# QUALITY ASSURANCE AND EFFECTIVENESS OF MANAGEMENT LEARNING ELECTRICITY MAGNET WITH ACCULTURATION NONTONI (OBSERVATION), NITENI (WHEREAS), NIROKE (IMITATING), AND NAMBAHI (ADD)

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**abstract**

*The objective study to knowing the quality assurance and effectiveness of student learning outcomes in the cognitive competence, psychomotor, and effective with acculturation models nontoni (observation), neteni (remembering), neroke (imitating), (4) nambahi (add) on activities, namely: (1) learning cooperative, (2) conducting experiments, and (3) report experiments. Subjects were learning quality assurance management magnetic electricity in the third semester student number 39 students. The location of research is in the Physical Education Studies Program Faculty of Teacher Training and Education Sciences University of Sarjanawiyata Tamansiswa. This data collection techniques use the instrument objective multiple choice test, observation sheet Likert scale models, and documentation. Qualitative data analysis technique is to determine the effectiveness of the quality assurance and learning outcomes of students in courses magnetic electricity. Results of research on learning with acculturation models notoni, neteni, neroke and nambahi using cooperative learning approach, experiment, and documentation of student reports obtained an average score of 83.45 entry predicate good or trustworthy. In order for the result to be very trustworthy increase expected no improvement in the management of cooperative learning, experiment equipment, coaching in preparing the trial reports, and worksheets student learning.*

*Keywords: assurance, quality, effective, acculturation, learning, electricity, magnetism.*

## INTRODUCTION

Background. Management of quality assurance and effectiveness of student learning outcomes in physical education courses, namely: efficient, effective, and quality is an issue that cannot easily be solved. Ki Hadjar Dewantara with learning neteni models, neroke and nambahi (Tri-N) and can be increased to nontoni, neteni, neroke, and nambahi (Chess-N) can be practiced in the study of magnetic electricity. Use of Chess-N learning in students of physics education programs can be studied with the cooperative model approach, experiment, experiment report can provide a guarantee

to produce effective learning, efficient, quality, and the goal is reached.

Cooperative learning, the principle of implementation is the group consisting of three members to five members in activities with an issue or topic part of the material physics learning. The cooperative learning model is able to use the model Chess-N to be able to solve the problem to be solved simultaneously in each group. Learning the group practice model that will be more efficient and effective in terms of a limited number of practical tools, time, and place can be conditioned room that can be implemented for the competence of students in cognitive, psychomotor affective and can be obtained after completion of learning experiences. Management of quality assurance of learning with acculturation and this model has never been done research in Physics Education Study Program Faculty of Teacher Training and Education at the University of Sarjanawinyata Tamansiswa Yogyakarta, therefore this study with the title above.

Problem formulation: How Knowing the quality assurance and effectiveness of student learning outcomes in the cognitive competence, affective, and psychomotor nontoni acculturation model (observation), neteni (remembering), neroke (imitating), (4) nambahi (add) on activities, namely: (1) cooperative learning, (2) conducting experiments, and (3) report experiments. The objective study to knowing the quality assurance and effectiveness of student learning outcomes in the cognitive competence, psychomotor, and effective with acculturation models nontoni (observation), neteni (remembering), neroke (imitating), (4) nambahi (add) on activities, namely: (1) learning cooperative, (2) conducting experiments, and (3) report experiments.

LITERATURE REVIEW

Acculturation Learning. Acculturation practical learning by teaching Ki Hajar Dewantara is Tri-N, namely: niteni, Neroke, and nambahi and in this study plus one word nontoni making it into a chess-N, namely: (1) Nontoni, (2) Niteni, Niroke and nambahi so shortened to Chess-N. Based on the researchers understanding of Chess-N can be defined: (1) nontoni (observation), it means to make observations like what scientists using human senses carefully or thoroughly, (2) neteni (understand), meaning: to know, said, contrasted, identify, demonstrate, attitudes, skills, character, and can show his form as a whole of an object, (3) neroke (repeat), meaning: repeats with repeated so that really can do repetitions quickly, precisely and correctly so as to shown to be skilled in the repeat behavior (neroke). Repeating this meant a person or student to own: knowledge (cognitive), skills (psychomotor), and attitude (affective), and (4) nambahi (add), meaning that after learning activities nontoni, neteni, neroke and neroke can improve the quality assurance of the results learning, among others for example basic theory, the concept of science, scientific principles, laws of science that already exist or are be learned so it gets added value of prior knowledge. The added value obtained after performing the learning process of the Tri-N can perform, among others: proposals, suggestions, creative, innovative, application, development, and made possible the discovery of the laws of the new science.

Quality. Quality itself has changed a lot of criteria that continuously (Tjiptono & Diana, 2003, p. 2). Quality means must meet established standards and based on the National Standards for Higher Education (SNPT), about the competency standards of Article 5 paragraph (1) competency standards are minimum criteria concerning the qualifications of graduates capabilities that include attitudes, knowledge, and skills that are expressed in the formulation of achievement learning (Permendikbud no.49,

2014, p. 5). So the quality is dynamic based on the criteria at the time and always follow the demands of society and the development of science and technology at the time. So the quality assurance undergraduate level college graduates bail is competency standards with minimum criteria of competence and qualifications of graduates include attitudes, knowledge, and skills that are expressed in the formulation of learning outcomes.

Cooperative Learning Model. Model of cooperative learning model of STAD (Student Team Achievement Division) by Robert Slavin of the University Johns Hopkins USA. In general the method of application of STAD model in the class are: (1) the class is divided into several groups, (2) each student group consists of 4-5 people who are heterogenic, both in terms of ability, gender, culture, and so on, (3) of each group were given teaching materials and learning tasks that must be done, (4) the groups are encouraged to study the teaching materials and tasks of learning through discussion groups, (5) during the learning process as a group facilitator and lecturer role as a motivator, (6) every week or two weeks, lecturers carry out the evaluation, either individually or in groups to determine the learning progress of students, and (7) for the students of the group of students who scored a perfect learning outcomes rewarded. Similarly, if all groups scored a perfect learning outcomes, then the whole group shall be rewarded (Wena, 2011, p. 192).

The essence of Learning Model. The term learning model by Kardi, Soeparman, & Nur (2000, p. 9) is a learning model has a broader meaning than the strategies, methods, or procedures. Teaching model has four special features that are not owned by the strategies, methods, or procedures. These characteristics, are: (1) theoretical rational logical compiled by the creator or developer; (2) the rationale of what and how great student learning (learning objectives to be achieved); (3) the behavior of teaching required so that the model can be implemented successfully; and (4) learning environment that is necessary for learning objectives that can be achieved. According to Trianto (2010, p. 53), learning model function here is to guide teachers and teacher's designer and lecturer in implementing the learning. As noted by (Joyce, Weil, & Calhoun, 2009, p. 4) that the learning model is a plan or a pattern that is used as a planning learning in the classroom or learning tutorials and to determine learning tools such as books, movies, computers, etc. Based on some of the opinions about the learning model, eventually learning model is covering the planning, design, stage, guidelines, environmental, student products, quality of the learning outcomes, efficiency, and effectiveness to achieve the objectives to be achieved include covering aspects of competence, namely: cognitive, psychomotor, and affective. So learning model chosen must be able to produce the quality assurance of the learning outcomes or college graduates.

Learning Model Experiments. The learning model experimental physics cannot be separated from the nature of science learning among others physics. Based on the results of various scientific discovery by humans in principle that science stems from the curiosity of man, of the making of human curiosity is always observed on natural phenomena that exist and try to understand it. Physics is a part of science or science which was originally derived from the English science. The word science own comes from the Latin word meaning scent I know. Science consists of the social sciences and natural science. Kardi, Soeparman, & Nur (1994, p. 1) the physics of nature is knowledge about the world of matter, both animate and inanimate beings who observation. The conclusion that physics is a collection of

systematic theory, general applicability is limited to the phenomena of nature, born and developed through scientific methods such as observation and experimentation as well as demanding scientific attitudes such as curiosity, open, honest, and so on.

Taxonomy of Learning Objectives. Beyamin taxonomy of learning objectives according to Krathwohl et al, (1964, p. 10), is that there are three aspects of competence, namely: cognitive, affective, and psychomotor. Cognitive aspects, has regional levels, namely: (1) knowledge (word operational special purpose: preparing, copying, naming certain objects, register, memorize, say, sort. To know, and reconnected), (2) understanding (word specific operational objectives: classify, describe, discuss, explain, express, define, allocate, report, admitted, dropping, selecting, states, and translate), (3) the application (having said special operations: apply, choose, demonstrate, dramatize, work, create illusions, interpret, operate, training, scheduling, sketching, solving, and admitted, (4) analysis (special purpose operational word: counting, to categorize, compare, contracting, criticize, make diagrams, differentiate, treat others, test, try, inventory, ask, test, and make another), (5) synthesis (said operational specific objectives: organize, summarize, collect, organize composition, build, create, design, formulate, organize, organize, plan, prepare, propose, formulate, and writing), and (6) evaluation (special purpose operational word: argument, correcting, attach, choose, compare, defend, estimate, decide, think, guess, assume, given the value, choose, support, assess, and evaluating).

Learning Effectiveness. Understanding Learning Effectiveness General Dictionary Indonesian According effectiveness is defined: (1) has the effect, influence, or result, and (2) provide satisfactory results. Effectiveness means that the effect of the nature or circumstances or results to (Badudu, Zain, & Muhammad, 1996, p. 371). Effectiveness is the derivation of an effective word in the English language effective defined simply "coming into use" (Concise Oxford Dictionary, 2003,p.138). Effectiveness in Encyclopedia as an Administration follows: "a situation that implies about the desired effect or result. If a person acts with intent to do something specific, which is desired, then the person is said to be effective if it pleases consequences of it" (Gie, 1998, p. 108). According Steers (1985, p. 176), that an organization that is truly effective is the one who is able to create an atmosphere where workers work not only carry out the work which has been charged , but also creates an atmosphere so that workers are more responsible, acting in creative in order to improve efficiency in order to achieve the goal. According to the learning Effectiveness Criteria Hergenhanm, Olson, & Matthew (2008, p. 2) learning is measured by the change in behavior. After making the learning process will be able to do something they could not do before they make the process of learning. Learning will be effective if it involves physical or mental activity subject students in the learning process. These activities will increase the mastery of cognitive, affective and psychomotor, giving rise to a change in the behavior of the subject students.

Quality Assurance Results and Learning Physics. Based on the review of the above theory, the concept of quality assurance must master competencies student general there are three aspects (1) cognitive, (2) affective, and (3) psychomotor and basic competence are: (1) an electric current induced magnetic field, (2) the law Biot and Savart, (4) Ampere's law, (4) Faraday's law, (5) the laws Lenzt, and (6) magnetism. So build the character of students to master the basic competencies of electric magnets can be done with the process skills.

Skills used in the learning process of students to instill character values of competence, there are three, among others: (1) the process of learning by doing physics lab in groups electric magnet, (2) develop a magnetic electrical physics lab report individually with the format: basic theory, formulation of the problem, hypothesis, experiment planning, experimentation, observation, data collection, data analysis, results, conclusions, and applications, and (3) inquiry with the principle of cooperation teachers and students in terms of information, question and answer, observation, discussion, analysis, synthesis, formulation of the principle of the concept (theory), making inferences, applications and improve the learning interaction .

Knowing the Concept of Quality Assurance and Effectiveness. Based on the above concept description to know the quality assurance (meet minimum competency standards) and effectiveness (no effect of changing attitudes towards the subject of the student and the goal is reached) after the student success through skills assessment process is by using three instruments; (1) The objective questionnaire tests, (2) observation sheets, and (3) documentation based on the report experiments with predefined format. Three assessment instruments are based on lattice indicators of basic competencies mastered and done in the form of action becomes a habit and it is called acculturation. The results of quality assurance assessment and effectiveness of student learning outcomes obtained based on test results of the three instruments. The results of student test scores obtained from the three instruments then are assessed with reference to SNPT minimum competence criteria to assess the quality assurance and effectiveness learning outcomes of students with predicate: (1) very good, (2) good, (3) enough (4) less, and (5) very less.

RESEARCH METHODS

This study used a qualitative descriptive approach refers more phenomenologist perspective. Research in view phenomenologist attempt to use the meaning of events and link - relation to the ordinary people in certain situations (Moleong, 2010, p. 9). Views of its kind, is classified exploratory research on the management of quality assurance and effectiveness of teaching students with learning civilizing nontoni, niteni, niroke, and nambahi the magnetic electrical courses.

Research variables. Learning management research with acculturation nontoni, neteni, neroke and nambahi have variable (Y) as the dependent variable and independent variables have namely: (X1) cooperative learning approach, (X2) experimental group learning approach, and (X3) documentation of student experiments report. The population is the sum total of all units or elements which investigators interested. The population can be either organism, the person or group of people, communities, organizations, objects, objects, events or reports that everything has a characteristic and must be specifically defined and not ambiguous (Silalahi, 2009, p. 253). Sample, the majority of the population is selected for the data source. The studies all members of the population will make the sample, i.e. as a subject of study. Research place is in the Physical Education Studies Program, Faculty of Education and Science University Sarjanawiyata Tamansiswa education. The study begins planning, implementation, and prepare a report takes five months from August to January of 2014 to 2015.

Data Analysis. Qualitative data analysis techniques according to Miles and Huberman, (Sugiyono, p. 246) activity in data analysis are data reduction, the data display and conclusion drawing or verification. In this study, after sorting the data in the context of data reduction

performed a descriptive analysis, which gives a description of the object of study based on data from a group of research subjects. Step execution of data analysis are: (1) collecting data from three instruments, (2) calculate the data in the score (3) classifies the data scores on cognitive competence, affective and psychomotor, and (4) provide an assessment with criteria score data into categories: very good, good, fair, less, and very less and (5) show the results of the study.

Assessment Criteria. Assessment of learning outcomes pejaminan management quality and effectiveness of the civilizing nontoni, niteni, neroke, and nambahi using ideal assessment criteria according to the category of Sukardjo, Sari, & Permana (2006, p. 75) with the provision that can be seen in Table 1.

Table 1
Criteria for Assessment of Quality and Effectiveness Research

| Range of Score | Category |
| --- | --- |
| k > 83,99 | Very Good |
| 67,66 < k ≤ 83,99 | Good |
| 52,01 < k ≤ 67,66 | Enough |
| 36,01 < k ≤ 52,01 | Less |
| k ≤ 36,01 | Very Less |

Calculation of Total Score. Calculation of the results of data collection in a score of three instruments are: (1) questionnaire (objective test) correct answer scores 1 (one) and one score of 0 (zero) and the lowest total score of 0 (zero) and the number of the highest scores of 100 (one hundred); (2) the observation with appropriate alternative answers Lakers scale, namely: very good score = 5, both score = 4, quite a score = 3, less scores = 2, and so less score = 1. The calculation of the minimum score of 20 (two twenty) and the highest score of 100 (one hundred) and (3) documentation of reports score calculation experiment with the lowest score of 20 (twenty) and the highest scores of 100 (one hundred).

Research Procedures. The study procedures were: (1) Preparation: (a) preparing lattice indicator assessment instrument, objective tests, observation sheets, reports the experiment, (b) develop assessment instruments, (c) preparing a worksheet experiment students, (d) preparing sheet experimental observations, (e) prepare a report compiled format sheet experiment, (f) divides the experimental group, (g) prepare a schedule of the experiment; (2) Implementation: (a) exercising the test first before learning process, (b) the implementation of a six-time experiment and observation data retrieval when students perform experiments, (c) report the experimental results of each student, (d) implementation test 2 with the objective test questions; (3) the results of the test score data result from 1, test 2, experiment, and documentation of student reports, (4) the assessment of the results of score data by categories: excellent, good, fair, less, or much less and, (5) describe the assessment research results, and (6) prepare research reports.

RESEARCH RESULTS AND DISCUSSION

Research Result. Learning outcomes of students with learning civilizing nontoni models, niteni, niroke, and nambahi, namely: (1) the cooperative learning in cognitive competency obtained score: 82.84 entrance predicate good , psychomotor score of 84.43 entrance predicate obtained excellent, obtained a score of 85.56 entry psychomotor predicate okay; (2) learning experimental group on cognitive competence obtained good scores predicate 80.50 entries, obtained a score of 80.50 psychomotor, and affective obtained good scores predicate 83.81 entries; and (3) learning based documentation report experiments on cognitive competence obtained score: 84.43 very good, psychomotor

score of 85.56 entrance predicate obtained very good, and affective obtained good scores predicate 83.43 entry.

Discussion. Learning outcomes with civilizing nontoni, niteni, niroke and nambahi do discussion as follows, namely: (1) cooperative activities on competency in the cognitive, psychomotor, and affective average score of 83.61 incoming obtained good title, it means quality assurance and effectiveness can unbelievable, (2) the results of the experimental activities of student competency in the cognitive, psychomotor, and affective obtained an average score of 82.31 get in a good rating, meaning that it can be used as an effective quality assurance and good entry predicate, and (3) the results of activities based documentation of student experiments competency report the cognitive, psychomotor, and affective obtained average score of 84.43 rats entered the predicate excellent, quality assurance and effectiveness meaning can be very accountable. So the results of research based on criteria of quality assurance and effectiveness of learning with models notoni, niteni, niroke, and nambahi in all three models of cooperative learning approach, experiment, and documentation of student reports obtained an average score of 83.45 entry predicate good, it means quality assurance and effectiveness can be trusted with either.

CONCLUSION AND ADVICE

Conclusion. (1) Guarantee the quality and effectiveness of student learning outcomes of the activities of the experiment with culturing of nontoni, niteni, niroke and nambahi on cognitive competence, psychomotor, and affective enter predicate good, (2) quality assurance and effectiveness of student learning outcomes empowerment model nontoni, neteni, neroke and nambahi of documents report experiments on cognitive competence, psychomotor, and affective entrance excellent predicate, (3) Guarantee the quality and effectiveness of cooperative learning students with acculturation nontoni, neteni, neroke and nambahi on cognitive aspects of predicate good entry, and (4) guarantee the quality and effectiveness of the learning outcomes of students from three experimental learning activities, documentation reports, and cooperative with the civilizing nontoni, niteni, niroke, and nambahi on cognitive competence, psychomotor, and affective enter predicate good, it means quality assurance and effectiveness can be properly accounted for.

Suggestions. The results of this study on the effectiveness of the quality assurance and achieve a good rating and, therefore expected no improvement in the management of cooperative learning, experiment equipment, coaching in preparing the trial reports, and worksheets student learning to be very good.

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