strategy to optimize lab skill-JBASR

by Jurnal Polkesma

Strategy to Optimize Lab-Skill Learning Technique for Improving the Skill of Midwifery Students in Malang Midwifery Department

¹Rudi Hamarno, ²AfnaniToyibah, ³Reni Wahyu Triningsih

¹Lecturer on Department of Nursing, Healthy Polytechnic of Malang, East Java of Indonesia
²Lecturer on Department of Midwifery, Healthy Polytechnic of Malang, East Java of Indonesia
³Lecturer on Department of Midwifery, Health Polytechnic of Malang, East Java of Indonesia

ABSTRACT

Vocational education in the health field is expected to produce competent and ready-to-work-graduates. One of the ways to successfully create competent graduates is by laboratory learning. This study was conducted to find out about the description of the implementation of laboratory learning in Midwifery Department in an attempt to describe strategies to optimize learning process in order to improve students' competence. This study was using a qualitative descriptive design. The data was collected using interviews, documentation and observation. The interviews were conducted on 16 subjects and the documents obtained from the subjects were related to the research problem. Observations were carried out on the learning process and implementation of laboratory skill learning technique and also on laboratory condition in Malang Midwifery Program. The technical analysis of the data was using descriptive data analysis by SWOT analysis. The result of the study shows that the substance of learning needs to be optimized in the laboratory skill learning technique. It includes the planning made on laboratory skill learning which has not been constructed systematically.
KEYWORDS: optimizing strategy, laboratory skill learning, competence, student

INTRODUCTION

Midwifery study program is one of the units in health education that are expected to create competent graduates that will be able to help solving the health problems in community using a scientific approach. According to the current standards, midwiferies graduated from the diploma III and IV programs can be categorized as professionals, because the highest level of midwifery education in Indonesia now is diploma IV program. The basic consideration of improving the level of this education is to help reducing mortality rate of mothers and newborns which is still high in Indonesia. With the help from educated professionals, it is expected that it can help to decrease the mortality rate. A curriculum is necessary to be constructed in an effort to create professional midwives. The curriculum aims to create graduates who meet the standards of professional qualification. In an attempt to achieve that goal, the Ministry of Health has issued a national curriculum policy development leads to the technical approach. This means that the development of this curriculum is based on the needs of the community which are represented by business sectors or industries. Further development of this curriculum model is known as competency-based curriculum [1]. Some of the reasons to apply competency based curriculum development are: first, as a diploma graduate of midwifery, the graduates are prepared to compete in the workforce with the competencies that are ready to use to help solving problems in public health. Secondly, the curriculum can be developed according to the need analysis and the problems occur in each region as well as national problems to have more flexible development. The third is that the national curriculum has the same basic standards that should be owned by every graduate.

In the higher education system, graduates are required to have the ability to apply the materials they have learned in their field or use it to explore the matter further. The demands of these competencies can be realized if learners do the learning process by themselves directly to really understand what they have learned. Direct learning experience can only be obtained through laboratory -based activities. Laboratory is the place to do activities, which are created from the equipment needed to support the learning process. Laboratory activities will lead to the formation of learners' attitudes, skills, ability to work together, and creativity in receiving knowledge. By conducting both laboratory and in accordance with the procedures and rules of the lab, then it may indirectly support the implementation of Competency Based Curriculum (CBC). When the evaluation of 2010 UHAP test execution in phase I, II and III were conducted, some of the students did not pass the test. Based on a survey in 2009 which were directed to 40 stakeholders, focusing on the competence level of Malang Midwifery Department graduates, the result shows 56 % graduates are considered to be competent and 44 % graduates are considered to be not competent. Ideally, after completing the entire process in midwifery education, graduates must master all of required competencies. Based on the surveys and interviews conducted to the students and the lecturers about laboratory's learning plan, it was discovered that the learning process still

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Corresponding Author: Rudi Hamarno, Lecturer on Department of Midwifery, Healthy Polytechnic of Malang, East Java Province of Indonesia. Email: reni_rassya@yahoo.co.id

lacks of guidelines for the practicum, the syllabus and its lesson plan. Additionally, laboratory practice schedule must be made by agreement between the lecturers and the students so that the schedule is not a fixed one, which may sometimes create chaos on the implementation, caused by its irregularities.

By looking at the above phenomena and based on the fact that this laboratory skill learning has been carried out since 5 years ago, until now, there has never been a single study conducted to give feedback toward laboratory skill learning technique to achieve the expected competencies. Therefore, this study will reconstruct laboratory skill learning as a strategy to optimize laboratory skill learning to achieve the competency skills expected from midwifery students.

MATERIALS AND METHODS

According to Mulyasa [2], in order to successfully implement CBC, a conducive physical and non-physical academic environment must be created. A safe, comfortable, orderly, optimist and high expectations from school community, school health and also activities which are centered on the learners (student-centered activities) is an atmosphere that can build the passion, spirit, and enthusiasm for learning. Conducive learning atmosphere must be supported by a variety of fun learning facilities, such as its learning facilities, laboratories, environmental setting, the appearance and attitude of lecturers / teachers, the relationship between lecturers/teachers and learners, and among the learners themselves, as well as the appropriate organization and and the structure of learning materials, in accordance with the capabilities and development of learners.

A laboratory is a certain room designed in accordance with the need to carry out activities related to the functions of education, research, and community service. The activities are those which are integrated and supported by the existence of a necessary infrastructure for the realization of expected results [3]. In a Copyright by Republika Online in 2005, it is stated that laboratory learning is an active learning method which is considered to be effective and applicable to produce graduates with specific skills. This method can be accomplished when there are facilities supporting the existence of the laboratory. In supporting the lecture (lab), it has three main components namely the planning, the implementation, and the evaluation. All the components and processes that occur in it are interconnected and constitute fulfillment of quality standards for the integration of lectures [4].The conceptual framework of the research is as in Figure 1.
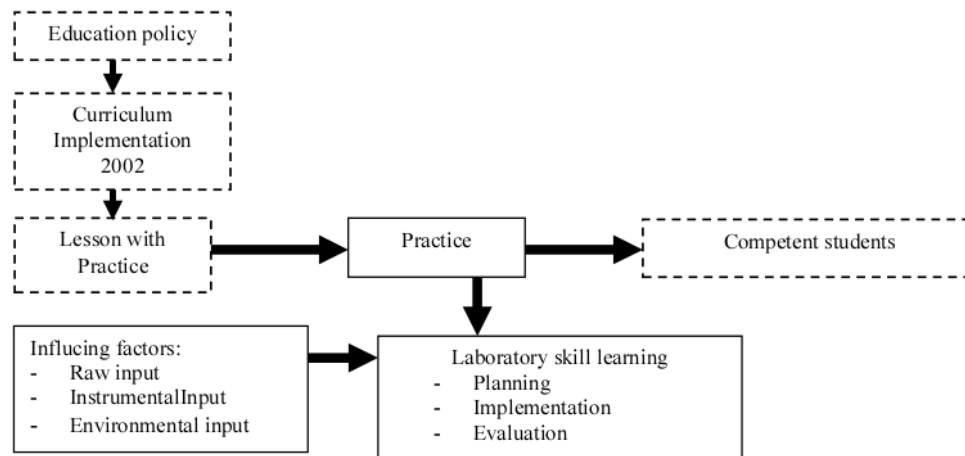

Figure 1 Framework for Research on Strategies to Optimize Laboratory Skill Learning to create competent students

This research was conducted using qualitative research case study design. This research will describe strategies for optimizing laboratory skill learning in Midwifery Study Program in Midwifery Department - Health Polytechnic of Malang. Prior to the research, the writer had analysed the process of laboratory skill learning as well as the factors that support and hinder the lesson. The research took place in Malang Midwifery Program Health Polytechnic of Malang. The basic consideration of this research is because Malang Midwifery Study Program is a vocational study that includes the implementation of a laboratory learning to achieve competencies so that the graduates can apply their knowledge optimally when they must get involved in society.The subjects for this study were considered to meet the specified characteristics, namely: lab skill instructor, the coordinator of the midwifery laboratories of Malang, the students, and the head of Midwifery

Program of Malang. The sampling technique used in this study was the Snowball Sampling. In this study the researchers chose a particular person who is considered to be able to provide the necessary data, that is the lab skill instructor, and then based on the data or information obtained from the previous sample, researchers can assign other samples that are considered to be more complete until no further data needed. Another subject to provide the data is the head of the study program and the laboratory coordinator. The numbers of all respondents were 16 people. The data collecting in this study was conducted in 2 phases. In phase I, the writers conducted interviews from 11 July to 9 August 2011. In the second stage, the interview conducted after all data, observation and documentation was obtained. The methods of collecting the data in this study can be seen in Table 1 below.

Table1. Method of collecting the data

No	Data collecting method	Collected Data	Data source
1	Participant Observation	a. Implementation of the learning laboratory skill learning includes: 　a. Instrument completion and preparation 　b. Supervisor and student preparation 　c. Methods and instructional media 　d. supervisor and the student activities during the learning process 　e. time requirement 　f. Environmental input 　g. Instrumental input	a. Existing laboratory equipment b. Supervisor c. Student d. Laboratory conditions e. The process of implementation of lab skill learning
2	Documentation	The documents that contain data associated with the implementation of learning skills lab, such as the syllabus, SAP, study guides, schedule of activities, attendance list, student achievement and curriculum.	Document containing the necessary data
3	In depth interview	a. Students' preparation before implementing laboratory skill learning b. Instructor planning c. Implementation of laboratory skill learning d. Factor supporting laboratory skill learning e. The obstacles in implementing lab skill learning f. How to evaluate student competencies	a. Head of Midwifery Study Program of Malang b. Laboratory skill learning instructor c. Laboratory coordinator d. Midwifery students of Midwifery Program Malang

The research procedure consists of:
　a. Preparation of the study, the researchers prepared a list for interviews and an interview notebook.
　b. Research implementation was conducted in three stages, namely:(1) orientation phase, the researchers collected general data about the focus of the research through interviews with the Head of Midwifery Study Program of Malang, (2) Exploration Phase, the researcher is more focused on the research on the targeted data collection, this is done by an interview with the Coordinator of the Laboratory of Midwifery Study Program of Malang, its lecturers, and its students. At this stage the collection of information and data was conducted in more detail, (3) Focused study phase, researchers focused more on extracting data through interviews, observation and documentation to further consolidate the results of research in the field and draw conclusions as needed. To ensure the validity of the data obtained, the criteria used include: credibility, transferability, and confirm ability [5]. To identify the substances that need to be optimized in laboratory skill learning, the researcher used content analysis technique. Then, as the researchers entered the research object, which was the process of lab skill learning, researchers used the domain analysis. It was preceded by participant observation, observations and interviews. This analysis was done to obtain a general and comprehensive picture of the process of lab skill learning. By doing these steps, the researchers expected to get a picture and information about lab skill learning. To analyze the data, the researchers used descriptive data analysis by Miles and Huberman [6]. Descriptive data analysis by Miles and Huberman were conducted in three steps, they are data reduction, data display and conclusion. The steps are described in Figure 2 below.
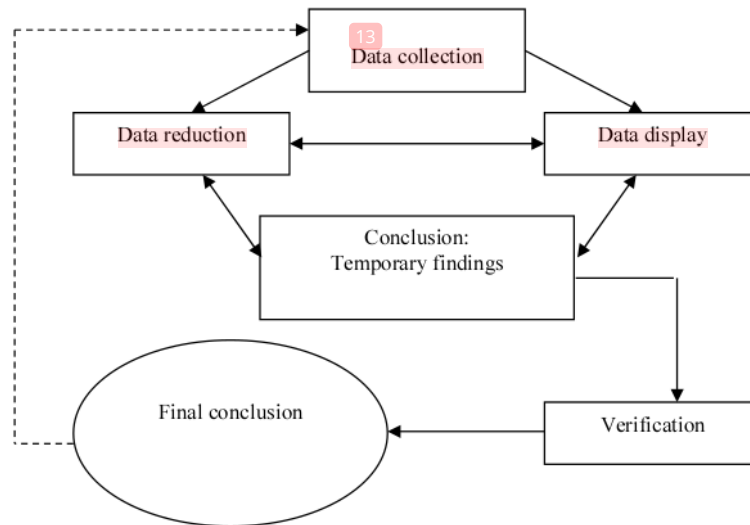
Figure 2 Data Analysis Interaction Model

Meanwhile, in order to describe the strategy to optimize lab skill learning, the researchers used SWOT analysis to analyse the strengths of lab skill learning technique, its weaknesses, its opportunities and its threats. According to Sam M Chan [7], SWOT analysis is the analysis used in a study or a policy to obtain accurate descriptions of its strengths, weaknesses, opportunities, and obstacles faced by Midwifery Study Program of Malang.

RESULTS AND DISCUSSION

Results

In the laboratory skill learning technique applied in Midwifery Study Program of Malang, there are some facts found in the planning, implementation, evaluation and supporting systems, they are:

a. Planning
1) There are no practicum guidelines, the lecturers only prepare the SOPs or study guidelines
2) The syllabus of lab skill learning is in accordance with the course syllabus that was created by PJMK
3) Not all lecturers make lesson plan for laboratory skill learning
4) The schedule for laboratory activities is already exists but the implementation sometimes does not match the agreement made by the lecturers and the students.
5) There are some problems related to the process for preparing laboratory equipment.

b. Implementation
1) The procedure applied has not prepared students to have optimal knowledge and skill.
2) The method used is demonstration followed by re-demonstration. In addition, it also uses peer tutoring.

c. Evaluation
1) There has been no evaluation guidelines
2) The assessment to determine the student competence is still not optimal
3) The evaluation system is still not clear, so that lecturers may have various systems. It can be based on study guidelines, demonstration and also oral questions.
4) The remedial system is not optimal yet

d. Supporting System
1) There is pretest yet, so that the lecturers cannot measure the ability of students who will enter the teaching lab.

2) The number of credits in the curriculum is not enough to do a competent laboratory skill learning to the students.
3) Diverse quality of lecturers and the number of lecturers are not balanced by the number of the students and also, the lecturers get other responsibilities which are not related to academic affairs.
4) The number of equipment are not sufficient
5) Lack of specialized personnel who handle the laboratory that interfere the process of borrowing and returning the equipment.

The substance of laboratory skill learning

To gain an overview of the implementation of lab skill learning in Malang Midwifery Program in an effort to identify the substance of learning that needs to be optimized, the researcher conducted interviews from 11 July to 9 August 2011 to 16 subjects. The interview took about 2 hour-time.

Along with the interview, the researcher asked about the documents related to the implementation. This was done to see the suitability of the information from the subjects with the documents. For example, the subject said that the syllabus and study guidelines for lab skill learning are already available, while its lesson plans are not, and in fact the subject can show the document, except for the lesson plan, because it has not been prepared.

In addition, researchers also observed the implementation process of the learning and the laboratory conditions. The observations were carried out to see the validity of the interview data related to the implementation and the supporting system lab skill learning. Lecturers and students said that the methods used on teaching process are demonstrations and bedside teaching. The subjects said the infrastructure is adequate. All of the information are in accordance with the observations. After all the data were collected, then the data was descriptively analysed. The first step to perform data reduction, was by organizing the data by repeatedly reading them to find the appropriate data and disposing the inappropriate ones. The data obtained through interviews, documentation and observation were classified according to the substance of the research focus which includes the substance of laboratory skill learning to aid labour that needs to be optimized by its planning, implementation, evaluation and supporting system.

Planning lab skill learning in Malang Midwifery Program

The planning made on laboratory skill learning skills technique has not been systematically constructed. It does not describe the goal, system implementation, evaluation, and a clear timetable. The planning focused only on preparation procedures that must be mastered by students. The above concept can be proven by the following explanation. After analysing the data, the description can be seen below:

Table2 Data of lab skill learning planning

NO	PLANNING COMPONENTS	NOTE
1.	Practicum guidelines	Not available
2.	Subject syllabus	Available
3.	Practicum syllabus	Not available
4.	Lesson plan	Some are available
5.	Textbook	Not available
6.	Study guidelines	Available
7.	Checklist	Available
8	**Attendance list of students and lecturers**	Available

Besides that, the other results obtained are: a) the schedule for laboratory activities uses the system of the contract/agreement between the lecturers and the students so that the completion of the program will not be clear, especially when the lecturers have a busy schedule; b) he lending process for laboratory equipment often faces some problems due to the personnel problems; and c) he equipment used are borrowed by both the students and lecturers, so that it can be controlled when some of the equipment are missing.

Based on the data, the documents available are the course syllabus, study guidelines, checklist, lesson plans, schedule and the attendance list. There are no practicum and evaluation guidelines.

Discussion

The implementation of lab skill learning in Malang Midwifery Program

The implementation of laboratory skill learning has not been conducted in a sequential manner, since there is no clear direction yet. Direct implementation on core activities is conducted without proper preparation from lecturers and students. Good teaching should be carried out in line with the capabilities of the student. This concept is not in accordance with the opinion of Dunkin and Biddle [8] who state that learning is a process of managing the organization of interaction of educators and learners with learning resources in a

learning environment. In the implementation of the learning process, a lot of factors should be taken into consideration, including the preparation of the students, lecturers and the methods and media used during the learning process. Besides, based on the interviews and observations, the data obtained are as below:

a. Before the implementation of lab skill learning, the students are asked to learn independently, without any guidance, so that when they have problems it will be difficult to get some guidance.

b. The methods used are demonstrations and bed side teaching, so that the students will have better description about the procedures learned.

c. The lab procedures applied have not prepared students to gain optimal knowledge and skills.

This is in line with the responses given by both lecturers and students, among others are:

"In the implementation of lab learning, lecturers will demonstrate the skill first and then the students practice it one by one, accompanied by the instructors, when the students have trouble, then the lecturer will guide and correct them. Lecturers use bed side teaching method. The equipment used inadequate" (Lecturer F, 27 July 2011)

"One week before practicum, students must prepare to study, then prior to the implementation of a laboratory learning, a review of the material is conducted. One group is represented by one student, after that it is preceded with other students. The method used is demonstrations and bed side teaching. In the process of learning, when the students make mistakes, they are immediately guided and corrected, the next step will be using peer tutoring technique"(Lecturer G, July 27, 2011)

The students said:

"In the beginning of the implementation, the demonstration is conducted by the lecturer then followed by the students, the others do it alone –and when there is a problem, they will ask for help from their friends. The method used is demonstration and bed side teaching"(Student I, August 9, 2011).

Based on the observations made during the process of implementation, the lecturer conducting a review with the student about the matter, then proceeded by lecturer's demonstration, after that the students do the practice and the lecturer observes the process based on the available checklist, when the students forget or make mistakes then they are being corrected by the lecturers. The method used here is in demonstration and bed side teaching.

Evaluation of laboratory skill learning for attending births in Malang Midwifery Program

The evaluation of laboratory skill learning is based on the performance of the students. The approach used is the PAP with study guidelines with a minimum score of each item is 3. The steps for the evaluation followed by the students are not clear enough. It can be seen from the data analysis below:

a. In an evaluation using PAP based on the study guidelines (checklist), the students will fail when they do not reach the passing grade, so that the students will have at least the similar capabilities.

b. No evaluation guidelines

c. The evaluation system is not clear yet, so that every lecturer has various system to evaluate

d. The remedial system has already exists, but the implementation varies between lecturers.

This is consistent with the response of the subjects, among others are:

"There are no guidelines for evaluation. The evaluation is done in conjunction with the laboratory practice. The guidance is in the form of a checklist. Time to repeat the process is not clear. No remedial system". (Lecturer E, July 26, 2011)

"The evaluation is done in conjunction with the implementation of the laboratory practice. The guideline is in the form of checklist, evaluation system is not clear due to the no guidelines for the evaluation. No remedial system". (Lecturer F, July 27, 2011)

"For there has been no evaluation guidelines, then the evaluation system is not clear. The evaluation is using a checklist when the students repeating the skills. The students are considered to pass the evaluation when they reach the score of 3 in every step. The remedial system has already existed". (Lecturer G, July 27, 2011)

The description of the skill laboratory learning supporting system in Malang Midwifery Program

The supporting system gives more emphasis on facilities, infrastructure and the environment in the laboratory. Lab skill learning does not prepare optimally for raw input; it can be seen from the lack of pre-test for the students who will participate in the laboratory learning. As for the instrumental input and environmental input, they are already sufficient.

The condition of the supporting system is found based on the interviews, observation and documents as follows:
- a. The layout of the laboratory that was designed similar with the practice field condition.
- b. The infrastructure to support the learning is already good enough.
- c. The available media is good enough.
- d. The implementation of the curriculum is appropriate for lab learning.
- e. Various quality of lecturers and its number are not balanced by the number of students.
- f. The working load of lecturers is high
- g. The number of equipment is inadequate
- h. The lack of specialized personnel who handle the laboratory that interfere the process of borrowing and returning equipment.

This is line with the statement from subject-A who stated that:
"The Midwifery Diploma curriculum used at this time is already suitable with lab learning implementation for each course. If we expect good quality in providing appropriate guidance and quality, then all of them must be supported with facilities and adequate laboratory infrastructure. So far, the quality of the instructor in carrying out lab skills is good enough. Why it cannot be said to be good/very good? Some things need to be taken into consideration: each supervisor has a very high workload that takes time and energy. Too many programs bring impacts on the primary task of the lecturer. The equipment is still very limited in the lab (not suitable with the ratio). From the description above, it can be assessed the quantity of instructors in each lab which is still not as expected. Laboratory environment, lab layout and its atmosphere are conducive". (Informant A, July 18, 2011).

In addition, according to the data of the existing documents, among others are: based on the data from Midwifery Study Program of Malang, there 24 lecturers who must guide 297 students. According to the inventory data, the number of laboratory equipment and the students' ratio is not sufficient. Based on the observations, the researchers found that the average width of laboratory room is around 70 square meters, with 4 beds facility, and the distance between the beds is 1 meter with curtains as partition.

The strategy to optimize laboratory skill learning
The efforts to optimize the learning are by using policy analysis approach, they are the empirical and normative approaches. This research will try to compose strategies to optimize it by doing a SWOT analysis in order to find outfits strengths, weaknesses, opportunities and threats. Based on these findings the problems that occur will be discovered and we will able to find the solution. The strategies can be used as a reference material to improve the learning process, so that the goal of improving student competence can be achieved.

The results of the SWOT analysis for laboratory skill learning in Midwifery Study Program Health Polytechnic of Malang are:

Strengths:
- a. 2002 DIII midwifery curriculum, the competencies of the Indonesian Midwife Education Center Ministry of Health, GBPP Midwifery Diploma Curriculum.
- b. The availability of study guidelines, checklist of skills and the attendance list of lecturers and the students.
- c. The process for borrowing the equipment has been carried out by the students and the lecturers guide them, so the equipment can be controlled.
- d. The methods used in the learning process are demonstrations and bed side teaching
- e. The evaluation is using PAP-based checklist
- f. There is a laboratory with a layout
- g. The availability of infrastructure that supports learning
- h. The media available is in good condition.
- i. The availability of competent instructor.

Weaknesses:
- a. No practicum guidelines and evaluation.
- b. Most of the lecturers have not made practicum syllabus for lab skill learning, lesson plan (SAP) and specific material for laboratory skill learning
- c. The lab skill learning schedule is made based the agreement with the lecturer which makes it unclear, added with the lecturers' busy schedule.
- d. The lending process for laboratory equipment often becomes a problem due to the personnel in charge is still having other duties.

e. Some instructors tend to ask the students to do a self-learning when the students make mistakes; it makes the lab learning process incomplete.
f. The procedure of practicum does not prepare students to enrich their knowledge and skills optimally.
g. The lack of remedial system
h. No pretest, so the ability of students who will join lab skill learning cannot be predicted.
i. The number of credits in the curriculum is not enough to create competent students.
j. The diverse quality lecturers and the unbalanced number between the number of lecturers and the number of students.
k. The number of equipment to aid delivery is not sufficient
l. The laboratory temperature is quite hot.
m. The lack of specialized personnel who handle laboratory that interfere with the process of borrowing and returning tools

Chance/opportunity/dare to change, they are:
a. Making practicum guidelines and evaluation
b. Lab skill learning mentor must prepare the syllabus for lab skill practicum.
c. The lecturers must make lesson plan for every meeting in advance.
d. The schedule should be made at the beginning of the semester.
e. No lectures are conducted during practicum time.
f. The laboratory must be handled by specialized person.
g. The implementation of lab skill learning system must be improved
h. A pretest must be conducted before the learning process.
i. A standard remedial system must be constructed
j. Ask for some findings to complete the laboratory and for laboratory improvement, library books, internet and infrastructure.
k. Adding the number of lecturers with midwife background.
l. The implementation of lab skill learning must not depend on the number of credits in curriculum, but can be added outside the lecture hours.

Threats/barriers/challenges:
a. The number of Diploma of Midwifery education is Malang is increases, so the competition to find the target practice skills on the field of practice is increasingly harder.
b. Long bureaucracy for proposal funding and cross-subsidies to other departments, such as to nursing and nutrition department.
c. The lack of personal administration.
d. The practice field is limited, the number of lecturers and administration staff is also limited,

Strategies to optimize lab skill learning
Based on the findings and the analysis, the writers describe strategies to optimize of laboratory skill learning which includes planning, implementation, evaluation and supporting system. They are as follows:

Planning lab skill learning
In accordance with the opinion of William H. Newman stated that planning is determining what will be done. Planning consists of extensive and explanations of objectives, policy determination, the determination of the program, determining methods and procedures and determination of activities based on the daily schedule [8]. A planning must be systematic, which begins with the manufacture of lab syllabus. The syllabus is a set of plans and arrangements on learning activities, classroom management and assessment of learning outcomes [8]. A Syllabus answers what components will develop competencies in students, how to develop it and how to figure out if the competence have been mastered by the students. It can be concluded that the planning needs to prepare:
1. A Practicum Guidelines which contains (a) Introduction of the basic theory that contains practicum activities, (b) The purpose of practicum that includes competencies that must be mastered by the student, (c) Preparation of equipment and materials to be used in practicum activities, (d) Steps / procedure for the skills, (e) practicum procedure that should be followed by the students, (f) Practicum evaluation.
2. Practicum syllabus
3. Practicum Implementation Plan
4. Schedule for practicum learning activities
   Evaluation Guidelines which contain of: (a) Guidelines for implementation, (b) Guidelines for assessment, (c) evaluation instruments

5. Laboratory Instructional Materials
6. Lab study guide
7. Checklist
8. The attendance list of lecturers and students

Implementation of lab skill learning

The starting of a learning process, not only needs a careful planning, but also a good communication and a support from the development of a strategy to guide the students. The management of learning is a process of the interaction of educators and learners with learning resources in a learning environment. According to Dunkin and Biddle [8] in the process of learning, there is interaction of four variables, namely: 1) The signature variable, the educator; 2) the context variable, the learners; 3) the process variables, and 4) the product variable. The implementation should be in a sequence, the procedure and process that will be followed by the students must be clear. Prerequisites or capability that must be mastered by the students must be gradually acquired. The following chart (Figure 2) will illustrate the procedure of laboratory skill learning:
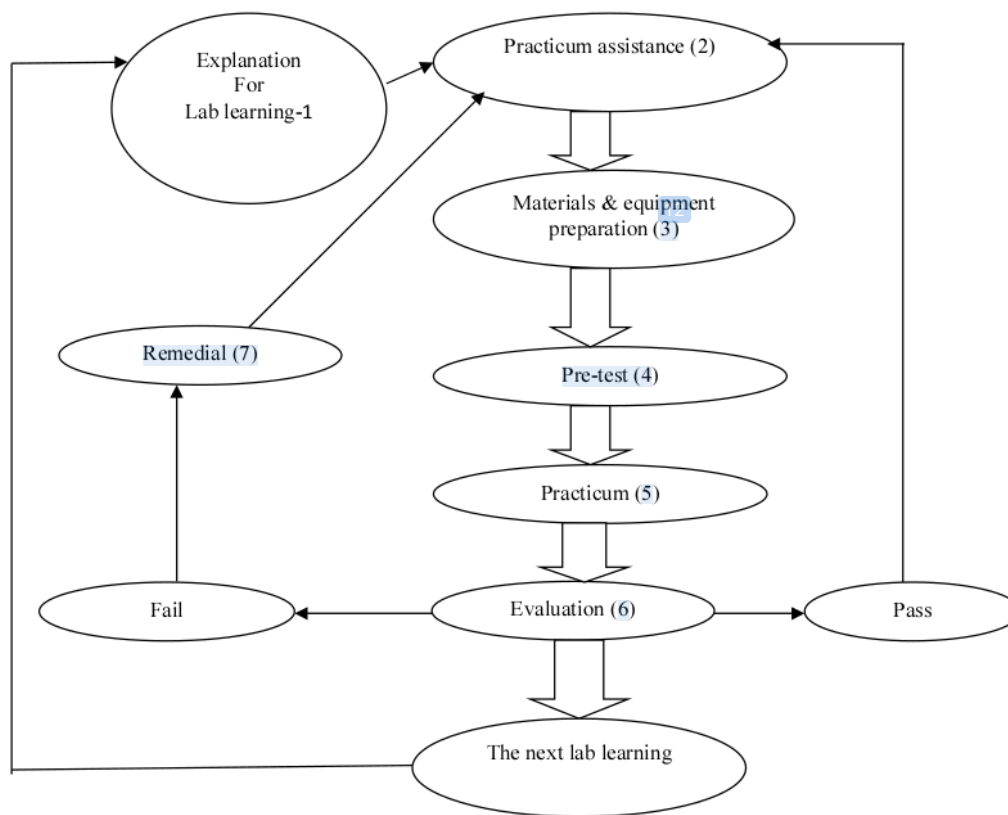

Figure 3 The procedure of practicum implementation for students

Evaluation for laboratory skill learning for attending births

The evaluation was conducted based on the performance. The evaluation aims to assess the achievement of lab learning objectives results that have been done, and the evaluation of the ability of the learners. The implementation should be clear, and then it needs to be supported with evaluation guidelines, guidelines for assessment and evaluation instruments.

The guidelines include:

Students have joined lab learning activities

1. The evaluation was conducted according to the agreement between the instructor and the student
2. Students must have remedial test when they fail the test
3. Remedial opportunity is given twice
4. The implementation of remedial test is performed 1-3 days after the lab evaluation
5. When the remedial test has been conducted twice and the student has not passed, then she will join the remedial week

Assessment guidelines use:
1. PAP assessment approach
2. The passing grade is 75 with the critical steps must earn a score of at least 3
3. The scores are obtained using the formula below:

$$\text{Score} = \frac{\text{Obtained score}}{\text{Maximum score}} \times 100$$

Evaluation Instrument
Observation using a checklist is used to evaluate the ability of the students

The supporting factors of laboratory skill learning to attend births
The supporting factors include:
a. Raw Input: Students need to have a pretest to prepare students prior knowledge.
b. Instrumental input available must be proportional, it should consider the number of students there (the implementation of laboratory learning is after the class hours, and the ratio for lecturers and students is 1:7, ratio for laboratory equipment and students is 1:7, and there must be a personnel to handle the lab)
c. Environmental Input must be conducive; it includes the environment inside and outside the laboratory. It can be created by designing the laboratory as comfortable as possible, it should be quiet and conducive, there is an air conditioner in the room, no disturbing activities outside the laboratory, sufficient room ventilation, the storage is dry, and the equipment must be checked regularly.

CONCLUSION

1. The substance of learning that needs to be optimized in lab skill learning includes
   A. The planning for laboratory skill learning for attending birth which has not been constructed systematically yet, since it has not described the aim of the lesson, the system implementation, the evaluation, and a clear timetable. The planning only focuses on preparation procedures that must be performed by students.
   B. Implementation of laboratory skill learning skills for attending births is not in a sequential order because there is no clear procedure. The implementation goes directly on core activities without proper preparation from the lecturers, students, and the evaluation process.
   C. The evaluation system is based on the students' performance.
   D. The supporting systems for laboratory skill learning are not optimally prepared for the raw inputs; it seems that there is no pretest or good preparation for students who will participate in the lab learning.

2. The strategy for optimizing lab skill learning Malang Midwifery Study Program begins with a SWOT analysis of the implementation of lab skill learning. From the analysis of the findings, the major problems that can be identified are the substance planning, implementation, evaluation and supporting system. The core for the strategies are:
   A. The Planning should be made systematically; it must contain a description of the purpose, the determination of the program, determining methods and procedures based on a predetermined schedule.
   B. The laboratory skill learning must be conducted in a sequential order, the process and the procedure followed by the students must be clear based on the guidelines that have been made previously.
   C. The evaluation was conducted based on the student performance to assess the achievement of learning objectives, so that its implementation must be supported by clear guidelines for evaluation, assessment guidelines and evaluation instruments.
   D. Supporting system is a factor that greatly affects the learning process, so the prior knowledge of the raw inputs need to be measured first, instrumental input must be proportional and there should be conducive environmental inputs.

SUGGESTION

a. For the practitioner, the results can be used as a reference to evaluate and improve lab skill learning
b. For further research, to conduct research on the test result research including its effectiveness, efficiency and flexibility of optimizing lab skill learning.

REFERENCES

1. Kamdi, Waras. 2007. Pengembangan Silabus dan Penilaian Pembelajaran pada Pendidikan Kebidanan. Makalah disajikan pada seminar *Lokakarya Pengembangan Kurikulum dan Penilaian Pembelajaran Program Diploma IV Bidan Pendidik*, Program Studi Kebidanan Poltekkes malang Tanggal 14 – 15 Pebruari 2007. Malang: Program Studi Kebidanan, Politeknik Kesehatan Malang.

2. Mulyasa, E. 2002. *Kurikulum Berbasis Kompetensi, Konsep, Karakteristik dan Implementasi.* Bandung: Rosda Karya.

3. Anggoro Bambang. Dkk. 2005. *Prosedur Operasi Standar (SOP; Standar Operating Procedures) Laboratorium Program Strata-1.* Departemen Pendidikan Nasional.

4. Djanali, 2005. *Kurikulum Program Studi.* Jakarta: Direktorat Jeneral Pendidikan Tinggi.

5. Zuriah Nurul. 2006. *Metodologi Penelitian Sosial Dan Pendidikan.* Jakarta: BumiAksara

6. Miles, M.B & Huberman, A.M. 1994. *Qualitative Data Analysis. Second Edition.* California: SAGE Publications

7. Sam M. Chan, 2005. *Analisis SWOT: Kebijakan Pendidikan Era Otonomi Daerah.* Jakarya: PT Raja Grafindo Persada.

8. Abdul Majid, 2007. *Perencanaan Pembelajaran.* Bandung:. PT Remaja Rosda Karya.

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