# Practical Laboratory Learning Model with Simple Phantoms About Changing Behavior in ANC and INC Practices for Midwifery Students

**Rijanto[1], Tatarini Ika Pipitcahyani[1]**

[1]*Lecturer, Jurusan Kebidanan, Politeknik Kesehatan Kementerian Kesehatan Surabaya, Indonesia*

## Abstract

***Introduction:*** The Midwifery Academy is a study program that implements learning strategies using lecture, discussion and simulation methods, with details of 40% theory meeting and 60% for practice. A percentage of 60% of clinical practice is carried out in the laboratory and in the field. Before being applied directly to clients, students learn practical skills in the laboratory. Practical laboratory learning is carried out using the simulation method. This study aims to determine the effect of a simple shadow practice learning model on changes in the behavior of ANC and INC practices**.** ***Methods:*** Is a type of development research that aims to produce new products in the learning model. The population in this study were students of the Sutomo Midwifery Study Program and Bangkalan Midwifery Study Program as many as 407 students. The sample is as many as 225 students. Research variable The research variables used the SIMPLE PHANTOM MODEL and the ability of laboratory PRACTICES ANC and INC. The data collection instruments were questionnaires, in-depth interview guidelines for test questions, tape recorder and observation sheets. The data analysis technique used the Normality Test and the Wilcoxon Test with a significance level of $\alpha<0.05$. ***Results:*** The results showed that there was a difference in values between pre and post learning using phanthom, namely p 0.043 <0.05. The results of the pre and post test learning using the SOP Module obtained results p 0.006 <0.05. The results of the analysis between pre and post learning practicum with panthom media obtained results of p 0.000 <0.05. ***Conclusions:*** The conclusion of the research results is that there is an effect of practical learning with simple panthom tools on the practical ability of ANC and INC for midwifery students.

***Keywords:*** *Behavior, Pregnancy, Childbirth, Phantom*

## Introduction

Learning in college besides demanding academic skills (*hard skills*), students are also required to be able to improve their personal abilities *(soft skills)* so that students are ready to enter the real world of work after completing studies. This means providing opportunities for students to complete the entire learning domain *(cognitive, affective, and psychomotor)*, and to develop all of their intelligence (emotional, spiritual, social, etc.). The more rapid development of the times and technology in the current era, demanding more critical community response to these advances, including about the health of their bodies. One way to empower students' potential is to provide laboratory. The laboratory is needed as a means of increasing knowledge and student skills in improving abilities[1,2].

Many factors influence the learning process, both internal and external factors external factors. The main task of the lecturer is to condition the environment in order support behavior change for students,[2] Learning Activitiesdirected to empower all the potential possessed by students. The hopeso that students have competence through efforts to grow and developattitude,

**Corresponding Author:**
**Rijanto,**
Lecturer, Jurusan Kesehatan, Politeknik Kesehatan Kementerian Kesehatan Surabaya, Indonesia,
E-mail: rijantoryan05@gmail.com,
Telp.(031)5049649, 5027407 fax (031) 5049649

knowledge / knowledge, skills / skills. Quality that must be realizedamong others, creativity, independence, cooperation, solidarity, leadership, empathy, tolerance and the life skills of students in order to shape their character and improve civilization and national dignity[2,3,4].

One way to empower the potential of students is to provide laboratory. The laboratory is needed as a means of increasing knowledge and midwifery student skills in ANC and INC practicum learning activities. Laboratory is one of the learning infrastructure that can be used as a place for train participants in understanding concepts and improve deep skills doing scientific experiments[2,5.] One ofthe way to overcome obstacles in laboratory learning is develop learning media in Use. Preparation of lesson plans well using development instructional system procedures and giving opportunity to solve problems professionally through research operational[6,7,8].

## Materials and Methods

Is a type of development research that aims to produce new products in the learning model[9]. The population in this study were students of the Sutomo Midwifery Study Program and Bangkalan Midwifery Study Program as many as 407 students. The sample is as many as 225 students. Research variable The research variables used the Simple Phantom Model and the ability of laboratory Practices ANC and INC. The data collection instruments were questionnaires, in-depth interview guidelines for test questions, tape recorder and observation sheets. The data analysis technique used the Normality Test and the Wilcoxon Test with a significance level of $\alpha<0.05$[10].

## Results

**Development of practicum learning in the laboratory**.

The next stage in operational research is to develop a problem-solving plan and draw conclusions and recommend solutions. The research report must be presented to the front program manager so that they can recommend as an alternative to fix the problem. There are several inputs regarding the development of problem-solving plans for improvement of practicum learning, including designing learning properly, modifying practicum tools, and realizing practicum guides.

Improvements to the media, namely modifying the practicum tools and making manuals, are the most operational developments chosen based on the analysis. Practical manuals that comply with standards will have aspects related to the formulation of clear learning objectives (methods,learning experience, materials, tools and facilities and characteristics of students) While the improvement of learning design, the basis for its development uses a learning development model procedure model instructional system development.

Learning design as a system and considering learning is a systematic process to help someone learn an ability through the design, implementation, and evaluation stages in the context of teaching and learning activities.

Practical learning design steps in this study include the formulation of objectives or competencies along with their achievement indicators that must meet four criteria, namely using operational terms, in the form of learning outcomes and behavior. The next step is the development of an assessment tool, which is to determine the type of test or instrument that will be used to assess whether the objectives are achieved or to plan the item questions to assess each goal. The third step determines learning activities, formulating all possible learning activities to achieve goals, sorting out learning activities that do not need to be taken and those that will be taken. The fourth step is the development of an activity program. The last is the implementation of learning by holding a pre-test, delivering the subject matter, conducting an evaluation or post test and making improvements. Referring to the model above, the implementation of ANC and INC practicum learning development, the learning development model offered includes making syllabus and lesson plans as well as adjustments to manuals, simple panthom models, SOPs.

**Assessment Result Data from the ANC and INC Learning Process**

**Table 1. Assessment Result Data from the ANC and INC Learning Process**

| No. | Group | N | Mean Rank | Asymp. Sig. (2-tailed) |
|---|---|---|---|---|
| 1. | Mid Semester Evaluation ANC | 106 | 54.18 | 0951 |
| | Final Semester Evaluation ANC | 106 | 46.37 | |
| 2. | Mid Semester Evaluation INC | 106 | 53.98 | 0.000 |
| | Final Semester Evaluation INC | 106 | 40.67 | |

Table 1, the results of the study based on the results of the Wilcoxon statistical analysis of the ANC pre and post test results showed that there was no significant difference between the Mid Semester Evaluation and Final Semester Evaluation results, namely p = 0.951> 0.05). While the results of the pre and post test INC in the Mid Semester Evaluation and Final Semester Evaluation groups obtained results of p = 0.000 <0.05.

**Data on Pre-Test and Post-Test Results for Midwifery Student Practicum Learning in Sutomo and Bangkalan**

**Table 2 Data on Pre-Test and Post-Test Results for Midwifery Student Practicum Learning in Sutomo and Bangkalan**

| Group | N | Mean Rank | Asymp. Sig. (2-tailed) |
|---|---|---|---|
| Pre test | 149 | 80.31 | 0.043 |
| Post Test | 149 | 79.13 | |

Table 2, the results of the data analysis of the pre and post test values of the Module Implementation Practicum and SOPs, the results obtained were p = 0.043 <0.05.

**Data Results of Pre Test and Post Test for Practicum Learning Using Modules and SOP**.

**Table 3. Results of Pre Test and Post Test for Practicum Learning Using Modules and SOP.**

| Group | Average | | Results |
|---|---|---|---|
| | Pre Test | Post Test | |
| Sutomo | 77.39 | 80.82 | 0.006 |
| Bangkalan | 69.12 | 60.66 | |

Table 3 is the result of data analysis of the pre-test and post-test values of the laboratory learning process using Modules and SOPs, between Sutomo Midwifery and Bangkalan Midwifery students the results obtained are p = 0.006 <0.05.

Data is the result of the statistical analysis of the values of the Pre Test and Post Test of practicum learning using the Panthom

**Table 4 is the result of the statistical analysis of the values of the Pre Test and Post Test of practicum learning using the Panthom.**

| Test Phantom | N | Mean | P |
|---|---|---|---|
| Pre | 225 | 65,7200 | 0,000 |
| Post | 225 | 76,7511 | |

Table 4 is the result of the statistical analysis of the values of the Pre Test and Post Test of practicum learning using the Panthom. The results obtained are p = 0.000 <0.05. So it can be concluded, there are significant differences in the learning process using simple phantoms.

## Discussion

**For The Final Results In This Study, There Is A Significant Influence In Learning Phantom**.

The implementation of the learning process in the Midwifery Department of the Health Polytechnic of the Ministry of Health, Surabaya, the method used is the lecture method, practicum, question and answer both in class and in the laboratory. Assessment of learning outcomes for ANC and INC courses is based on the results of midterm and end-of-semester exams. The results of midterm and end-of-semester test scores are based on theoretical learning and practical learning assessments are carried out through practical exams conducted in the laboratory. The results of the analysis in the study of the midterm test scores and the final semester test scores for the ANC course showed p = 0.369> 0.05. The results of the analysis of the midterm and final exam scores for INC courses obtained p <0.05.p = 0.000. According to Sudjana, 2001 In terms of language, assessment is defined as the process of determining the value of an object. It can be said that the characteristics of the assessment are the existence of the object or program being assessed and the criteria as a basis for comparing the reality between the supposed criteria. Assessment (assessment) is the process of obtaining information about the process and learning outcomes or the achievement of competencies (a series of student abilities) in accordance with the objectives or criteria set by the application of speaking and the use of various assessment tools[8]. Research by Nurul Khotijah, at.al. 2015. describes the process of evaluating good learning, including assessments carried out, among others, responsiveness, target skills, final semester exams and skills tests. Obstacles in practicum learning are the presence of lecturers, limited facilities and infrastructure, student motivation and activity and time allocation. Planning development starts from determining the objectives of competency standards, developing evaluation tools, establishing learning activities, strengthening the learning program[5,11,12]. To improve the learning process in the laboratory, steps are needed to improve the quality of midwifery laboratory practice learning by applying the PDCA (Plan-Do-Check-Act) concept, and for the development of the quality dimensions of laboratory practice learning, in service quality, namely by increasing: reliability, responsiveness. -siveness, assurance, emphaty and tangible[12.14,15].

Based on the objectives of practical learning according to Kartono, 2006, are 1) Describing student learning skills in order to know the strengths and weaknesses in various fields of study or courses taken. 2) Knowing the success of the education and teaching process in schools, namely the extent to which it is effective in changing student behavior towards the expected educational goals. 3) Determine the follow-up of the assessment results, namely to improve and perfect in terms of education and teaching programs and implementation strategies. 4) Provide accountability from the school to related parties[16]. Meanwhile, according to Cartono 2006 the assessment techniques used in schools can be categorized into 2 (two) classes as

follows: 1) Test techniques, which are generally used to assess students' abilities which include knowledge and skills as a result of learning, special talents. and general talent. 2) Non-test techniques, which are generally used to assess other student characteristics such as interests, attitudes and personalities[16,17,18].

Regarding laboratory learning, it has been explained by Amna Emda, 2017 that the laboratory is a place for a group of people to carry out various kinds of research activities (research), observation, training and scientific testing as an approach between theory and practice from various kinds of scientific disciplines. Physically, a laboratory can also refer to a closed room, room or open space[19]. The laboratory must be equipped with various infrastructure for experimental needs. Laboratory as a place for research, research, experimentation, observation, and scientific testing has many functions, namely: 1. Balancing theory and practice of science and unifying theory and practice 2. Providing scientific work skills for researchers, both from among students, students, lecturers, or other researchers. This is because the laboratory not only demands an understanding of the object under study, but also requires someone to carry out experimentation. 3. Provide and cultivate the courage of researchers (consisting of learners, students, students, lecturers and all other scientific practitioners) to seek the nature of scientific truths from a scientific object in the natural and social environment[2,18,20].

## Conclusion

The conclusion of the study shows that the results of the UTS and UAS evaluations of the ANC and INC courses show a significant difference in the assessment of INC courses while there are no significant differences in the ANC course. In the discussion of existing and developed SOP modules in order to obtain the results that students are given modules containing theory or material as well as steps in implementing practicum in accordance with the checklist or SOP of more skilled students.

Modules have been made and tested on students through pre and post tests, about the module there is an influence in learning Phantom so that students find it easier in the learning process. The ANC and INC modules have been created and are accompanied by the creation of a simple assistive model that has been socialized to students for study.

The results of the evaluation that have been carried out on practical tests using simple phantoms obtained significant results, namely there are differences in the implementation of the practice using existing phantoms and simple phantoms. The conclusion is that there is a significant effect in learning using phantoms. . In this case, Phantom learning can change behavior in studying pregnancy and childbirth

**Conflict of Interest:** None

**Source of Support**: Self

**Ethical Clearance:** Ethical permission is approval from the Health Polytechnic Research Ethics Commission of the Ministry of Health of Surabaya, Ethical license as below;

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