50 refers to students agree on self assessment about instructional supervision by using MIAP approach

4.51 <= \bar{x} < 5.00 refers to students strongly agree on self assessment about instructional supervision by using MIAP approach

Table 2: Table of mean and standard deviation of self assessment about instructional supervision by using MIAP approach of technical education students at King Mongkut’s University of Technology, North Bangkok in each aspect and in total

Components	N	\bar{x}	S.D.	Level
1. generality	25	4.14	0.50	high
2. personality	25	4.15	0.57	high
3. instructional activities	25	3.80	0.82	high
4. learners	25	4.08	0.61	high
5. timing in teaching-learning	25	4.08	0.66	high
6. evaluation	25	4.17	0.78	high
Total	25	4.06	0.53	high

The table above indicated that self assessment about instructional supervision by using MIAP approach of technical education students at King Mongkut’s University of Technology, North Bangkok in overall was at high level, when considered in each aspect, it was found that all aspect was at high level.

Table 3: Table of mean and standard deviation of instructional supervision by using MIAP approach of technical education students at King Mongkut’s University of Technology, North Bangkok in each item and in total

Components	N	\bar{x}	S.D.	Level
1. Generality				
1. 1punctual	25	4.44	0.65	high
1. 2disciplines in the classroom	25	4.00	0.70	high
1. 3keeping cleanness in the class	25	4.00	0.64	high

Total	25	4.14	0.50	high
2. Personality				
2. 1 Dressing is suitable for being a lecturer	25	4.64	0.56	highest
2.2 Pronunciation is good and suitable	25	4.20	0.64	high
2. 3 Good self confidence	25	3.92	0.64	high
2. 4 Using language for communication and motivate students in learning as well.	25	3.84	0.89	high
Total	25	4.15	0.57	high
3. Teaching-Learning Activities				
3. 1 A teacher prepares the questions to ask students before going to lesson (motivation) interestingly.	25	3.80	1.04	high
3. 2 A teacher prepares contents and information by a lecture, answering the questions, demonstration, and preparing teaching materials.	25	3.76	0.92	high
3. 3 A teacher prepares exercise worksheet to the students for solving problem by using their background knowledge and experiences.	25	3.68	0.94	high
3. 4 A teacher prepares answer keys in a step of progress in order to students gain the results of exercise from worksheet and the corrected ways to solve the problems.	25	3.96	0.84	high
Total	25	3.80	0.82	high
4. Learners				
4. 1 Learners have to interest, think, and seek for the ways to solve problems completely. For ignored students, learning will not occur.	25	4.08	0.86	high
4. 2 Learners have to find out the information in order to keep in a memory of brain and can apply knowledge to solve problems as well.	25	3.88	1.01	high
4. 3 Learners practice and apply their background knowledge and experiences in the brain to solve problems. The sufficient information will assist learners to solve the problems in the effective way.	25	4.12	.92736	high
4. 4 Learners have to check the results in order to know how effects of using background knowledge and experiences are.	25	4.24	0.52	high
Total	25	4.08	0.61	high
5. Timing used in instruction				
5. 1 Motivation stage will be used around 3-5 minutes.	25	4.24	0.66	high
5. 2 Information stage will be used around 20-30 minutes.	25	4.04	0.84	high
5. 3 Application stage will be used around 8-10 minutes.	25	4.08	1.11	high
5. 4 Progress stage will be used around 3-5 minutes.	25	3.96	0.73	high
Total	25	4.08	0.66	high
6. Evaluation				
6. 1 It relates to objectives of learning	25	4.40	0.76	high
6.2 It is clearly about instruments and evaluation criteria	25	4.12	0.88	high
6.3 Authentic assessment is used in forms of various test, reports, assignments, practicing, behavior observation	25	4.00	1.00	high
Total	25	4.17	0.78	high
Total of all aspect	25	4.06	0.53	high

The table above indicated that the average mean of self assessment about instructional supervision by using MIAP approach of technical education students at King Mongkut's University of Technology, North Bangkok was at high level when considered in each item, it

was found that the highest mean was *item 2.1 Dressing is suitable for being a lecturer* (4.64). The lowest mean was *item 3.3 A teacher prepares exercise worksheet to the students for solving problem by using their background knowledge and experiences* (3.68).

Phase 3: the results of comparison of mean and standard deviation of instructional supervision by using MIAP approach of technical education students at King Mongkut's University of Technology, North Bangkok in each item and in total **according to genders**

Table 4: Table of comparison of mean and standard deviation of instructional supervision by using MIAP approach of technical education students at King Mongkut's University of Technology, North Bangkok in each item and in total **according to genders**

aspect	sex	N	Mean	S.D.	t	Sig.
generality	male	18	4.1852	.50127	.598	.958
	female	7	4.0476	.55872	.568	
personality	male	18	4.2222	.54832	1.011	.466
	female	7	3.9643	.63621	.945	
instructional activities	male	18	3.9167	.65305	1.144	.099
	female	7	3.5000	1.16369	.894	
learners	male	18	4.2917	.43088	3.234	.165
	female	7	3.5357	.72785	2.578	
timing in teaching-learning	male	18	4.0972	.54327	.202	.080
	female	7	4.0357	.97285	.158	
evaluation	male	18	4.2963	.73998	1.276	.670
	female	7	3.8571	.85758	1.193	
total	male	18	4.1616	.40841	1.508	.199
	female	7	3.8117	.75306	1.165	

The table demonstrated that the overall of students' self assessment with different genders had not statistically significant differences at 0.05 level. When considered in each aspect, it was found that there were not statistically significant differences at 0.05 level.

Phase 4: The results of study suggestions about instructional supervision by using MIAP approach

Table 11: Table of frequency and percentage of number of suggestions of supervisor towards technical education students' instructional supervision by using MIAP approach at King Mongkut's University of Technology, North Bangkok

Opinions and suggestions	n	Fre.	%
Suggestions			
	25		100
1. Teacher students should have confidence in teaching, good communication with the learners, clearly speech, and motivate the learners in learning.		10	40
2. Teaching materials should be various such as projector, transparencies and power point presentation to motivate the learners more and more.		8	32
3. The time for teaching in a stage of presentation is used less than normal. Giving information is not various. Therefore, teacher		5	20

students should use time in this stage in order to practice the learners' skills.			
4. The teacher students should assess the learners by using knowledge test in reading and writing a plan in order to check comprehension of the learners.		2	8

The table showed that a number of suggestions of supervisor towards technical education students' instructional supervision by using MIAP approach as following:

1. Teacher students should have confidence in teaching, good communication with the learners, clearly speech, and motivate the learners in learning (40%).
2. Teaching materials should be various such as projector, transparencies and power point presentation to motivate the learners more and more (32%).
3. The time for teaching in a stage of presentation is used less than normal. Giving information is not various. Therefore, teacher students should use time in this stage in order to practice the learners' skills (20%).
4. The teacher students should assess the learners by using knowledge test in reading and writing a plan in order to check comprehension of the learners (8%).

Conclusion

According to the study and data analysis, the results of this study were concluded as follows.

1. The average mean scores of supervisee were 87.92 (79.92%) which were interpreted at good level, when considered in each supervisee, it was found that the highest scores were 101 (91.81%). For the lowest scores, it was 77 (70%).
2. Self assessment about instructional supervision by using MIAP approach of technical education students at King Mongkut's University of Technology, North Bangkok in overall was at high level, when considered in each aspect, it was found that all aspect was at high level.
3. The overall of students' self assessment with different genders had not statistically significant differences at 0.05 level. When considered in each aspect, it was found that there were not statistically significant differences at 0.05 level.
4. a number of suggestions of supervisor towards technical education students' instructional supervision by using MIAP approach as following: 1) teacher students should have confidence in teaching, good communication with the learners, clearly speech, and motivate the learners in learning (40%), 2) teaching materials should be various such as projector, transparencies and power point presentation to motivate the learners more and more (32%), 3) the time for teaching in a stage of presentation is used less than normal. Giving information is not various. Therefore, teacher students should use time in this stage in order to practice the learners' skills (20%), 4) the teacher students should assess the learners by using knowledge test in reading and writing a plan in order to check comprehension of the learners (8%).

Discussion

According to the study and data analysis, the results of this study could be discussed as follows. The result of

1. The average mean scores of supervisee were 87.92 (79.92%) which were interpreted at good level, it might be because the students who practiced in teaching at King Mongkut's University of Technology, North Bangkok had to be assessed and supervised from teachers and supervisors. Furthermore, Teachers' supervision and evaluation are essential and complementary functions, although they present distinctive characteristics (Nolan & Hoover, 2004; Pawlas & Oliva, 2007). Supervision represents an organizational duty that promotes professional development, perfecting teaching practice and more learning and success for the

student. Being of procedural nature, it has its basis on research-action and it configures ecological, cooperative and formative activities (Glickman et al., 2008).

2. Self assessment about instructional supervision by using MIAP approach of technical education students at King Mongkut's University of Technology, North Bangkok in overall was at high level, it might be because nowadays, university goes through moments of change and transformation. For instant, more studies are needed about the crossroads of teachers' supervision and evaluation. It is essential to take into account heterogeneous contexts of some teachers-researchers who invest in specialized training (Stones, 1984).

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