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The Development of Standards, Factors, and Indicators for Evaluating the Quality of Classroom Action Research

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Abstract

According to the encouraging of the Ministry of Education, it was found that the teachers conducted classroom action research widely in Thailand. But, the number of research studies or classroom action research was not concerned indicators of research quality. The purpose of this research is to develop standards, factors and indicators for evaluating the quality of classroom action research by using Delphi Technique and Connoisseurship Model including two phases. The first phase, Document analysis was performed to synthesize the tentative standards, factors, and indicators for evaluating the quality of classroom action research. The second phase, the appropriateness of tentative standards, factors, and indicators for evaluating the quality of classroom action research was investigated. The key informants comprised 9 scholars who involved in classroom action research. Two of rating scale questionnaires were used as research tools. Statistical techniques used in the analysis of the data obtained included mean and inter-quartile range. For research findings, the standards, factors, and indicators for evaluating the quality of classroom action research were obtained including 4 standards, 18 factors, and 57 indicators. Standard of researcher’s basic knowledge has 4 factors 10 indicators. Standard of research process has 10 factors 32 indicators. Standard of research value has 3 factors 11 indicators. Standard of researcher’s ethics, morality, and code of conduct has 1 factor 4 indicators.

Keywords: evaluating the quality of classroom action research

1. Introduction

Classroom action research was necessary, and played its role in educational development. Since the knowledge or research findings should be used as guidelines for planning to improve the instructional management as well as student development. In addition, those who would conduct research successfully were teachers because
they knew problems as well as students best. Consequently, if they understood how to conduct research very well, student development to be quality persons, and accomplish the educational goal would be successful as expected.

Classroom action research was an innovation which people from many sectors including the educators, researchers, school administrators, and teachers expected to use as a strategy for developing the science of teaching profession to be more strengthened since the classroom action research included rationale as well as method facilitating the instructional development. As a result, the teachers still played their role in searching for problem solving technique in class by themselves. (Suwimon Wongwanich, 2009: 10)

From the past duration, every related work unit supported and enhanced for teacher development in conducting classroom action research very much. However, teachers still faced various problems in conducting classroom action research including: their research studies weren’t relevant to problem situation occurred with students at that time. As a result, the findings couldn’t be applied for solving the classroom problem, the fear of technique in conducting research, the teachers were likely to believe that the research studies weren’t in their boundary to perform, time limitation in conducting research, anxiety in the research topics which might be sensitive to the parents or related persons’ feeling, and they were not supported by their administrators etc (Sardo-Brown, Welsh & Bolton, 1995; cited in Suwimon Wongwanich, 209: 4). Besides, the process of teacher development in classroom action research in the past, the knowledge of research as academic research was emphasized by putting knowledge as a formal research process. So, the teachers who used formal research for conducting research in their own research problems. Consequently, there were many problems. Therefore, their research studies had no development or progress as it should be owing to 6 reasons. First, the teachers’ knowledge obtained from training, wasn’t sufficient for conducting formal research by themselves. As a result, they couldn’t finish their research study. So, they were discouraged to conduct research. And that caused by the negative attitude towards conducting research. Second, formal research had to be based on process in reviewing various related documents very much in order to include sound conceptual framework as well as reasonable research design. But, the teachers had time limitation. So, they couldn’t study document completely. Consequently, they employed or asked others to conduct research for them instead. It affected seriously on many consequences such as the teachers didn’t learn from self studying. What the obtained were not from their real practice. It was performed only to be finished according to formal research form as it needed to be. The teachers as researchers didn’t practice their own role and function of researchers as it should be. Third, it was an effect from difficulty in research process. When teachers finished research study, they stopped conducting research by obtaining only one research study. They didn’t have motive to conduct research continuously. Therefore, the research was too specific work conducted for creating the academic dossier to be on promotion. In this sense, research studies were not useful for the instructional development as they should be. Fourth, teachers’ determined problems to be used in the studies were problems in which teachers imitated from academics.’ They were not problems occurred from their own classroom situation. Their research findings provided answers which couldn’t be used for improving or solving the classroom problems. Fifth, teachers’ research studies in former time were time consuming in implementation. The findings couldn’t be used in time since the instructional problems were in the past, or the students needed to be corrected didn’t study in that class any more. Sixth, to conduct research needed to be trained and learn from experts which required to be practiced under control of mentors who understood research methodology regularly. But, later time, there were no mentors, experienced and skillful persons in conducting research truly. (Suwimon Wongwanich, 2009: 5-6)

In the present, it was found that the teachers conducted classroom action research widely. But, the number of research studies or classroom action research was not indicators of research quality as well as objective in conducting research truly. In recent time, there were no works unit or organization functioned in monitoring, following, and evaluating the quality of teachers’ classroom action research seriously. In addition, there were no evidence of instruments as guidelines for conducting research as well as investigating quality of this studies. So, it was necessary to researcher teachers to use as a framework in developing quality of their own classroom action research in order to lead to student development truly.

2. Research Objective
To develop the standards, factors, and indicators for evaluating the quality of classroom action research.

3. Research Methodology
For this research, Delphi technique and evaluation technique were applied by using the Connoisseurship Model including 2 phases of implementation as follows:
Phase 1: Document analysis was performed to synthesize the tentative standards, factors, and indicators for evaluating the quality of classroom action research.

1.1 The related theoretical approach from document, textbook, article, and both of national and international related literature, were studied and analyzed. In addition, the internet and various data bases were searched.

1.2 The Information technology was determined as tentative standards, factors, and indicators for evaluating the quality of classroom action research.

Phase 2: The appropriateness of tentative standards, factors, and indicators for evaluating the quality of classroom action research were investigated.

2.1 The cycle 1 evaluation form was presented to experts to consider its appropriateness of tentative standards, factors, and indicators for evaluating the quality of classroom action research.

2.2 The findings considered by the experts were analyzed to find the Median and Quartile Range for evaluating the Rating Scale. The additional recommendations were synthesized for evaluating the open-ended part.

2.3 The standards, factors, and indicators were selected for using by criterion in evaluating as: the Median from 3.51 up indicating the appropriateness in “High” level up, and Quartile range not more than 1.50 indicating that the experts’ opinion was congruent in that issue.

2.4 The cycle 2 evaluation form was established. There were 2 major parts of the evaluation form as follows:

2.4.1 The standards, factors, and indicators from cycle 1 evaluation including the Median lower than or equal to specified criterion were put in cycle 2 evaluation form by implementing the improvement according to the experts’ recommendations.

2.4.2 The standards, factors, and indicators according to some or many experts’ additional recommendations for the same issue obtaining from synthesis the cycle 1 open-ended evaluation form in cycle 1.

2.5 The cycle 2 evaluation form was considered the appropriateness of standards, factors, and indicators for evaluating the quality of classroom action research were investigated again by the experts.

2.6 The answering findings of cycle 2 evaluation form were analyzed. The standards, factors, and indicators were selected by using criterion in considering the same as cycle 1.

4. Research findings

For research findings, the standards, factors, and indicators for evaluating the quality of classroom action research were obtained including 4 standards, 18 factors, and 57 indicators as shown in the table:

<table>
<thead>
<tr>
<th>Standard</th>
<th>Factor</th>
<th>Indicator</th>
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<tbody>
<tr>
<td>1. Standard of researcher’s basic knowledge.</td>
<td>1.1 Factor of basic knowledge in classroom action research in measurement and evaluation.</td>
<td>1.1.1 Understand the objective and process of classroom action research.</td>
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<tr>
<td></td>
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<td>1.1.2 Be experienced to participate in reading the classroom action research.</td>
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<td>1.1.3 Be experienced to conduct the classroom action research.</td>
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<td></td>
<td>1.2 Factor of basic development and evaluation.</td>
<td>1.2.1 Be experienced to participate in self in measurement and evacuation.</td>
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<td>1.2.2 Be experienced to construct measurement or research instrument based on reliable process.</td>
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<td>1.2.3 Be able to select the evaluation instrument relevant to what to be measured.</td>
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<td>1.3 Factor of basic knowledge in Psychology and Knowledge Management.</td>
<td>1.3.1 Have information in analyzing individual student.</td>
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<td>1.3.2 Have knowledge management plan as student-centered</td>
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<td>1.3.3 Select teaching model, technique, and method congruent with content and students.</td>
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<tr>
<td>1.4 Factor of Basic knowledge in Innovation or problem solving technique.</td>
<td>1.4.1 Select innovation or problem solving technique congruent with the cause of problem.</td>
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<tr>
<td>2. Standard of Research process.</td>
<td>2.1 Factor of student analysis.</td>
<td></td>
</tr>
</tbody>
</table>
| 2.2 Factor of Determination for Research problem. | 2.1.1 Include systematic student analysis  
2.1.2 Associate the students’ analytic findings and plan for solving students’ problem solving. |
| 2.3 Factor of Determination for Research objective. | 2.2.1 Research problem was student’s problem.  
2.2.2 Research problem was important and valuable.  
2.2.3 Research problem included interesting approach.  
2.2.4 Research problem was clearly analyzed.  
2.2.5 Research title and problem was relevant. |
| 2.4 Factor of research design. | 2.3.1 Clear research objective.  
2.3.2 Research objective and problem were relevant.  
2.3.3 Research objective could be implemented in an authentic state. |
| 2.5 Factor of technique using for problem solving or work improvement | 2.4.1 Research design could completely answer the objective.  
2.4.2 Research design could affect the credibility of research findings.  
2.4.3 Research design could implement research study.  
2.4.4 Research design focused on ethical issue of research. |
| 2.6 Factor of related persons’ participation. | 2.5.1 A technique helped to achieve research objective.  
2.5.2 A techniques led to the students’ positive effect.  
2.5.3 A technique led to the students’ sustainable effect.  
2.5.4 A practical and simple technique.  
2.5.5 Processes in obtaining innovation or problem solving technique were reliable. |
| 2.7 Factor of data collection. | 2.6.1 Related persons were consulted for research implementation.  
2.6.2 Related persons played role in solving students’ problem based on appropriateness. |
| 2.8 Factor of data analysis/synthesis | 2.7.1 Data collection technique obtained complete fact was used.  
2.7.2 Data were reliable and correct. |
| 2.9 Factor of reflection. | 2.8.1 Data analysis technique answered research question, was used.  
2.8.2 Data interpretation and analytic findings were clear and easy to understand.  
2.8.3 Correct data analysis was used.  
2.8.4 Data analytic findings were clearly presented. |
| 2.10 Factor of findings conclusions. | 2.9.1 Be clear reflection.  
2.9.2 Reflection was used for problem solving or student development.  
2.9.3 Be used for improving and correcting the activity. |
| 3. Standard of research for students. | 2.10.1 Research conclusions and objective were congruent.  
2.10.2 Research findings were complete and clear. |
| 3.2 Factor of value for researcher teachers. | 3.1.1 Target group students’ problem level was decreased.  
3.1.2 Target group students were satisfied with researcher teacher’s research implementation.  
3.1.3 Students had development as the objective.  
3.1.4 Researcher teachers seriously collected data of target group students. |
| 3.2.1 Teachers obtained better knowledge as well as experience in solving the students’ problem systematically.  
3.2.2 Researchers’ teacher spirit was increased.  
3.2.3 Teachers’ efficiency in doing their duty was increased. |
3.3 Factor of value for school.
3.3.1 School was efficient in problem solving.
3.3.2 Learning organization in student development was enhanced.
3.3.3 Shared learning in organization was developed.
3.3.4 Used as foundation for developing the organizational academic work.

4. Standard of researcher’s ethics, morality, and code of conduct.
4.1 Factor of ethics, morality, and code of conduct.
4.1.1 Classroom research was recognized and valuable.
4.1.2 Research for student development was conducted without aiming for returned benefit, it was conducted without aiming for returned conduct.
4.1.3 Research findings were concluded and reported based on fact without distortion.
4.1.4 Researcher’s ethics and code of conduct were focused on.

5. Discussions

According to research findings for developing the standards, factors, and indicators for evaluating the quality of classroom action research, found that the standards for evaluating the quality of classroom action research including 4 aspects: (1) the standard of researcher’s basic knowledge, (2) the standard of research process, (3) the standard of research worthiness, and (4) the standard of researcher’s ethics, morality, and code of conduct. It was the discovery of standard for evaluation covering input factor especially the researcher teachers in both of basic knowledge relating to ethics, morality, and code of conduct in process aspect especially the correct and reliable research process, and the product, outcome, or value of research. The findings would be caused by research process including 2 major phases: (1) the phase of document analysis for outlining the standards, factors, and indicators for evaluating quality of classroom action research, and (2) the phase of investigating appropriateness of standards, factors, and indicators by using Connoisseurship Model as the experts with knowledge in classroom action research as well as criticizing and discussing intensively.

According to the discovered findings, they were relevant to research findings and academic performance of many academics including: Suwimon Wongwanich (2009: 127-128) stated that the quality of academic research was depended on evidence shown by researcher that in every phase of research was quality implementation. But, if those criteria would be used for evaluating quality of classroom action research, the weak point of research would be found. Since the approach and phase in conducting classroom action research focused on teachers’ research in aligned with teaching practice without focusing on strict research design as well as the difference in research objective. Consequently, the design of classroom action research emphasized the critique ad discussion as well as interpretation of the found things. Therefore, the research quality was based on evidence in process of research findings, process using for improving technique for correcting researcher teachers’ practice guideline, and competency in explaining the existing things systematically. Pranee Noomnoi (1997: 215-216) developed factors for evaluating the classroom action research including 7 factors as follows: (1) the phase of process evaluation consisted of 5 factors: (1.1) the factor of researcher teachers’ major characteristics such as competency in analyzing curriculum correctly, knowledge in the course extensively, information or evidence in producing and using the instructional media, construction for systematic lesson plan, and competency in measurement and evaluation, (1.2) the factor of process in innovation development such as the problem for conducting research obtained from learning and teaching as well as major problem, the cause of weak point and violence of problem were analyzed, (1.3) the factor of research usefulness, such as the goals of student development were determined, the student development’ initiation state was evaluated, the process of development or the innovation was tried out, the trying out findings were evaluated how much the innovation could accomplish goal of problem solving and whether it was used correctly based on rationale or interesting and creative, various ways of innovation analysis, the classification to clarify the strong point and weak point as well as reason for selecting that innovation the developed innovation was truly efficient in problem solving and developing one’s work duty, (1.4) the factor of process in problem analysis such as process of students’ working was systematically developed, students’ overall competency was improved regarding to their conduct, ethics, and morality, and they were able to apply knowledge as guideline to further their studying, and (1.5) the factor of process in investigating the academic performance such as the major evidence in implementation as well as the clue of work practice or informal record. For the phase of evaluating the research report consisted of 2 factors including: (1) the factor of correct research report based on research process such as the title covered problem as well as correctness, the ability in writing the background, understanding in the problem, the objective was relevant to title, the objective and usefulness were congruent, the hypothesis was correct.
and reasonable, the assumption was correctly and appropriately determined, clear operational definition, research
design was appropriate with problem, the instrument was correct and reliable by being investigated its efficiency
as well as presented in research report. The reason in selecting the population or samples was clearly explained,
the correctness and reliability of data collection, the data and source were determined, conclusions in investigating
validity from may sources whether it would be congruent, the correctness and appropriateness in using the statistic
for analyzing data, the ability in interpreting the data analysis findings correctly, the correct conclusions, the state in
being in studied group or topic, the recommendations could be usefulness, and (2) the factor of major characteristics
of quality classroom action research such as the application of information from various viewpoints as research and
development for concept as well as capability in their own work practice, and putting the research findings from
each study in professional discussions critically. Praparat Mee-leau (1997: 197) stated that the most necessary and
important characteristic of researcher teachers to conduct successful classroom action research, the first 10 items
including: the knowledge in teaching content extensively and intensively as well as curriculum, competency in
diagnosing the students’ real problem ad need correctly as the fact, the academic honesty and sincerity, the good
readers, the careful persons, the systematic working persons, the open minded persons in listening as well as
recognizing the others’ academic opinion, regular study of document, textbooks, and medias relating to teaching
profession, independent and creative thinking, and being faithful in research. The researcher teachers’
characteristics consisted of 7 factors as: (1) the knowledge and competency in research methodology and
implementation, (2) the skill for instructional development, (3) the researchers’ code of conduct, (4) the teachers’
personality and virtue, (5) the skill in collecting data, (6) the competency in evaluating one’s learning achievement
as well as information usage, and (7) the competency in analyzing and synthesizing the knowledge. Altcher (2001:
Website) briefly stated the characteristic indicating quality of classroom action research that the main point of
classroom action research was the practical moral principle, it should be congruent with educational objective, the
teachers could appropriately do or use with time ad data source, the obtained data should come from different
viewpoints rather than only s researcher’s. It included an action and reflection closely. Discussions with friends
outside classroom should be performed. Experience should be shared or publicized to the people who were
interested. The research should be developed as a collaborative project. It was supported by Eisenhart & Borko
(1993: 34-35) presenting 5 standards of validity for classroom action research as: Standard 1; the support for body
of knowledge in the field of study, educational and practical theories had to be studied clearly and correctly,
Standard 2; the congruence between research question, data collection process and analytical technique, data had to
be appropriate to be used to answer research question, Standard 3; the use of data analysis technique efficiently
since the selection of data collection technique as well as data analysis technique had to be appropriate for using to
answer research question. Therefore, the reasons for selecting the technique of data collection, and data analysis
should be appropriate without emotion, Standard 4; the value of research consisted of external and internal value.
The external value caused by research studies which the findings were led to educational improvement and practice.
Politics and culture should be focused in research studies so that the users would be able to use the findings to be
worthwhile. For internal values, included the researcher’s code of conduct, and Standard 5; the conclusions to be
easily understood, the broad meaning should be covered and the obtained knowledge should be applied for
usefulness.

6. Recommendations

6.1 Recommendations for applying the research findings

For work units in policy level, the policy or rationale of evaluation in quality of classroom action research should be
determined to be relevant to the standards, factors, and indicators obtaining from this study in order to be congruent
with objective for conducting the classroom action research focusing on the usage of research findings in problem
solving or student development as major things.

1. For work units in policy level, the policy or rationale of evaluation in quality of classroom action
research should be determined to be relevant to the standards, factors, and indicators obtaining from
this study in order to be congruent with objective for conducting the classroom action research
focusing on the usage of research findings in problem solving or student development as major things.

2. For researcher teachers, they should use the standard framework, factors, and Indicators for evaluating
the quality of classroom action research in order to obtain quality and valuable research studies for
developing the students, researcher teachers, and schools.
6.2 Recommendations for research development

1. For research methodology of this study, Delphi Technique, and Evaluation Technique in the standards, factors, and indicators were used by employing Connoisseurship Model which the obtained data were not complete. Therefore, various research methodologies might be added to the next research study, such as organizing the experts’ small group conference etc.

2. For the research findings of this study, they should be extended by conducting the research study for developing the criterion of evaluation based on standards, factors, and indicators of evaluation. The study should be tried out in real situation.

References


