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The Role of Skills Lab in Improving the Essential Skills and Motor Compete of Students in Cosmetology Program

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ABSTRACT

A skills lab is a learning method or form of learning that is used to jointly teach psychomotor skills (skills), knowledge, and affective (attitudes) using laboratory facilities. This study aims to examine how the role of the laboratory in assessing student competencies in terms of the profiles of students' mastery of essential skills and motor lab competences. The research method used is quantitative descriptive which describes the distribution of essential skills on the topic of ecology practicum and the level of mastery of essential skills and motor competences in lab students who are prospective make-up/beauty teacher candidates in the Bachelor of Makeup Program - Faculty of Engineering, Surabaya State University. The sample taken in this study was 40 students who had graduated to take a haircut, hair coloring and, hair curling subjects. Furthermore, the data were analyzed quantitatively and descriptively to see the essential skills of the lab and motor competence of the students of the beauty/beauty teacher candidates. Furthermore, the data were analyzed descriptively using a percentage (%) to see the essential lab skills and motor competencies of the beauty teacher prospective students. The results showed that the essential lab skills performed on each hair coloring lab topic varied widely. The ability to observe, count, measure, communicate, interpret data, and conclude is almost always taught on every practicum topic. On the other hand, essential skills such as classifying, looking for time/space relationships, and predicting are generally rarely provided during hair coloring lab work. Lab skills in planning research/experiments, compiling inferences, controlling variables, making hypotheses, and applying are never taught optimally through these practicum activities. The average value of essential lab skills carried out on each hair coloring practicum topic was 39.93%.

Keywords: Component, skill labs, essential skills, motoric competences

1. INTRODUCTION

Lab skills are an important part of a complex educational process and must be integrated into all educational programs that refer to the curriculum, especially the achievement of competencies for students. Laboratory practice (skills lab) is a learning method or form of learning that is used to jointly teach psychomotor skills (skills), knowledge, and affective (attitudes) using laboratory facilities [13]. These three skills (psychomotor, knowledge, and affective) will help students develop competencies in the application of knowledge, skills, attitudes, and values in clinical situations (Chan, 2002). Effective laboratory education can build self-confidence and help achieve competency in students (Lofmark et al, 2012).

Essential skills are also known as key skills, core skills, generic skills, and basic skills. There are essential skills that are specifically related to work, some are relevant to social aspects. Essential skills include skills: communication, teamwork, problem-solving, initiative and enterprise, planning and organizing, self-management, learning skills, and technology skills. Meanwhile, science process skills are the basis of problem-solving in science and the scientific method.

Science process skills are grouped into basic process skills and integrated process skills.

Motor competence plays an important role in aspects of student learning development. A study by Payne and Rink (in Zachopoulou, Tsapakido u, & Derri, 2004) states that developing motor competencies will improve psychological, social, cognitive, and affective development. Herrman, Heim, and Seelig [4] state that motor competence is closely related to health, fitness, and weight stability. Furthermore, the results of this study were confirmed by Zeng, et al [14] which states that motor competence is closely related to various perceived health, fitness, and good cognitive development. Motor skills are described as general traits or individual capacities that underlie the performance of various movement skills. General motor ability is to regulate all movement abilities, namely the ability to move movement and movement skills to be used interchangeably. In the context of motor competence, it is considered a general motor skill. Furthermore, according to Loprinzi, Davis, and Chieh Fu (2015), motor competence is described by the development of children's ability to understand intelligently and respond effectively to the physical demands needed in everyday life. The daily activities for cosmetics students are practicing in the laboratory.

Ottander and Grelsson[5] state that lab activities are a very important part of learning. Lab activities function to link theory/concept and practice, increase student interest or interest, can improve misconceptions, and develop analytical and critical attitudes in students. Therefore, to support the function of these lab activities, the assessment method needs to be improved so that lab activities can take place more effectively. Laboratory activities are activities that involve all activities, creativity, and intellectuality of students.

One of the skills and creativity that students need and must master is the skill of planning an experiment, including the skills to determine tools and materials, determine variables, determine things that need to be observed and recorded, determine work steps, and how to process data to draw temporary conclusions.

The implementation of practicum activities on campus still faces many obstacles. The problems faced and experienced by lecturers in conducting practicum activities include lack of practicum equipment, lack of knowledge and skills of lecturers in managing lab activities, practicum activities or laboratory activities are practically rarely carried out, practicum takes up a lot of time and energy [2][7] and lecturers are also less able to plan experiments, formulate goals, make student worksheets, manage and assess practicum [12], and the practicum that is carried out does not inspire students' thinking processes.

The results of the observations suggest that the lecturers' ability to design practicum is still low. Because of the obstacles faced. Students in the Make-Up Education study program cannot use the lab tools available on campus to the fullest. this condition is quite apprehensive in the effort to develop skills. This means that the students' mastery of essential laboratory skills is still quite low so that it interferes with the development of skills in the student skills practicum process itself. According to Woolnough [7], the form of practicum consists of practicum that is training, practicum that is giving experience, and practicum that is investigative or investigative. These three forms of practicum are important to provide student teacher candidates.

In 1999, the National Research Council published the much-anticipated book "How people learn: brains, thoughts, experiences, and schools" which shows how research on learning is based on theory and experiment can change teaching practice. So, the learning process must also touch aspects of laboratory skills as support for conducting experiments or research). This is as stated by Horgen (1984 in Surya, 2003), that something that emerges from his definition is that behavior as a result of learning is caused by training or experience. This is in line with the opinion of santrok in Ahmad (2015) indicated that behavior should be explained by experiences that can be directly observed and measured. Mc Geoch (1956) in Surya (2003) defines learning " learning is a change performance as a result of practice ". This means that learning brings about changes in performance caused by the training process. In this case, the mastery of essential lab skills can be mastered well by doing exercises and learning experiences.

Starting from the background of the problems above, the authors conducted this research to examine how the role of the laboratory in assessing student competencies in terms of the profiles of mastery of essential skills and motor competences in lab students of prospective make-up/beauty teacher candidates in the Makeup Program at the State University of Surabaya. The results of this study are expected to be used to improve the essential skills and motor competencies of student laboratory.

2. METHODS

This study used quantitative descriptive which describes the distribution of essential skills on practicum topics in the Hair Coloring subject. As well as measuring the level of mastery of students regarding

essential skills and motor competencies of the laboratory oratory. The sample taken in this study was 40 students. This Research is done in the laboratory makeup is on the faculty of Engineering, Universitas Negeri Surabaya.

Data collection uses various techniques that are relevant to the required data, namely: observation and demonstration. In measuring the competency of laboratory motor skills, a written demonstration fiber test was carried out which aims to analyze how much the mastery of the lab motor competence for each student. The technique of taking students as research samples is random. They are given a set of tests, questionnaires, observation sheets, and interviews to assess the competencies of essential laboratory skills, especially in the field of hairdressing. In measuring this competence, both in writing, observation, and demonstration, a sample of 17 people was taken, this is related to the consideration that the research time is quite limited.

The research instruments used in this study were in the form of implementation observation sheets, performance test sheets, and questionnaires to measure students' understanding of mastery of laboratory equipment, materials and Standard Operating Procedures (SOP) that apply to each lab. The research instruments used are: 1) observation sheet, to assess aspects of management of equipment, materials, and student performance in using laboratory facilities and infrastructure; 2) questionnaire sheets containing written questions to reveal students' knowledge and understanding of cosmetic ingredients used in lab oratory and being able to identify and choose what materials or cosmetics to use for the practicum.

3. DISCUSSION

The role of laboratory learning (skills lab) on essential skills: 1) explain the properties of each ingredient or cosmetics they will use according to the practicum; 2) determine how many ingredients or cosmetics they will use according to how much practicum needs; 3) able to apply materials or cosmetics that they will use in the practicum model.

Furthermore, the data were analyzed descriptively using a percentage (%) to see the essential lab skills and motor competencies of the beauty teacher prospective student. The following shows the mapping data for Lab Essential Skills and Student Mastery Level.

Table 1. Mapping Lab Essential Skills and Student Mastery Level

Lab Essential Skills	Practicums Topics						Mastery Rate (%)
	Tool/Material Introduction	Single Application	Hair Toning	Gray Hair	Under-tone	High Light	
Observe	√	√	√	√	√	√	45.35
Calculate	√	-	-	√	√	√	57.25
Measure	√	√	√	√	√	√	52.27
Classify	-	-	-	-	-	-	50.12
search for time / space relationships	-	-	-	-	-	-	25.18
Make a hypothesis	-	-	-	-	-	-	36.45
Planning research / experiments	√	√	√	√	√	√	17.14
Interpret Data	-	-	-	-	-	-	58.6
Constructing Inference	-	-	-	-	-	-	32.17
Predict	√	√	-	√	√	√	48.52
Conclude	-	√	√	√	√	√	48.78
Apply	√	√	√	√	√	√	12.06
Communicate	-	-	-	√	√	√	59.25
Total	**6**	**6**	**5**	**8**	**8**	**8**	**558.96**
Average							**39.9257**

The table above shows that the essential lab skills performed on each practicum topic in hair coloring courses vary widely. The knowledge and skills to be able to observe, count, measure, communicate, interpret data, and conclude are almost always taught in every practicum activity. On the other hand, essential skills such as classifying, looking for time/space relationships, and predicting are generally still rarely provided during hair coloring lab work. Lab skills in planning research/experiments, compiling inferences, controlling variables, making hypotheses, and applying are never taught optimally through these practicum activities. The average value of essential lab skills performed on each hair coloring lab topic was 39.93%.

Table 2. Mastery of Competencies to Prepare Materials and Tools

Sub Competence	The mastery (%)
Choosing cosmetic ingredients according to the plan and purpose of the practice to be carried out	74.86
Recognize the names, characteristics, and quantities of each cosmetic ingredient according to the needs to be used for practicum	68.98
Arranging cosmetic materials in a neat and complete place, according to the practicum plan to be carried out	72.56
Identify, select and prepare tools according to the number of needs and a practicum plan that will be carried out	62.89
Arranging the tools neatly, in a complete position, and according to the practice plan to be carried out	78.96
Average	**71.65**

Table 3. Mastery of Competencies to Calibrate and Maintain Lab Equipment

Sub Competence	The mastery (%)
Carry out procedures for checking the condition of the tools to be used for the purpose of seeing the feasibility and safety of the tools to be used before the practicum is carried out	75,23
Using tools by paying attention to laboratory K3 aspects	65,35
Clean the tools after completing the practicum	73,15
Return the tools to the storage area neatly and according to the SOP	72,54
Average	**71.57**

Table 4. Mastery of Competency in Operating Tools in Single Application practice

Sub Competence	The mastery (%)
Able to explain the work procedures of tools by work operational standards (SOP)	70.35
Skilled in using tools with appropriate and correct techniques by standard operating procedures (SOP)	68.65
Average	**69.5**

Table 5. Operating Competence Tool In practice Hair Toning

Sub Competence	The mastery (%)
Able to explain the name, number, and work procedure of each tool used by work operational standards (SOP)	75.24
Skilled in using tools with the right position, and by standard operating procedures (SOP)	70.23
Explain how to maintain each tool used in practice	71.21
Average	**72.23**

Table 6. Mastery of Competency in Operating Tools in Gray Hair Practice

Sub Competence	Mastery Rate (%)
Able to explain the name, number and work procedure of each tool used following work operational standards (SOP)	75.21
Skilled in using tools with the right position by standard operating procedures (SOP)	65.78
Explain how to maintain each tool used in practice	76.56
Average	**72.52**

Table 7. Mastery of Competency in Operating Tools in undertone color practice

Sub Competence	Mastery Rate (%)
Choose what tools will be used for the undertone practice	74.56
Understand the work procedures of tools by work operational standards (SOP	78.45
Skilled in using tools with the right position and by standard operating procedures (SOP)	71.12
Clean the appliance after finishing work	75.34
Average	**74.87**

Table 8. Operates a mastery of competence in practice the high light

Sub Competence	Mastery Rate (%)
Choosing what tools will be used for high light practice	76.34
Understand the work procedures of tools in accordance with work operational standards (SOP	71.12
Skilled in using tools with the right position and in accordance with standard operating procedures (SOP	69.14
Clean the appliance after finishing work	76.23
Average	**73.21**

Table 9. Mastery of Competence for Recording and Processing Data

Sub Competence	Mastery Rate (%)
Record and store data	56.21
Perform laboratory computing	45.34
Displays data in the form of tables, charts and graphs	46.45
Interpret data in the form of tables, charts and graphs	38.12
Maintain the accuracy and confidentiality of data	54.12
Average	**48.05**

Table 10. Mastery of Competence for Safe Work by Occupational Health and Safety Procedures in the Lab

Sub Competence	Mastery Rate (%)
Preparation to do work	65.34
Perform healthy and safe work in the laboratory	72.34
Clean tools and materials after finishing work	74.35
Average	**70.68**

It is known that lab essential skills on each topic in practice hair coloring varies widely. The ability to observe, count, measure, find time relationships, plan research, control variables, predict, conclude, apply, and communicate is almost always taught. On the other hand, essential lab skills such as classifying, looking for relationships and time, making hypotheses, controlling variables, interpreting data, and compiling inferences are still rarely or never given during practicum in hair coloring subjects. Based on the table, it also appears that on all the topics taught in the hair coloring course no one has taught all the essential skills of the lab. On some topics, only certain lab skills are taught. On one topic, usually only 4-6 lab essential skills are taught out of the 14 abstraction skills. Based on these conditions, it can be seen that why the level of mastery of essential lab skills for undergraduate study program students of make-up education in hair coloring courses is still low is because learning essential lab skills is still lacking. The problem of laboratory activities according to Rustaman [7] states that the implementation of practicum activities in the field still faces several obstacles, these problems are due to the lack of infrastructure advice in the laboratory, lack of understanding and skills to manage activities in the laboratory, practicum activities or laboratory activities. practically it is rarely carried out, or practicum takes up a lot of time and energy [2]. In addition to these conditions, it is possible that the practicum carried out by faucets awakens students' thinking processes.

Therefore, to overcome the low essential skills of students in this hair coloring course, it is necessary to carry out various programs to improve student competence, especially in laboratory activities. Efforts that can be made include providing a special provisioning program on essential lab skills to students. Besides, it is necessary to make efforts to use a learning model that can stimulate student lab skills, both cognitive, affective, and psychomotor. Through the practice of project-based hair coloring, students are provided with the essential skills debriefing program, so that students are expected to have adequate essential lab skills to support their future profession as vocational teachers in vocational high schools.

To determine the competence of motor skills possessed by students, a written test was conducted and demonstrations were conducted. Both of these are also carried out to analyze to what extent each student's competence is mastered.

In the competency of preparing tools and materials according to the practice plan, the sub-competencies that are most easily mastered by students are identifying, selecting, and preparing tools according to the number of needs and the practice plan to be carried out by 62.89%. The highest sub competency is the ability to arrange tools neatly, in a complete position, and according to the practice plan that will be carried out at 78.96.

In the sub-competency of the Competence of Calibrating and Maintaining Lab Equipment, the best mastery level is owned by cleaning the tools after completing the practicum which is 75.23%, while the lowest score is using tools with attention to laboratory K3 aspects of 65.35%.

The level of student mastery in the sub competency mastery of the competence to calibrate and maintain equipment, the highest percentage is owned by the competence to clean the tool after practice and Sub Competency Mastery Level (%) Perform procedures to check the condition of the tools to be used to see the feasibility and safety of the tools to be used before practicum was done at 75.23%. mastery of competence to operate tools on each topic carried out in hair coloring courses, namely every single application controlled by 69.5% of students, toning practice was controlled by 72.23% of students, the practice of gray hair was controlled by 72.52% of students, the material undertone was controlled by 74.87% of students, and mastery of the competence to operate tools on high light material was controlled by 73.21% of students.

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The level of mastery of the sub competency of recording and storing data had the highest percentage of 56.21%, the lowest was interpreting data in the form of tables, diagrams, and graphs of 38.12. Whereas for the sub-competency of the competence of mastery of safe work competencies according to occupational health and safety procedures in the lab the highest score was cleaning tools and materials after completing work 74.35.

If we look at some of the sub-competencies, the high percentage of students in the sub-competence to clean tools is due to their habit of cleaning up lab equipment after use, even when in other courses. This habit trains them to be disciplined in caring for the tools used. This is in line with the opinion of Carrol and Feltam (2007), students will show better performance if given a longer time to practice research skills and lab skills which are key skills.

4. CONCLUSION

Essential lab skills performed on each hair coloring practicum topic varied greatly with the average score of essential lab skills performed on each hair coloring lab topic of 39.93%. All nine motor competencies of laboratory skills studied show that on average 69.36% of students are mastered. This means that most of the students are still not maximally mastering laboratory motor skills.

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