



DEVELOPMENT OF COMPETENCE BALANCE-ORIENTED INTEGRATIVE THEMATIC LEARNING TOOLS TO FOSTER CRITICAL THINKING SKILL AND POSITIVE CHARACTER OF ELEMENTARY SCHOOL STUDENTS

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ABSTRACT

The balance of critical thinking ability and positive character traits in children is a major base in the growing potential for children to be fully Indonesian people as expected in the national education goals. To meet the needs of learning orientation necessary to balance competence, which in turn is expected to foster critical thinking ability and positive character of elementary school students. The purposes of this study were : (a) developing a competency balance oriented integrative thematic learning to foster critical thinking ability and positive character of students, (b) develop learning tools in Elementary School to foster critical thinking ability and positive attitudes of elementary school students. The results of this study have been developed : (1) thematic integrative learning tools in Elementary Schools to empower positive behavior and thinking ability students through research involving students, consisting of syllabus, and learning plan, (2) a material description, student worksheet, media, and thematic learning assessment tools in elementary school.

Keywords: Thematic, Critical thinking, Positive character.

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Contribution/ Originality

This study originates new formula to increase quality of learning model in elementary school, for development critical thinking and positive character with balances of student. This model learning can be increase care and activities of student in the classroom.

1. INTRODUCTION

A. Background

Education is one of the most essential needs of human life. National education aims to establish the development potential of learners (students) in order to become a human being faithful and devoted to Almighty God, noble, knowledgeable skilled, creative, independent and

become democratic citizens and accountable.

According to Ibrahim (2008) to realized objectives in the National Education Law No. 20/2003 learning conducted through heart process, mind process, sense process, and sports. Meanwhile, according to Government Regulation No. 19/2005, learning implemented interactively, inspiring, fun, challenging, motivating the students to be able to actively participate and provide enough space for innovation, creativity, and independence according to their talents, interests, and physical and psychological development of learners. These aligned with the development, it is necessary for learning design developmentally appropriate stage for elementary age students.

This integrated learning model is one of the other integrated learning on offered by Fogarty (1991). Integrated learning model is the integrated learning model approach that uses inter-subject lesson. In this model, it was related and mutually overlaps that the last thing you want to be searched and selected by the teacher in the planning stages program. Like depicted on learning models according to Fogarty (1991), integrated learning model contains several types of integrated ability which can be combined, including thinking ability, social ability, organizing ability in addition to focusing on the content subject lesson.

Implementation of an integrated thematic learning model must be supported by the learning tools. In addition to develop thematic integrative learning Indonesian in accordance with the 2013 curriculum, research carried out to look for an alternative implementation of learning that can accommodate cognitive developmental characteristics of students who have a holistic way of thinking and in concrete operational phase. To meet these learning orientation needs is necessary to balance competence, which in turn is expected to foster critical thinking ability and positive character of elementary school students.

Efforts to improve ability to think still less attention (Susilo, 2005) , whereas ability to think hold important role and great in improving individuals quality. According to Lawson (1992), in general people who have thinking ability like a formal reasoning is more successful in learning process, more able to critical thinking, be able to solve problems and better to identify variables, testing hypotheses, and other skill process. Beside thinking capability, the results of another study is positive behavior as very required by the students as life ability, not intentionally taught. From Muslimin (2012) findings about development stage shows that model has potential to develop the meaning of the three learning outcomes above, think ability, positive attitude, and cognitive learning outcomes. Balance critical thinking ability and positive character traits in children is a major base in the growing potential Indonesian children to become fully human, as expected in the national education goals.

B. Problems

Based on the background of the problem are formulated as follows:

- (a) How developing competence balance-oriented integrative thematic learning foster critical thinking skill and positive character of elementary school students?
- (b) How is the learning tools that fosters critical thinking ability and positive attitude of

elementary school students it is necessary to help a teacher?

(c) How to implement processes and student learning outcomes as a result of the implementation of thematic integrative learning in elementary school?

(d) How is the implementation of an integrated thematic learning in elementary school?

2. LITERATURE REVIEW

A. Integrated Learning

1. Definition of Integrated Learning

Integrated learning derived from word integrated teaching and learning or curriculum integrated approach. This concept has long been advanced by John Dewey as an attempt to integrate the development and growth of learners and his or her knowledge ability. According to [Sirait \(2005\)](#), integrated learning is a learning process by engaging or linking various subjects. Integrated learning refers to the nature of the developmental characteristics of learners. Physical development of students in the primary school age cannot be separated from the development of the moral, social, and emotional, or otherwise. Any kind of development in children is always related to one another. Student development of that age are holistic, integrated with life experience and environment.

[Fogarty \(1991\)](#) suggests all ten types of integrated learning, namely *fragmented, connected, nested, sequenced, shared, webbed, treaded, integrated, immersed, and network*. From tenth types, the first three types namely fragmented, connected, and nested within the curriculum integration of these disciplines (subjects). While types of sequenced, shared, webbed, threaded and integrated curriculum as integration of several disciplines.

2. Integrative Thematic of Integrated Learning

Integrative thematic model is integrated learning curriculum introduced in 2013. This learning model is an amalgamation of two integrated learning model that is webbed and integrated. [Fogarty \(1991\)](#) says "webbed curricula represent the thematic approach to integrating subject matter. Typically, this thematic approach, curriculum development begin with a theme". Webbed models or thematic approach integrates several ingredients lesson begins with theme. The following is a map diagram of webbed integrated learning model. Webbed integrated learning model can be defined as learning that uses a thematic approach that begins with construction of the general themes and appeal to students who integrate inter-subjects or interdisciplinary subjects.

Type of integrated learning is a type of integrated learning that uses approach between inter-subject study, combining subjects with how to set curricular priorities and find ability, concepts and attitudes that overlap in some areas of study. At type of this theme related and overlapping the last thing you want to search and selected by the teacher in the program planning stages. In this learning, teacher combines several ability that will be achieved in a basic discussion/sub-discussion. According to [\(Weisberg, 2006\)](#), ability can be combined include thinking ability, social ability, and organizing ability. According to [Butterworth and Geoff \(2005\)](#) integrated type of

learning allows students receive a meaningful experience and understand the whole concept is based on direct experience.

3. Support Learning Theory

There are several theories of learning are relevant to integrated learning and competence balance. These theories include the behaviorism theory, cognitivism, and constructivism.

Behaviorism theory argues that learning is a permanent change in behavior as a result of experience. Emphasis of this theory, [McGregor \(2007\)](#) says that behavior change is real and measurable, while experience in question is the process of stimulus from the learning and responses of the study.

Cognitive development theory contrast to behaviorism theory. Cognitive learning theory assume that learning process will occur when adjusted for physical and mental development were studied.

Constructivism theory argues that learning is active and knowledge gained by constructing information that obtained. Knowledge is not given and received, but actively constructed and contextual ([Sitepu, 2012](#))

3. RESEARCH METHODS

A. Types and Research

Based on the problems studied, is classified as a type of research study which follow-up development with trial test using a *one-group pretest-posttest design*. The study begins by developing integrated thematic learning at the primary school level to foster thinking ability and positive behavior that consists of syllabus, lesson plans, materials/students books, media, Student Activity Worksheet, and Assessment Sheet.

B. Research Design

Design of this research is the development research by using strategy that adapting instructional development cycle model that developed by [Fenrich \(1997\)](#). The steps are as follows:

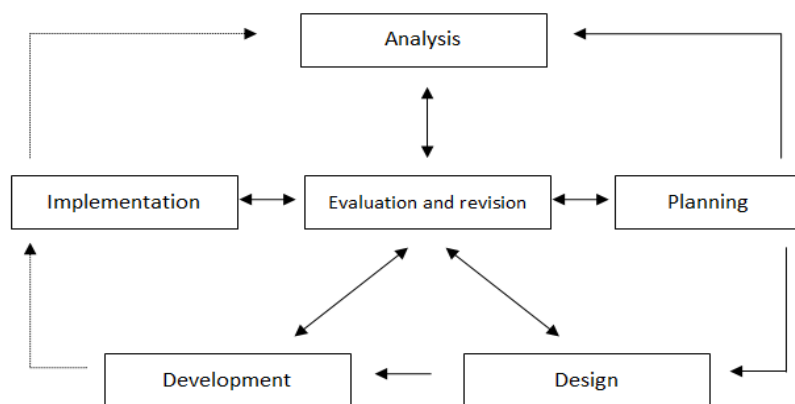


Figure-3.1. Learning Development CycleModel ([Fenrich, 1997](#))

Its activities in analysis phase, planning, design, development, implementation, evaluation and revision. Evaluation and revision is an ongoing activity conducted in each phase along the development cycle. Stages of learning tools development shown in Table 1 below:

Table-1. Learning Tools Development Stages

Phase	Activity/sub activity	Achieved Target
Analysis	• Identify the Basic Competency Analysis (KD) of Content Standards	Selected KD
	• Analyzes KD to determine indicators	KD Indicator Composed
	• Formulate learning objectives	Learning Objective Composed
Planning	• Structured teaching material package framework (BS, LKS, RPP, LP)	Package prototype
	• Structured study/research instrument framework	Instrument framework composed
	• Studying and revision planning phase result	
Development	• Writing Draft 1 BS, LKS, LP, and RPP	Draft 1 BS, LKS, LP, and RPP
	• Writing Draft 1 Study / Research Instrument	Draft 1 Research Instrument
	• Reviewing internally and revising draft 1 BS, LKS, LP, RPP	Draft 2 BS, LKS, RPP, LP,
	• Reviewing internally and revising draft internally instrument Draft 1	Final Draft of Research Instrument
	• Reviewing externally and revising draft 1 BS, LKS, LP, RPP	Draft final of BS, LKS, LP, and RPP
Implementation	• Determining school location	School location of Elementary School or junior school appropriate tools that has been developed
	• Teachers Coaching	Trained teacher
	• Learning in the classroom and observations	Data about : study implementation, student activities, students' positive attitudes
	• Assessment	Data : positive behavior and thinking ability of students
	• Analysis and reflection	Input / suggestions about device and PBM

This study involves the master graduate and postgraduate student's thesis supervisor who are interested in socialize this program. After program selected two members of the research student supervisor.

C. Place of Research

The research place such (1) in the Campus State University of Surabaya for tools development and validation, and (2) some elementary school in East Java and East Kalimantan to test the implementation and dissemination.

D. Variable and Operational

Variables and operational definitions of each variable is explained as follows:

1. Learning device is a set of learning resources or learning tools that can help students learn and to perform learning activities that include syllabi, lesson plan (RPP), Student Instructional Materials (BAS), Student Worksheet (BLM), and Assessment Sheet (LP)
2. An integrative model of thematic implications of the approach for the elementary curriculum in 2013 and the equivalent, in the form of packaging in the form of learning

themes that integrate all subjects.

3. Critical thinking is a mental process that is well organized and plays a role in the decision-making process to solve problems by analyzing and interpreting the data in scientific inquiry activities.
4. Positive traits such as character, nobility, positive attitude, and akhlakulkarimah.

E. Research Instruments

1. Problem Learning Test Results

This test follows the pattern of a test developed by SOLO taxonomy, so it also can be used for two purposes, namely to measure thinking ability and cognitive learning outcomes (understanding concepts). To calculate sensitivity of the grain problem, according to the formula used Gronlund translated by Sirait (2005). According to Aiken (1997) the criteria used to declare that the items were sensitive or insensitive to the effects of learning if $S \geq 0.30$.

2. Observation Sheet

In this study observation sheet used to obtain data about positive character and critical thinking ability of students and feasibility study. Observation instrument reliability is calculated with inter observer agreement techniques.

3. Positive Behavior Questionnaire

This instrument was a questionnaire given to the students after learning completion.

F. Engineering Data Collection and Analysis

The data were statistically analyzed descriptively. Data collection was conducted during the second semester of 2012/2013. Techniques used include (1) Observation, (2) Provision of the test, (3) Spread the questionnaire, (4) Interview

4. RESULTS AND DISCUSSION

A. Results

1. Results of Classroom Learning implementation

a. Learning Implementation

Learning implementation is defined as the percentage of learning steps that have been designed in the lesson plan is done by the teacher. In this study implementation of observation, observation sheets used are RPP itself quoted from the learning scenario. Only in the observation sheet was added 2 columns to the right of learning scenarios for each column titled executed and scores (4,3,2,1).

Recapitulation of the study implementation, are presented in the following table:

No.	Learning stages (syntax model)	Implemented /Not					Score Mean				
		S1	S2	S3	S4	S5	S1	S2	S3	S4	S5
1.	Orient students to the problem and presents the objectives	Y	Y	Y	Y	Y	3,87	3,91	3,48	3,80	3,8
2.	Designing the learning process in the form of observations	Y	Y	Y	Y	Y	4,00	3,76	3,87	3,60	3,8
3.	Guiding students	Y	Y	Y	Y	Y	4,00	3,87	3,89	4	4
4.	Communicate results	Y	Y	Y	Y	Y	4,00	4,00	4,0	4	3,5
5.	Establish a network of concepts	Y	Y	Y	Y	Y	4,00	4,00	3,87	4	3,6
6.	Conclusion	Y	Y	Y	Y	Y	3,50	3,63	3,60	4	4,6
7.	Evaluation and reflection	Y	Y	Y	Y	Y	3,75	3,92	3,65	3,8	3,7

Description : S = school goals ,

The data in Table 4.5. Indicates that learning is carried out has been done by the teacher just still vary in quality, however, all stages quality well executed and very well .

b. Student Activity

Student activity in this study is defined as a social activity that includes: submit/ask questions, collaborate, express opinions/ideas are in essence a social ability (including positive attitude).

Table-4.6.Type and distribution of Student Activities Appearance (Positive Attitude)

No.	Aktivitas Siswa	Activity appearance in target school				
		S-1	S-2	S-3	S-4	S-5
1.	Delivering/ask questions	8,0	12,0	10,0	9,5	10,0
2.	Express opinions / ideas	5,5	5,5	7,5	8,1	7,5
3.	Pointing sensitivity phenomenon is understood , such as joy , crying , stunned , even speechless	19,0	14,0	12,0	8,8	12,0
4.	Listen / pay attention to the teacher's explanation	17,5	11,5	21,5	20,0	22,5
5.	Answering questions given by the teacher orally	6,0	6,0	9,0	8,3	9,0
6.	Observation	15,5	24,5	10,5	9,2	10,5
7.	Conducting discussions / collaborate with peers and teachers / doing LKS	15,0	19,0	13,0	14,9	14,0
8.	Presenting the working group results	6,5	8,0	6,5	9,2	6,5
9.	Establish a network of concepts	4,5	8,0	7,0	9,2	7,0
10.	Formulate conclusions	2,5	1,5	3,0	2,8	3,0
	Total	100,0	100,0	100,0	100,0	100,0

Data Table 4.6 percentage of student activity that appears to see a trend emerging activity. Selected activities are activities that are relevant to the thematic integrative learning.

c. Learning Outcomes: Positive Behavior

There are variations in the observation positive attitudes of students in the target schools. Variations arise as a result of local conditions that are conducive to develop certain attitudes. The growth of this attitude from the state that they are less concerned and less tolerance (unfavorable) became very concerned and very tolerant (favorable) is shown in Figure 4.2 and 4.3 below.

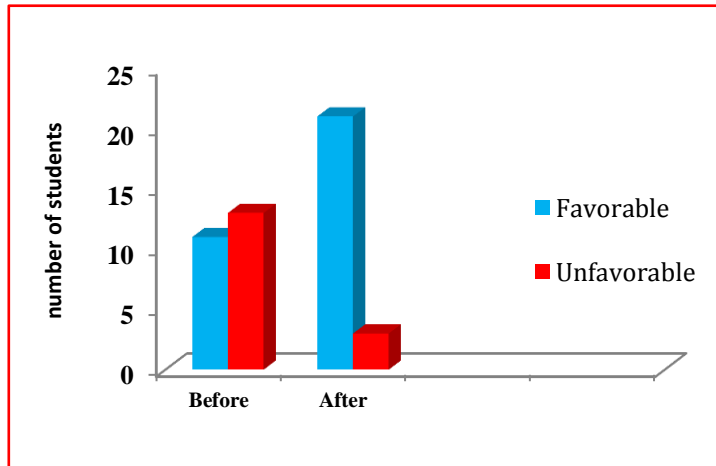


Figure-4.2. The differences distribution graphs student who less tolerance (unfavorable) and very tolerance (favorable) before and after learning

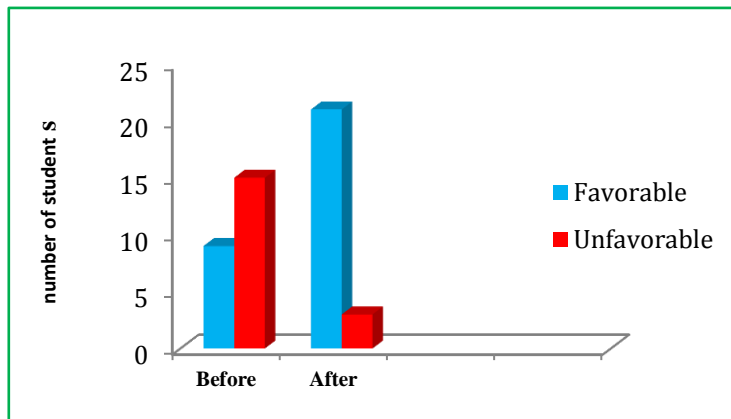


Figure-4.3. The differences distribution graphs student who unconcerned become very concerned before and after learning

Figure 4.2 and 4.3 above shows the differences in students orientation towards tolerance and caring, which is less tolerance/unconcern becomes very concerned/tolerance.

d. Mastery of Concepts

Student in Mastering concepts can be traced from indicators of achievement/learning

objectives. Table 4.8, Table 4.9 and Table 4.10 shows recapitulation of students proportion who achieve the goals/indicators before and after learning.

Table-4.8a.Results of Student Learning (Limited Test) in Target School 1

Subject	Score of KD 3.4					Score of KD 3.5					Average
	Early test	Final test	Mean	% PHB	Remark	Early test	Final test	Mean	% PHB	remark	
1	78	84	81.0	6	T	80	86	83.0	6	T	82.0
2	62	78	70.0	16	TT	58	84	71.0	26	TT	70.5
3	82	90	86.0	8	T	88	96	92.0	8	T	89.0
4	78	84	81.0	6	T	74	86	80.0	12	T	80.5
5	76	84	80.0	8	T	72	88	80.0	16	T	80.0
6	84	90	87.0	6	T	80	92	86.0	12	T	86.5
Mean	76.7	85.0	80.8			75.3	88.7	82.0			81.4
%	77%	85%	81%			75%	89%	82%			
Classical completeness	83					83					

Based on Table 4.8a, it is known that the test results of students' learning limited trial in SD YPPSB 1 Sangata Utara, East Kutai Regency performed on six students. Score obtained by the student in KD learning was 3.5 has increased compared to KD 3.4. There was one student who did not complete at KD 3.4 while at KD 3.5 all students have met the determined KKM. The highest score achieved by students at KD 3.4 as 90 obtained by two people while on KD 3.5 there is 96 obtained the highest score achieved by one student. The mean score obtained by the students at KD 3.4 is 81.5 while the average at KD 3.5 is 83.3. Thus, there is an increase in the average value of KD 3.5.

e. Thinking Ability

Students' thinking ability measured using SOLO Taxonomy reference. Therefore used is essay test type because this test gives wide opportunities for students to answer questions with different responses on the quality and breadth of response is influenced by her or his thinking ability. Analysis of the students' responses to be guided by the rubric of critical thinking. Students can be grouped into 5 groups according to the capacity to think, namely:

Table-4.11.Percentage Distribution of Students by Thinking Ability

No.	Level of Thinking ability	Percentage of respondents in specific thinking ability level (%)	
		Pre Test	Post Test
1	Prestructural	14,00	0,67
2	Uni structural	25,00	4,00
3	Multistructural	37,30	15,30
4	Relational	17,30	33,30
5	Extended Abstract	1,30	46,70

For more details the percentage level thinking ability of students can be seen in Figure 4.6 and

Figure 4.7 before and after learning, respectively.

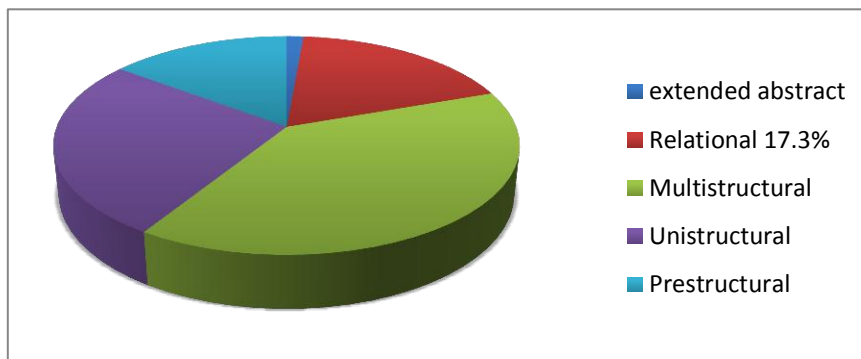


Figure-4.6. Percentage of students thinking skill before learning

Based on Figure 4.7, it appears that student's thinking ability significantly increase from category multistructural into abstract extended categories. At the time of the pretest, there was the highest chart multistructural levels, while highest posttest chart is extended abstract level.

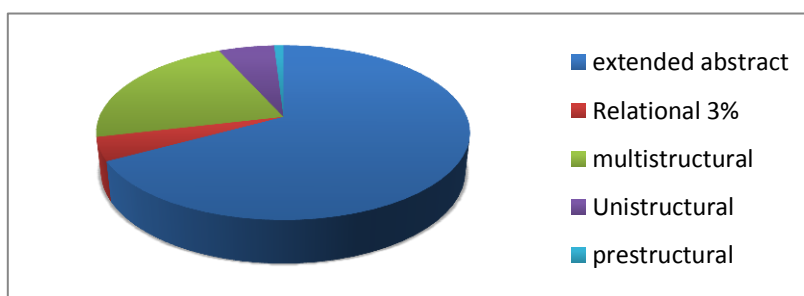


Figure-4.7. Percentage Thinking Ability Students after learning

B. Research Discussion

In terms of the urgency of the study, all the results are designed in the proposed research have been achieved, although many way. The role of graduate students in the research team provide highly synergistic impact. On the one hand, students want to quickly complete the study, while on the other hand they have not been rich with experience and has not been able to see urgent problems to be studied. Mutualistic symbiosis between faculty and students in the scheme of this research has been able to facilitate process of implementation research.

Therefore, pattern of the student empowerment is necessary getting further attention and the procedure more standardized. However existence of such research collaborations such as this demands good management of, so while ensuring the boundaries of the parent study and further research.

1. Discussion Results of Developing Integrative Thematic Learning Tools Product

Integrative thematic learning tools developed in this study by the reviewer declared

theoretical valid. It can be achieved particularly closely related to the mechanism of development and reviewers tools regulated as follows.

- a. Before developing the tools, the student developer (researchers) was introduced by the model (prototype) tools that have been developed in the parent study. Through discussion and questioning, students will be expected to researchers' understanding about everything had been achieved.
- b. Draft appropriate tools as example that developed to be a draft I.
- c. Initial study by colleagues in the research group. Followed by a revision in order to obtain the draftII tools.
- d. The first study by reviewers (experts) to look at all the aspects that can be improved as the format, content, typographical arrangement, until the language in this stage a reviewer a variety of considerations, suggestions and comments that further improvements are discussed in the research team, followed by revisions, in order to obtain the third draft.
- e. Draft III given to experts for a second time for a final review of the feasibility assessment as well.

This mechanism is believed to be one contributing factor why the learning that has been developed to be feasible, meet the requirements to apply and get a good score and classified as very good. Another thing is that many also assist faculty research collaboration with the student researcher. Researchers student is the teacher who has experience on the real situation in their schools, while researchers relative lecturer has experience in the field of theoretical. Combined two characteristics that help improve quality of the tools. It is also supported by previous development experience as done by previous researchers.

2. Discussion Result of Learning Implementation Observation in Classroom

Data recapitulation of learning implementation observation as presented in Table 4.5. Shows that all learning is done has been performed by the teacher just still vary in quality, however, all the syntax implemented with good quality and very good. This conclusion is drawn based on a conversion score developed by [Hobri \(2011\)](#) who states that: Score 1.00 to 1.49 is not good and less than 20 % plan implemented ; scores from 1.50 to 2.49 is less, because more than 80% of the components executed, but not yet completed; scores from 2.50 to 3.49 is good , more than 80% is carried out largely according to plan in terms of quality; scores from 3.50 to 4.00 is very good, more than 80% of components implemented, complete and systematic.

There are several factors that support adherence to the high proportion of learning implementation, for example : (a) discussion held tools while learning socialization, critical learning stages are described ; (b) modeling of learning while coaching students who will act as a teacher ; (c) as a learning guide, teacher lesson plans acceptable to hold when implementing learning; provided instructional films can be observed teachers before they appear, so that they can be observed with the details of each stage of learning.

3. Student Activities

Data Table 4.6 is the percentage of students who emerge from the activity of target schools to look at the emerging trend of activity. Activities are selected only relevant to this study. Activities that cannot be put in the kind of activity that is put in the type of near activity. From these data generally remained dominant students hear the teacher's explanation. It is not easy to realize because elementary students still need direction. But that is very encouraging in the group to make observations and answer questions the students during the learning activity dominates.

Learning could be take place such as hope, of course it is much supported because the teachers are the people who participate to develop learning tools in question, so that it knows exactly what is desired.

4. Learning Outcomes Discussion: Positive Behavior

A positive attitude concern and tolerant also experienced significant change was observed after a few weeks of concern and tolerant attitude shows the percentage of students who are more unfavorable, but after learning significant changes. Figure 4.2 and 4.3 above shows the difference in orientation of students towards tolerance and concern, which is less than the tolerance/concern becomes very concerned/tolerant.

Integrative thematic learning represent learning that is developed in addition to achieving students comprehensive ability, who not only teaches academic aspect is also to teach a positive attitude, akhlakul karimah, and manners. Meaning contained in the phenomenon being studied, a communicative message to be conveyed to the students to teach a positive attitude, akhlakul karimah, and character. By listening, reading, and thinking about the message it will motivate students lead to a shift in attitude. One effort that is changing attitudes of individuals by incorporating ideas, thoughts, opinions, and even new facts through communicative messages or often called a strategy of persuasion (Anwar, 2012). The message conveyed by intentional intended to cause self-contradiction in the attitude of the individual, thus destabilizing attitudes and ultimately the chance of a shift or change in attitude.

5. Mastery of Concepts

Mastery of concepts students explore indicators of achievement/learning objectives. Table 4.8, Table 4.9, Table 4.10, and Table 4.11 shows recapitulation proportion of students who achieve goals/indicators before and after learning that provide information that is increase number of indicators of learning on all three topics learning completed. The results of data calculation results obtained for each student in each school obtained between 35 to 47, thus influence the application of this model is still in moderate levels, refer to the calibration scale Hake (1999).

Increased ability to master the concept can be understood as the beginning of this model is actually a scientific approach to learning. Briggs and Leslie found the best way to teach science is through scientific method as it was found. As we all know science is found through a scientific approach (research) to apply the ability of scientific work.

C. Thinking Ability

Analysis of the students' responses to be guided by the rubric of critical thinking. Students can be grouped into 5 groups according to the capacity to think, namely: prestructural, unistructural, multistructural, relational, and extended abstract. Based on the thinking flow, increasing student thinking ability as applied learning model following meanings. This model Syntax 1-5 is actually an application of process ability, which more precisely formulate problem, design the problem solving, and reporting its results. Thus all the steps 1-5 have occurred practice thinking in students.

5. CLOSING

A. Conclusion

Research in order to develop and validate the integrative thematic learning in elementary school has successfully achieved as follows.

1. Has been successfully developed and integrated thematic learning tools have been validated in primary schools.
2. Tools have been developed which include: Lesson plans, materials, student worksheet, Assessment of learning outcomes.
3. Have successfully developed a data collection instrument of positive attitude, mastery of concepts and thinking ability rubric, test mastery of concepts and thinking ability tests.

B. Suggestions

1. In relation to 2013 curriculum implementation, suggested that aspects of attitude can be achieved through direct instruction and not as nurturing effect, in example by applying the integrated thematic learning the corresponding theme.
2. Other researchers also suggested there that are pleasing to develop applications of this model with a positive attitude and developed another tools, so that more and more rich in prototype learning attitude.
3. Development of attitude would require a long and exhausting time, replication studies to recheck what needs to be done as the material obtained clarification.

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