A Research on Questioning Skills Development Process through Metacognition Strategies Special Chef Model for Teacher Students in Nakhon Rachasima Rajabhat University

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ABSTRACT

The teacher in 21 Century need to have questioning skills to encourage students finds out the answer systematically. To learn strategy on metacognition Special Chef Model have been proved that able to help teacher students on questioning skill specific deeply suitable vocabulary and transformative question for inquiring the answer needed. The research aimed 1) to develop questioning skills systematic way find out the answer through learning strategy metacognition Special Chef Model 2) to study awareness on questioning skills and 3) to study self-efficiency in questioning skill. The sample was 115 teacher students 4 classes purposive sampling research used experimental design method. The lesson plan metacognition questioning strategy Special Chef Model used for treatment, material tasks case study surrounding problem condition also including. Tools for collecting the data 1) rubric for assessment questioning skill 2) test on awareness knowledge and understanding how to get good question 3) self-assessment checklist on self-efficiency basic statistic used for analysis the data, frequency mean standard division and percentage.
Keywords: Questioning Skills, Metacognition, Teacher Students

1. INTRODUCTION

Higher education aims at developing students to learn, to know, and to be life-long learners. Learning means changing the learners' behaviors by exposing them to experiences during their learning. The Thai Qualifications Framework for Higher Education has set up the five domains of learning at undergraduate level including Ethics and Moral, Knowledge, Intelligence Skills, Inter-Personal Skills and Responsibility, and the Numerical, Analytical, Communication, and Technological Skills [1]. Questioning is the basic structure of thoughts because it identifies questions that accept specific desired answers with reasonable decisions. Questioners must be able to ask questions which are complete according to the principle of questioning for concepts. Questioning skills consists of the following components. 1) The questioner must be aware of the desired information. 2) The questioner must be able to know exactly what information is needed. 3) The questioner must know words related to the questioning issues. 4) The questioner must be able to ask various questions. 5) The questioner must be able to ask questions related to suitable sources of information. 6) The questioner insists in searching for answers. A good question must [2]: 1) have realistic structure and must be carefully planned; 2) be short and concise; 3) be specific and goal-focused; 4) have good coverage; 5) change the level of though from basic to advance. In the development process of questioning skills, it is necessary to know the learners' ability level and to have

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strategies for helping the learners to have cognitive and metacognitive skills, which include planning, task detailing, self-monitoring, and task evaluation [3].

For a learner to give reasons for any issue, one important thing to do is to ask a question to that issue. That is, the learner needs to ask clear and related questions which either focus on one issue or cover many alternatives. The ability to discuss various questions on an interested issue and to differentiate problems is essential in searching for possible solutions. Therefore, it is important to develop the educational students in the Mixed Class Educational Management course in order for them to use the questioning skills in solving problem systematically, to have classroom research skills, and to solve problems and improve instructional methods.

2. THE PURPOSE OF RESEARCH

1. To develop questioning skills for systematic answering through the use of the Special Chef Model as the instructional strategy with educational students at Nakhon Ratchasima Rajabhat University.

2. To investigate the awareness of questioning for systematic answering through the Special Chef Model as the instructional strategy.

3. To investigate the students' perception on their ability of questioning for systematic answering through the Special Chef Model as the instructional strategy.

3. THE SCOPE OF RESEARCH

1. Scope of Research Contents

The research on the process of developing the questioning skills for systematic answering through the metacognitive instructional strategy with educational students at Nakhon Ratchasima Rajabhat University utilized the experimental plan to develop the questioning skills for and systematic answering through the use of the Special Chef Model consisting of the stages of Preparation, Cooking, and Serving. Preparation refers to reading, discussing issues, preparing sufficient information, exploring, and analyzing, identifying problems, planning, and searching. In the Cooking Stage, questions are asked as to search for solutions to the problems before knowledge is constructed. Serving is the stage of presenting learning outcomes of what have learned in a creative format.

2. Population and Samples

The population of this study included seven classes of the total 196 undergraduate students in the General Sciences and Pre-school Education Programs, the faculty of Education, in semester 3 of the academic year 2014.

The study samples were 115 third year undergraduate students, purposively selected from four classes of the Pre-school Program.

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4. MOTHODOLOGY

The purpose of this experimental study was to develop the students' questioning skills for systematic answering; knowing, understanding, and perceiving of their own ability, using the Special Chef Model as the instructional strategy for questioning.

5. POPULATION AND SAMPLE

2.1 The population of this study included seven classes of the total 196 undergraduate students in the General Sciences and Pre-school Education Programs, the faculty of Education, in semester 3 of the academic year 2014.

2.2 The study samples were 115 third year undergraduate students, purposively selected from four classes of the Pre-school Program.

6. THE RESEARCH TOOLS

3.1 Experimental Tools

3.1.1 An instructional plan on Questioning Strategies based on the Special Chef Model

3.1.2 An instructional plan based on the Thai Qualifications Framework of the Higher Education (TQF 3)

3.1.3 Problem situations (The Answering Problem Analysis Worksheet)

3.2 Data Collecting Tools

3.2.1 The Evaluation Form on Questioning Ability (Rubric)

3.2.2 The Test on Knowledge and Understanding of Questioning

3.2.3 The Evaluation Form on the Perceived Questioning Ability

7. DATA ANALYSIS

1. The development of questioning skills for and systematic answering through the use of the Special Chef Model as the instructional strategy with educational students at Nakhon Ratchasima Rajabhat University, means, and percentage.
2. Knowledge and understanding about questioning skills for and systematic answering through the use of the Special Chef Model, means, and percentage.
3. The perceived ability of questioning skills for and systematic answering through the use of the Special Chef Model, means, and percentage.

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8. RESULTS

Part 1 The level of questioning ability for systematic answering through the use of the Special Chef Model

Group	Questioning Skills					
	Accuracy	Depth of word use	Linking and Inspecting	X	S.D.	Level of Questioning Ability
1	89.33	93.33	89.33	2.72	0.47	Good
2	89.58	94.79	94.79	2.78	0.39	Good
3	86.11	86.11	86.11	2.58	0.50	Good
4	86.27	86.27	86.27	2.58	0.49	Good
Total	87.82	90.12	89.12	2.66	0.46	Good

The table shows that the level of questioning ability for systematic answering through the use of the Special Chef Model of the four student groups was at the 'good' level on average, and the ability levels on the accuracy, depth of word use, and linking and inspecting were at the 'good' level.

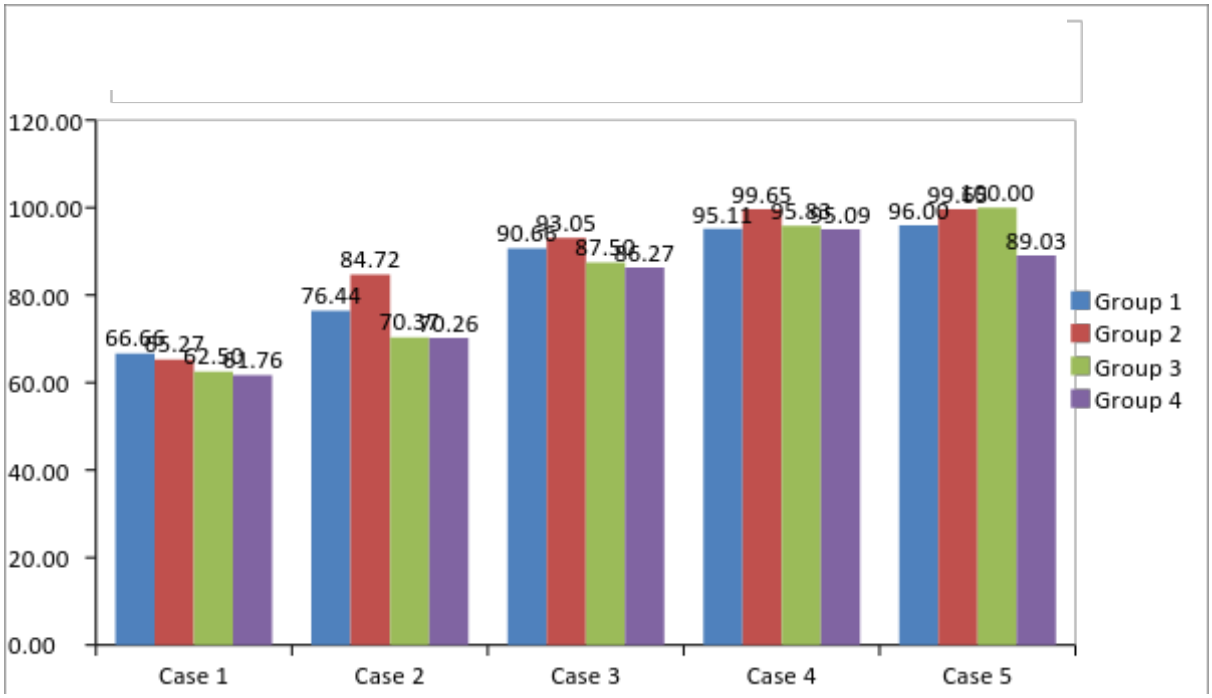

Figure 1 The percentage of questioning skills for systematic answering through the use of the Special Chef Model as the instructional strategy of 4 groups of educational students

Figure 1 shows that after teaching the questioning strategies using the Special Chef Model, the students increased their level of questioning ability from the 'moderate' level in Case 1 to the 'very good' level in Case 5. The average percentage was 84.71.

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Part 2 The awareness of the questioning skills for systematic answering through the use of Special Chef Model as the instructional strategy of 4 groups of educational students.

Group	Number	Awareness Score			Awareness Levels
		X	SD.	Percentage	
1	25	16.16	1.31	80.80	Very good
2	32	15.65	1.00	62.62	Moderate
3	24	15.70	0.99	78.84	Good
4	34	15.58	0.92	79.94	Good
Total	115	15.77	1.05	74.98	Good

The table shows that the awareness of the questioning skills for systematic answering through the use of the Special Chef Model as the instructional strategy of Group 1 students was at the 'very good' level, Group 2 at the 'moderate' level, Group 3 at the 'good' level, and Group 4 at the 'good' level. "The average level was at the 'good' level.

Part 3 The perceived ability on questioning for systematic answering through the use of the Special Chef Model of educational students at Nakhon Ratchasima Rajabhat University.

	Perceived ability in Questioning					
	Definitely Able		Maybe Able		Not able	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1	86	74.78	29	25.21	-	-
2	75	65.21	40	34.78	-	-
3	54	46.95	61	53.04	-	-
4	75	65.21	40	34.78	-	-
5	92	80.00	23	20.00	-	-
6	64	55.65	51	44.34	-	-
7	65	56.52	50	43.47	-	-
8	79	68.69	36	31.30	-	-
9	76	66.08	39	33.91	-	-
10	97	84.34	18	15.65	-	-
11	73	63.47	42	36.52	-	-
12	98	85.21	17	14.78	-	-

From the table, the five items with the highest perceived scores of the questioning ability for systematic answering through the use of the Special Chef Model in the first category "Definitely Able" were Item 12 'Suitable questioning techniques will be an important tool for teachers' (85.21 percent); Item 10 'I am aware that a good question must pinpoint and use direct question words that elicit the answer' (84.34 percent); Item 5 'I can be a leader in a discussion, asking only questions and not answering them, and I can train learners to be the discussion leader' (80.00 percent); Item 1 'I can analyze for which

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questions are for truth, which are for interpretation, and which are for evaluation' (74.78 percent); and Item 8 'I can evaluate thinking skills for problem solving of the students from their questions' (68.68 percent).

9. RESULTS AND DISCUSSIONS

1. After teaching the questioning strategies using the Special Chef Model, the students increased their level of questioning ability from the 'moderate' level in Case 1 to the 'very good' level in Case 5. The average percentage was 84.71. The ability levels on: 1) the accuracy, 2) depth of word use, 3) and linking and inspecting were at the 'good' level.

2. The awareness of the questioning was 74.98 percent on average, which was higher than the standard of not less than 70 percent.

3. The five items with the highest perceived scores of the questioning in the first category "Definitely Able" were Item 12 'Suitable questioning techniques will be an important tool for teachers' (85.21 percent); Item 10 'I am aware that a good question must pinpoint and use direct question words that elicit the answer' (84.34 percent); Item 5 'I can be a leader in a discussion making only questions and not answering them, and I can train learners to be the leader of the discussion' (80.00 percent); Item 1 'I can analyze for which questions are for truth, which are for interpretation, and which are for evaluation' (74.78 percent); and Item 8 'I can evaluate thinking skills for problem solving of the student from their questions' (68.68 percent).

10. THE EXPECTED RESULTS

1. The development of students' research process skills which are essential for their life.

2. Guidelines for the university on promoting educational quality according to the Higher Education's standards, especially the intellectual skills including of the instructional method on problem solving and thinking strategies for teachers at the basic educational level.

3. Quality human resources for the community, society, and the nation.

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