



THE INTEGRATED LEARNING MODEL TYPE OF “CONNECTED” IN INCREASING THE STUDENTS’ LEARNING CREATIVITY AND ABILITY

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Abstract. *This study aims to: 1) Analyze the application of integrated learning model of type connected in reminding creativity and students' learning ability; 2) Analyze student response after application of connected learning model; 3) Evaluate students' creativity and learning ability after applied learning model. This research was conducted at University of Muhammadiyah Sumatera Utara. The study was conducted in two years. The first year starts from November 2016 to July 2017 and continues the second year beginning in September 2017 until May 2018. Data are collected from observations and questionnaires. Data analysis is done by finding mean, mastery, ability and creativity of students. The results showed that integrated learning method type connected can increase creativity, generate positive responses to learning and improve student learning ability.*

Keywords: Integrated Learning Model, Connected Type, Learning Creativity and Ability

INTRODUCTION

The learning process that is interesting and appropriately designed will provide an effective and meaningful learning experience so as to enable students to be active during teaching and learning activities (meaningful learning), and otherwise students will be passive if the course is very saturated.

The importance of learning outcomes is a measure in assessing student competence as a reference for improving learning strategies. Learning outcomes are used as one of the conditions for determining graduation and minimum requirements in applying for a job. Suppose in determining the minimum GPA within the company. Someone will succeed in learning if there is desire and

ability to learn. To arouse students' desire and learning ability, lecturers must be able to motivate students, improve teaching patterns.

Integrated learning is believed to be a learning approach that fits the needs. Integrated learning is based on the inquiry approach, which involves students from planning, exploring, and brain storming. With integrated learning students are encouraged to work in groups and learn from the results of their own experiences. One of the simplest integrated learning models is the connected model. The model focuses on making clear connections with each course, connecting one topic to the next, connecting one skill to another, and one semester with the next. The linkages that occur can be held spontaneously or planned first. Based on the above background, the specific objectives of this research are: 1) Analyzing the application of integrated learning model of connected type in reminding creativity and students' learning ability; 2) Analyze student response after applied learning model connected (connected); 3) Evaluating students' creativity and learning ability after applied learning model connected (connected).

LITERATURE REVIEW

Connected Model

Learning model is a plan or a pattern used as a guide in planning the learning in the classroom or tutorial learning. Learning model refers to the learning used, including learning objectives, learning environment, and classroom management¹. Integrated learning is learning that begins with a particular subject or theme that is linked to other subjects, certain concepts linked to other concepts, implemented spontaneously or planned, either in one or more study areas, or with diverse learning experiences of children so that learning is more meaningful.

The characteristics of integrated learning are as follows, according to Ministry of Education and Culture (MoEC):

- a. Holistics
- b. Meaningfull
- c. Authentics
- d. Active

¹ Trianto. (2007). *Model Pembelajaran dalam Teori dan Praktek*. Jakarta: Prestasi Pustaka Publisher.

The Integrated Learning Model Type of “*Connected*” in Increasing the Students’ Learning Creativity and Ability

DOI: 10.30575/2017/IJLRES-2018010406

The integrated learning steps follow the steps taken in each learning model which includes three stages, they are:

a. Planning stage

Determine the type of combined subjects and skills.

1. Selecting material reviews, competency standards, basic competencies, and indicators.
2. Define the combined sub skills. In general, skills that must be mastered include the skills of thinking, social skills, and organizing skills.
3. Formulate indicators of learning outcomes
4. Determine the learning steps

b. Actuating stage

The main principles in the implementation of integrated learning include:

1. Teachers should not be the single actor who dominates in the learning activities
2. Giving individual and group responsibilities must be clear in every task that demands group collaboration
3. Teachers need to accommodate ideas that are sometimes unthinkable during the planning process

c. Evaluation stage

Evaluation phase in the form of evaluation of learning and learning outcomes.

The principle of integrated learning evaluation, they are:

1. Provide opportunities for learners to conduct self-evaluation in addition to other forms of evaluation
2. Invite learners to evaluate learning outcomes based on success criteria of achieving the goals to be achieved.

Creativity

Creativity is a person's ability to create that is characterized by an imaginative expression of originality ². In Big Indonesian Dictionary creativity is the ability to create,

² Anik, Pamilu. (2007). *Mengembangkan Kreativitas Dan Kecerdasan Anak*. Jakarta: Buku kita. p.29

about creative and creative. Creativity can also be meaningful as the newest and original creations are created, because the creativity of a unique mental process to produce something new, different and original.

Some of the above description can be argued that creativity at its core is a person's ability to give birth to something new, both in the form of ideas and real work, both in the form of new works and a combination of things that already exist, all of which are relatively different from what already exists previous.

According to Slameto said that the characteristics of creativity can be grouped into two categories, cognitive and non-cognitive. Cognitive features include

- o Orisinality
- o Flexibility
- o Fluently, and
- o Elaboration³.

While the non-cognitive characteristics such as attitude motivation and creative creative personality. These two traits are just as important, the intelligence that is not supported by the creative personality will not produce anything. Creativity can only be born from intelligent people who have a healthy psychological condition. Creativity is not just the actions of the brain but emotional and mental health variables are very influential on the birth of a creative work. Intelligence without a healthy mental can be very difficult to produce creative work.

According to Nurhayati Potential Diagnostic Guidelines, the characteristics of creativity are mentioned:

- a. It shows great curiosity
- b. Create a variety of ideas and ideas to solve problems
- c. Often propose unique and clever responses
- d. Dare to take risks
- e. Likes to try
- f. Sensitive to the beauty and aesthetic aspects of the environment⁴

Some techniques to spur the emergence of creativity according to Nursito are:

- a. aActive reading

³ Slameto. (2003). *Belajar dan Faktor-faktor yang Mempengaruhinya*. Jakarta: Rineka Cipta. p 17

⁴ Etti Nurhayati. (2011). *Psikologi Pendidikan Inovatif*. Yogyakarta: Pustaka Pelajar. p 10

- b. Fond of doing the study
- c. Giat berapresiasif
- d. Loved the value of art
- e. Respective to developments
- f. Produce a number of works
- g. Can provide examples of things that other people need.⁵

According to Munandar the importance of creativity development has four reasons, namely:

1. By being creative, one can manifest himself, his self-manifestation, the manifestation of himself is one of the basic needs in human life. According to Maslow (Munandar, 2009) creativity is also a manifestation of a person who is fully functioning in his manifestation.
2. Creativity or creative thinking as the ability to see possibilities for solving a problem is a form of thinking in education. In schools that are primarily trained are the acceptance of knowledge, memory, and reasoning (logical thinking)
3. Brain yourself creatively not only benefits the person and the environment but also gives satisfaction to the individual
4. Creativity is what allows humans to improve their quality of life.⁶

Learning Ability

Ability comes from the word capable which means the power to do something, while the ability means ability, skill, and strength. Ability means the capacity of an individual to perform various tasks in a job. From these definitions can be concluded that the ability is the ability or the ability of an individual in mastering a skill and used to do various tasks in a job.

Further, Robbins and. Judge states that the overall ability of an individual basically consists of two sets of factors, they are:

- a. Intellectual Ability, is the ability needed to perform various mental activities (thinking, reasoning and solving problems).

⁵ Nursito. (1999). *Kiat Menggali Kreativitas*. Yogyakarta : Mitra Gama Widya. hlm 34

⁶ Utami Munandar .(2009). *Pengembangan Kreativitas Anak Berbakat*. Jakarta:Rineka cipta.

- b. Physical Ability, is the ability to perform tasks that demand stamina, skills, strength, and similar characteristics.⁷

Learning relates to a person's behavior change to a particular situation caused by his repeated experience in the situation. Learning occurs when a mutual stimulus / stimulus situation affects a person so that his / her performance changes from the time before he experiences a situation to the time after he or she experiences the situation. According to Morgan in *Introduction to Psychology* (1978) learning is any relatively settled change in behavior that occurs as a result of practice or experience. According to the core gestalt of learning is gain insight. Insight is the acquisition of problem solving or the problem⁸

In the process of learning there are differences in fundamental ways in each person in the transfer or absorption of knowledge. The ways of learning are also called learning styles. Learning styles are defined as a combination of how information is absorbed, organized and processed. Thus, a person's learning style is a combination of how he absorbs an information, then organizes and processes the information.

METHODOLOGY

This research was conducted at Muhammadiyah University of North Sumatera which is located at Captain Muchtar Basri No. 3 Medan. Penelitian will be conducted in two years. The first year starts in November 2016 until July 2017 and continues in the second year beginning in September 2017 until May 2018.

Data collection techniques in this study are: 1) Observation: To obtain data about the condition of students and the learning process in each study program that exist within the Faculty of Teacher Training and Education Universitas Muhammadiyah Sumatera Utara. 2) Questionnaire: Questionnaire instrument is used to analyze and evaluate students' creativity and learning ability before and after application of connected learning model.

⁷ *Ibid*, hlm 57-61

⁸ Sumadi Suryabrata (2010). *Metodelogi Penelitian*, Jakarta: Raja Grafindo Persada. p 277

FINDINGS AND DISCUSSION

Research Result Description

1. First Analyss of Research Results

The research was conducted at the Faculty of Teacher Training and Education Universitas Muhammadiyah Sumatera Utara. The subject of the research is the students of mathematics education in the education management course.

Before the action research is conducted, the research first conduct the initial test given to the students with the aim to know the students' early ability in understanding the material.

This knowledge is done in order to conform to what is expected by the researcher. Is it true that the student of mathematics education needs to be given appropriate action by using Integrated Connected Learning Model (Connected) model to improve students' creativity and learning ability, to measure the ability of students are given tests as many as 5 pieces.

From the results of student work on the initial test given, it can be known the initial ability of students about the material got results that have not been satisfactory, hence the action needs to be done.

Based on the above description of the student's learning ability test results can be seen in the following table:

Table 1.
Learning Ability Results in the Initial Test

Many students are completed	7
Many Unfinished Students	32
Complete Classical Percentage	17,94%
Uncomplicated Classical Percentage	82,05%

2. Description of Implementation Results in Cycle I

The procedure or steps of implementation of class action in cycle I are as follows:

- a) Action planning I is done to overcome the problems experienced by students in understanding the concept on the material function. Problem solving is done by implementing the learning that has been planned in RPP.
- b) The steps taken are to conduct curriculum analysis to find out basic competence to be submitted to students by using Integrated Learning Method Type Connected (Connected). Creating an observation sheet to see

student creativity during the learning process takes place using Connected Type Integrated Learning (Connected) method. Creating instruments used in the research cycle consisting of tests and observation sheets. Develop an evaluation tool in the form of a choice test. Test given as many as 5 questions.

Implementation of action I

At this stage the researcher acts as a lecturer explaining briefly the material by using Integrated Connected Learning method

Observation of action I

During the learning activities using Integrated Learning Method Type Connected (Connected) took place implemented, it appears that the observations on the creativity of students have not shown the desired results during the learning process takes place.

Based on the results of observations that have been done in the first cycle then in the percentage of creativity that is on the diligent aspects of questioning is 42.30%, on the aspect of attention is 39.10%, then on the aspect of giving opinion is 42.30% and the last on the aspect of participation is 41.02%.

So from the four aspects it can be seen that the diligent aspects of asking questions and giving aspects of opinion get a higher percentage value. Where the average value of creativity percentage obtained by 26.39%.

Table 2.
Observation of Creativity at Cycle 1

No	Aspects Observed	Persentase
1	Diligently asked	42,30%
2	Focus	39,10%
3	Giving reason	42,30%
4	Participation	41,02%
Average		26,39%
Note		Very less

The conclusion of the observation of student creativity in cycle I is in the diligent aspect of questioning can be categorized less good because only reach the percentage value of 42,30%, and at attention aspect can be categorized very less good because only

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reach percentage value equal to 39,10%, then the aspect of giving the opinion is categorized as less good because it only reaches the percentage of 42.30% and the last in the aspect of participation is also in the category of less good because the percentage is only 41.02%.

The result of the students' understanding of the taught material can be seen on the following table:

Table 3.
Learning Ability Results In Cycle I

Many students are finished	14
Many students are not complete	25
Complete classical percentage	35,89%
Unfinished classical percentage	64,10%

The conclusion of the first cycle is that the students' learning ability has improved, ie the initial test has 7 complete students and 32 unfinished students, after the first cycle becomes 14 completed students and 25 unfinished students. With the calculation of the ability to learn classically on the initial test is 17.94% and in the first cycle is 35.89% so the initial test increase is 17.95%.

Hasil Lembar Observasi Aktivitas Dosen Pada Model Pembelajaran Terpadu Tipe *Connected* (Terhubung) pada siklus I Dimana setelah melakukan observasi kreativitas dan ketuntasan belajar mahasiswa maka dilakukan juga observasi aktivitas guru, hasil hasil observasi dosen terhadap materi yang diajarkan dapat diliat pada tabel berikut :

Table 4.
Result of Lecturer Observation Sheet on Cycle I

No	Indicator	Amount
1	Action Planning	2
2	Implementation of Action	2
3	Observation	2,5
4	Reflection / Assessment	2
Average		2,1
Note		Enough

Conclusion of observation of lecturer activity in cycle I that is observation indicator get highest value compared with other indicator. the observation indicator

gets a value of 2.5. The average score obtained on the lecturer's observation activity is 2.

Reflection

Judging from the data of student creativity observation it can be concluded that the creativity of students is still very poor because the average value of the percentage achieved in the first cycle only amounted to 26.39% and the value is still included very bad categorize then student creativity observation continued on cycle II.

Based on the data of students' existing learning ability, it can be concluded that there is an increase in student learning outcomes from the initial test to the learning ability test I. In the initial test the classical learning completeness 17.94% with an average value of 49.74. In the learning ability test I learned mastery learning classically to 35.89% with an average value of 62.69. Then the increase of 17.95%. The increase in the results of this learner is not in accordance with the expected because the level of mastery learning has not yet been achieved. So it is necessary to re-do the improvement of learning that can maximize student learning outcomes.

In the implementation of action I still have some weaknesses among students who are less active and still afraid to express opinions or ask questions. For that researchers need to motivate students to actively learn and provide opportunities for students to ask, either to the lecturer or peers, so that students are more active in the learning process. Therefore it is followed by the implementation of class II cycle action.

Description of the results of the implementation of cycle II

The results of the second cycle of action in this study are described as follows:

Action Planning II

In the planning phase in cycle II the lecturers give more motivation to the students to be more active in asking questions by giving special value from the lecturer, and expect more and more students to answer the problem well. Maximizing guiding students as well as deepening of material for those who have not reached mastery learning by using Integrated Learning Method Type Connected.

Implementation of Action II

At this stage the researcher acts as a re-explaining briefly the material about the function by using Integrated Learning Method Type Connected (Connected)c. Pengamatan Tindakan II

During the learning activities using Integrated Learning Method Type Connected (Connected) took place implemented, it appears that the observation on student creativity shows the desired results during the learning process takes place.

Observation of student creativity by using Integrated Learning Method Connected Type (Connected) by using observation sheet containing four observed aspects. Based on the results of observations that have been done in the second cycle then the percentage of creativity that is on the diligent aspect of asking is equal to 67.95%, the attention aspect is 71.79%, then the aspect of giving is 73.72% and last the participation aspect was 73.08%. So from these four aspects can be seen that the aspect of giving opinions that get the highest percentage value. Where the average value of creativity percentage is obtained equal to 71,63%.

Table 5
Observation of Creativity in Cycle II

No	Aspects observed	Persentase
1	Diligently asked	67,95%
2	Attention	71,79%
3	Giving an opinion	73,72%
4	Participation	73,08%
Average		71,63%
Note		Good

The conclusion of the observation of student creativity in cycle II that is on the diligent aspect of questioning can be categorized enough because it has reached the percentage value of 67,95%, and at attention aspect can be categorized either because it reaches percentage value equal to 71,79%, then at aspect give opinion categorized both because it has reached the percentage of 73.72% and the last on the aspect of participation is also categorized either because the percentage of 73.08%.

The result of the students' understanding of the taught material can be seen on the following table:

Table 6
Learning Ability Results In Cycle III

Many students complete	34
Many students are not complete	5
Complete classical percentage	87,18 %
Unfinished classical percentage	12,82 %

Conclusion data above data can be seen cycle II experience improvement that is cycle II tedapat 22 complete student and 17 student unfinished, after cycle II become 34 student complete and 5 student unfinished. By classical calculation in cycle II is 56,41% complete student and in cycle II is 87,18%. So the increase of cycle I to II is 30.77%.

Result of Observation Sheet of Teacher Activity on Integrated Learning Model Type Connected (Connected) on cycle II. Where after melalukan observation of creativity and student's learning ability is also done observation of lecturer activity, the result of observation of teacher to the material which is studied can be seen on the following table:

Table 7.
Result of Lecturer Observation Sheet on Cycle II

No	Indicators	Amount
1	Action Planning	4
2	Implementation of Action	3,5
3	Observation	4
4	Reflection / Assessment	4
Average		3,8
Note		Very Good

The conclusion of the observation of lecturer activity in cycle II that is on indicator of action implementation get the lowest value compared with other indicator. The action implementation indicator scores 3.5. The average score obtained on the teacher activity observation is 3.8.

Reflection

Judging from the observation data of student creativity in cycle II that has reached the average value of the percentage of 71.63% of the average value in cycle II is included in the category of either the activity of student creativity observation stopped until cycle II just because it has reached the desired value . From the result of observation sheet of lecturer activity has shown good result, with average value 3,8 as expected in teaching and learning activity.

CONCLUSION

Based on the description of the discussion in this study, the following conclusions can be drawn:

1. By using Integrated Learning Method Connected Type (Connected) can improve creativity and learning ability.
2. The average score on the percentage of students' creativity observation in the first cycle reached 26.39%, an increase in cycle II to 71.63%
3. The average value on the results of learning ability observations in the first cycle reached 35.89% increase in cycle II to 87.18%
4. Students' creativity and learning ability has made significant progress.
5. Students' understanding of lecture material shows improvement. Can be seen from the level of mastery of students' learning ability in a classical, before using the model of learning with Integrated Learning method Type Connected.
6. During the course of the study, the students looked enthusiastic to study harder.

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