THE EFFECTIVENESS OF PRACTICUM GUIDES IN IMPROVING STUDENT COMPETENCE

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ABSTRACT

This study aims to test the effectiveness of the application of practical guidelines. This research method uses an experimental method with variables learning outcomes of theory and practice in the advanced bread practicum course with the material of Taiwanese bread. The instruments used are objective tests and practical discussions. The results of the effectiveness test on knowledge with the application of practicum guides can increase student knowledge by 47% with an average value of 77 in understanding the theory of Taiwanese bread practice with the results count = 7.303 with ttable (0.05;29) = 1.69, so ttable < tcount. The effects test results in practice using the practicum guide reached 100% with an average value of 88.5 with the results of tcount = 9.441 at ttable(0.05;29) = 1.69, so ttable < tcount. Results Based on the results obtained, it can be interpreted that there is an increase in knowledge and practice of Taiwanese bread material after using the practicum guide. It can be said that the practical guide is effective in increasing student competence both in theory and practice.

Keywords: Effectiveness, Practical Guide, Student Competence

I. INTRODUCTION

The laboratory functions as a bridge between theory and practice were direct and practical learning experiences in the laboratory will later become students' provision for real work. By Government Regulation Number 5 of 1990 article 27, a laboratory supports majors in specific science and technology learning according to the study program in question. The processing laboratory plays an essential role in practicum learning because it functions as a place for students to develop essential skills, carry out practical activities of various types of products, make product modifications, create innovative products through research to develop and improve student creativity in carrying out practical learning so that it becomes one of the student independence factors in learning and can be used as a vehicle for learning how to learn.

Practical learning tends to be classical, where students practice following the direction and supervision given by the lecturer and immediately practice based on working papers that have been corrected by previous lecturers and have not provided opportunities for students to learn critically, creatively, innovatively and solve problems and use digital-assisted learning aids in practical lectures, it has not been applied consistently and optimally.

The integration of technology for the development of learning programs, according to[1], is the need to plan lessons that will motivate students to learn. The utilization of learning technology facilitates efforts to increase human resources in improving performance, and video is one of the effective media that can be applied in practical learning [2]. The results of the study [3]stated that the use of video in making sweet bread was effective in increasing the ability to make bread

The application of practicum guides in the form of videos is expected to be effective in increasing student competence both in theory and practice because it provides an overview of the implementation of the Taiwan bakery practicum, so it is expected to be able to expedite the practicum process in a short time, with the practice stages becoming more regular, minimizing practical failures and more efficient use of materials and train students to be more independent in practice.
II. METHOD

This research method is experimental research. The population in this study was students of the UNJ culinary program, with a sample of students taking advanced bread courses. The data collection process was carried out by giving pre-test and post-test to see the increase in knowledge and practicum assessment sheets to see the increase in students' practical competence.

In this study, the validity test uses content validity which is carried out through expert judgment. Besides, reliability tests are carried out because it is crucial in determining whether the test has presented a suitable measurement. The essential thing in the consistency or reliability of the score is the test takers' decision-making [4]. The reliability test was carried out by using the research instrument twice (test-retest reliability). Experts involved in the validity test are experts in the field of research and measurement methods, and educational technology.

The data that has been obtained will be analyzed quantitatively using statistical data analysis Paired sample t-test (paired t-test). The formula used is [5]:

\[ t = \frac{\overline{X}_d - \mu_0}{s_d/\sqrt{n}} \]

\[ \overline{X}_d = \frac{\sum D}{n} \]

\[ s_d = \sqrt{\frac{1}{n-1}\left(\sum D^2 - \frac{(\sum D)^2}{n}\right)} \]

and:

Information:

D = difference \( x_1 \) and \( x_2 \) \((x_1-x_2)\)

n = total sample

X bar = average

Sd = Standard deviation of d

III. RESULT AND DISCUSSION

Result

The results of the implementation of the practicum guide are carried out by taking pre-test and post-test data on student knowledge and skills taken from practicum. For the results of the effectiveness of knowledge obtained an average pre-test score of 60 with 33% completeness while the average post-test score of 77 with the completeness of 80% so that there is an increase of 47%. The increase in student knowledge can be seen in the graph below:

![Recapitulation of Knowledge Improvement Results](image)

Figure 1. Recapitulation of Knowledge Improvement Results
The effectiveness value using the T-test showed that $t_{count} = 7.234$ with $t_{table}(0.05;8) = 1.86$, so $t_{table} < t_{count}$, which means that there is an increase in students' knowledge of Taiwanese bread material after using the practicum guide (Post-test) significantly compared before using the practicum guide (Pre-test). Can be seen in the table.

### Table 1. Descriptive Knowledge of the Use of Practical Guides

<table>
<thead>
<tr>
<th>Pair</th>
<th>FGPOST - FGPRE</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>FGPOST - FGPRE</td>
<td>17.2666</td>
<td>12.950</td>
<td>66</td>
<td>2.36446</td>
<td>12.4308 - 22.10252</td>
<td>7.30</td>
<td>29</td>
</tr>
</tbody>
</table>

The application of practicum guides in videos on Taiwanese bakery practices is carried out by taking data pre-test and post-test Taiwan bakery practicum. The percentage of students' practice completeness before using the practicum guide was 66.7%, with an average score of 81.6. However, after using the practicum guide, it could reach 100% with an average score of 88.5, with an increase of 33.3%. The results of improving student skills can be seen in the graph below:

![Recapitulation of Practice Improvement Results](image)

To see the value of effectiveness using the T-test, the results obtained $t_{count} = 9.441$ with $t_{table}(0.05;29) = 1.69$, so $t_{table} < t_{count}$, which means that there is an increase in students' skills in Taiwanese bread practice after using the practicum guide (Post-test). Significantly compared before using the practicum guide (Pre-test). Can be seen in the table.

### Table 2. Descriptive Knowledge of the Use of Practicum Guide

<table>
<thead>
<tr>
<th>Pair</th>
<th>FGPOST - FGPRE</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>FGPOST - FGPRE</td>
<td>6.9000</td>
<td>4.00302</td>
<td>.73085</td>
<td>5.4052 - 8.39475</td>
<td>9.44</td>
<td>2</td>
<td>.000</td>
</tr>
</tbody>
</table>

IV. DISCUSSION

The practicum guide is one of the teaching materials used for students to carry out practicum [6]. The application of the practical guide is carried out to make students more active and help develop student process skills through the activities contained in the practicum guide that has been developed [7]. The results of the application of practicum guides in the form of videos in the advanced bread subject of Taiwanese bread material have been proven to increase knowledge and practical results, this is because the practicum guide is a facility needed to facilitate learning activities in the laboratory so that learning objectives are achieved [8]. The practicum guide applied is a practicum guide in the form of videos. The use of videos in learning can make students repeat learning quickly to continue to hone their competencies. Students can also study independently.
Without being limited to classrooms, they can continue to hone their understanding by watching the practicum guide in the form of videos. According to the study results, learning with video tutorials can improve skill outcomes compared to inquiry learning alone [9]. In addition, the results of the study explain that the use of video in making sweet bread is effective in improving the ability to make bread [3].

The applied learning media has been developed through the needs analysis stage in advance to students so that the applied media is in accordance with student needs; therefore, students feel motivated because technology integration learning planning by taking into account the need will be able to motivate students to learn [1]. The learning media used previously were power points and printed books which were felt by students to be monotonous so that after the implementation of practicum guides in the form of videos, the average value of students in terms of knowledge and practice increased. This is because the use of video tutorial media can significantly improve learning compared to learning using visual media [10]. Besides that, student learning outcomes increase because it contains multimedia elements [11].

Based on this, it is crucial to integrate video in the practicum guide because it can improve students' knowledge and practical skills. This is because it can provide self-evaluation, mentors, and evaluation material for students as distance learning [12].

V. CONCLUSION

The use of practical guides effectively increases the knowledge and practice of students in the culinary arts study program. With the following results:

1. The effectiveness test on knowledge with the application of practicum guides can increase students' knowledge by 47% in understanding the theory of Taiwanese bread practice. The results of the value of $t_{count} = 7.303$, which means an increase in knowledge about Taiwanese bread.

2. The effectiveness test in practicum using the practicum guide reached 100%, with an average value of 88.5 for the completeness of the practice results. With the results of $t_{count} = 9.441$, it can be interpreted that there is a significant increase in the practice of Taiwanese bread after using the practical guide compared to before using the practical guide.

REFERENCE