Media Pendidikan Gizi dan Kuliner

Journal homepage: https://ejournal.upi.edu/index.php/Boga/index

Analysis Level of Understanding of Online Learning Results in the Subject of Administration at Vocational School Negeri 57 Jakarta

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ABSTRACTS

Online learning emerged as a key solution to maintain educational activities during the COVID-19 pandemic, particularly in vocational education. This study aims to analyse the level of understanding of students regarding food and beverage service planning in the Basic Competencies of the Administration subject. The research employed a survey method, using tests as the primary data collection tool. A total of 85 students from Class XI TB at SMK Negeri 57 Jakarta participated, selected through simple random sampling to ensure representation. The findings indicate a variation in students' understanding across different aspects of the material. Students demonstrated the lowest level of understanding in topics related to food and beverage service standards, whereas their highest level of understanding was observed in food and beverage service procedures. The overall level of understanding of student learning outcomes falls into the "Extrapolation" category, suggesting that students were able to grasp the basic concepts but may require further reinforcement for deeper mastery. The study concludes that the level of understanding of food and beverage services among Class XI TB students is categorized as good. However, there remains a need for improvements, especially in strengthening comprehension of service standards. These results can serve as a basis for developing more targeted teaching strategies, optimizing online learning tools, and enhancing instructional design to better support student achievement in vocational education settings.

ARTICLE INFO

Article History:
Received 01 Jul 2024
Revised 11 Nov 2024
Accepted 02 Jan 2025
Available online 01 Apr 2025

Keyword:
Food and drink services,
Learning outcomes,
Understanding

1. INTRODUCTION

The COVID-19 pandemic, which has affected Indonesia and many other countries, has had a significant impact across multiple sectors, particularly education. According to UNESCO (2020), the pandemic disrupted educational activities for over 1.6 billion students worldwide, necessitating a rapid shift to alternative modes of learning. In Indonesia, the government responded promptly by issuing policies such as the Circular Letter of the Minister of Education and Culture Number 3 of 2020 concerning COVID-19 prevention measures in educational units, and Number 36962/MPK.A/HK/2020 regarding the implementation of online learning and working from home to curb the spread of the virus (Kusnayat et al., 2021). Online learning emerged as the primary solution to continue educational activities during this crisis. Online learning is defined as an educational process conducted remotely through digital platforms, enabling students and teachers to interact without physical meetings (Putri & Rachmadtullah, 2020). This model has been adopted across various educational levels, including vocational education, which traditionally emphasizes hands-on, practical skills.

SMK Negeri 57 Jakarta is a vocational high school specializing in tourism, offering programs such as the Catering Services Expertise Program. This program aims to prepare mid-level professionals skilled in serving food and beverages in restaurants and hotels, producing culinary products, and fostering entrepreneurial skills in the culinary sector. One of the core subjects in this program is Cookery, classified under vocational subjects, providing students with fundamental knowledge and skills in food and beverage service. The Cookery subject plays a critical role in equipping students with competencies required for the workforce. According to the revised 2013 Curriculum, students must master competencies such as evaluating and carrying out food and beverage service (KD 3.8 and 4.8). Mastery of these competencies is crucial as they are assessed in the Vocational School Competency Examination and are prerequisites for Field Work Practice (Prasetyo et al., 2021).

Understanding is a key cognitive domain that must be achieved before skills can be effectively developed. According to Sudjana (2021), comprehension involves the ability to grasp and interpret information meaningfully, which is critical in practical fields like culinary arts. Different students, however, achieve varying levels of understanding, influenced by individual cognitive abilities, teaching strategies, and the quality of instructional media (Handayani et al., 2022). At SMK Negeri 57 Jakarta, based on preliminary interviews with teachers and students, the online learning process in culinary subjects was heavily reliant on presentation slides and internet-sourced videos, with minimal synchronous (live) interaction. Learning activities were largely asynchronous via platforms such as Google Classroom. This method, while necessary during the pandemic, led students to perceive the material delivery as suboptimal, especially in subjects that require a strong balance of theoretical knowledge and practical application (Fajriyani & Arifin, 2021).

Furthermore, analysis of students' end-of-semester assessment (PAS) scores revealed that many students struggled to meet the minimum competency criteria (KKM) of 80 for productive subjects like Cookery. Since understanding forms the foundation for skill development (Saputra et al., 2023), students' ability to grasp core concepts is critical for their future competency and professional readiness. Thus, this study seeks to measure students' levels of understanding in the food and beverage service competency during online learning, with the goal of identifying gaps and informing improvements in instructional practices within vocational education settings.

DOI: http://dx.doi.org/10. 17509/xxxxt.vxix
p- ISSN 2085-9783 e- ISSN 2549-6123

2. METHODS

2.1 Research Design

This study employs a quantitative descriptive research design. Descriptive research is intended to systematically and factually describe a phenomenon by analyzing data collected from a sample or population (Creswell & Creswell, 2022). The main purpose of this research is to measure the level of understanding of online learning outcomes among students in the Culinary Arts program at SMK Negeri 57 Jakarta. A survey method was used, utilizing a test instrument to collect quantitative data, which was then analyzed using descriptive statistical techniques.

2.2 Population and Sample

The population in this study consists of all students enrolled in the Class XI Culinary Arts Program at SMK Negeri 57 Jakarta. The sampling technique used is probability sampling, specifically simple random sampling, where each member of the population has an equal chance of being selected as a sample (Etikan & Bala, 2021). A total of 85 students were selected as the sample, deemed sufficient to represent the characteristics of the population and ensure the generalizability of the findings.

2.3 Data Collection Instrument

The primary data collection instrument used in this study is a multiple-choice test. The test items are designed to measure students' cognitive understanding of the material on food and beverage services, based on the Basic Competency 3.8 of the revised 2013 Curriculum. The test consists of 30 multiple-choice questions, each intended to assess one of the four comprehension levels, namely: Translation**,** Interpretation**,** Extrapolation**, and** Justification (Subali, 2021).

The development of the test follows several key steps:

- Defining the test objectives**,** which is to measure students' understanding of specific competencies.
- Determining the test material**,** limited to food and beverage service topics.
- Specifying the cognitive level to be assessed, following the levels of understanding framework.
- Selecting the type and number of test items, using multiple-choice format for its suitability in cognitive assessment.
- Compiling a test specification table to ensure coverage of essential content areas.

The purpose of using this testing method is not only to measure the acquisition of knowledge but also to determine students' ability to interpret, apply, and justify the information related to food and beverage services.

2.4 Data Analysis

The data obtained from the students' test scores are analyzed using descriptive statistical techniques**.** Scores are presented in percentage form to categorize students' levels of understanding based on pre-determined criteria. This analysis provides a clear description of the overall learning outcomes and helps to identify areas where students may require additional support.

DOI: http://dx.doi.org/10.17509/xxxx.vxix
p- ISSN 2775-8400 e- ISSN 2775-9857

3. RESULTS AND DISCUSSION

3.1. Results

The research data was then analyzed using descriptive statistical techniques using percentage calculation techniques. Data is categorized into three categories, namely good, quite good and not so good. Descriptive analysis at the level of understanding has a maximum score of 9.6 and a minimum score of 2 out of 30 questions. In total, 30 questions cover food and drink service factors consisting of understanding and function factors, type factors, basic principles factors and procedure factors. Descriptive calculations of data on the level of understanding of class Categorization is made based on the mean and standard deviation of descriptive calculation results. The results of data categorization can be seen in the following table:

Table 1. Table of results for categorizing students' level of understanding

Intervals	Frequency	Percentage (%)	Category
8.29 < X	19	21.8	Good
3.09 < X < 8.29	42	48.3	Pretty good
X < 3.09	26	29.9	Not good

From the table above, it is known that as many as 19 students (21.8%) have a level of understanding of food and drink services in the good category, as many as 42 students (48.3%) have a level of understanding in the quite good category, as many as 26 students (29.9%) %) in the poor category. It can be concluded that the level of understanding of food and drink services in class XI students at SMK Negeri 57 Jakarta is in the quite good category.

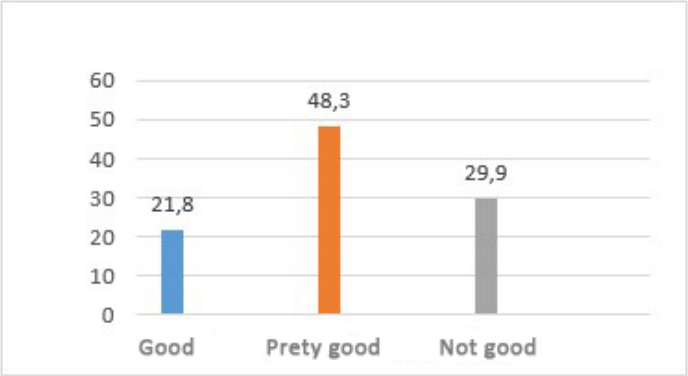

Figure 1. Draw a histogram of students' level of understanding

According to Bambang Subali, the level of understanding is the lowest ability to understand, there are several levels, namely translation, interpretation, extrapolation and justification. The level of understanding of students' online learning results in the food and beverage service subject is included in the extrapolation level, namely the ability to estimate influencing factors, draw conclusions and so on. Obtained with the highest percentage, namely 70.5%, in the sufficient category by 60 students.

DOI: http://dx.doi.org/10. 17509/xxxxt.vxix
p- ISSN 2085-9783 e- ISSN 2549-6123

3.2. Discussion

The results of this study indicate that the level of understanding of students' online learning outcomes in the culinary subject is categorized as quite good. According to Subali's (2021) cognitive hierarchy, the students' understanding predominantly falls at the extrapolation level, where students are expected to infer and predict based on the information they have learned. However, many students still demonstrated weaknesses at the translation level, indicating difficulty in accurately interpreting fundamental concepts. This aligns with the findings of Mahyoob (2020), who reported that students in online environments often struggle with basic comprehension tasks due to limited interaction. Similarly, Hodges et al. (2020) emphasize that emergency remote teaching during the pandemic significantly impacted students' depth of understanding. Moreover, Rasheed et al. (2020) highlight that the lack of direct teacher guidance in online learning environments leads to lower levels of cognitive achievement.

The detailed analysis shows that the lowest percentage of understanding was found in the food and drink service factor, which obtained a score of 37.9%. This low percentage suggests that students have difficulties in grasping the core concepts and main functions related to food and beverage services. Learning activities carried out asynchronously contribute to this situation, as students miss opportunities for direct clarification. Recent studies by Adedoyin and Soykan (2020), Bozkurt and Sharma (2020), and Bao (2020) argue that asynchronous online learning, although flexible, often hampers immediate feedback and active engagement, crucial elements for deep conceptual understanding in skill-based education like culinary arts.

Conversely, the highest achievement was recorded in the food and drink service procedure factor with 64.4%. Students showed better mastery in operational and procedural tasks compared to theoretical understanding. This finding is consistent with the conclusions by Aguilera-Hermida (2020), Xie, Siau, and Nah (2020), and Coman et al. (2020), who state that students in vocational education tend to adapt more successfully to procedural learning outcomes in online settings when learning is supported by visual aids such as videos or structured guidelines, even though comprehensive mastery remains limited without hands-on supervision.

Although the overall learning outcomes fall within the "quite good" category, they reflect a clear gap between theoretical understanding and practical application. Students were able to answer some procedural questions correctly yet still struggled with holistic mastery of concepts. This pattern is aligned with the findings of Khalil et al. (2020), Almahasees, Mohsen, and Amin (2021), and Martin and Polly (2020), who observed that in online learning, particularly during the COVID-19 pandemic, students' learning tended to be fragmented and topic-specific, rather than integrated and comprehensive.

Furthermore, the practical aspect of food and beverage services, which was conducted independently at home without teacher supervision, presents another challenge. According to Garrison and Vaughan (2021), hands-on skills acquisition in vocational education requires a blended learning approach that combines both online theory and in-person practice. Meanwhile, the study by Serdyukov (2020) notes that vocational education quality tends to decline if practice components are not properly supervised. Similarly, Xhomara (2021) emphasizes that lack of immediate correction and feedback during practical activities can result in superficial skill acquisition, insufficient for meeting industry standards.

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p- ISSN 2775-8400 e- ISSN 2775-9857

These findings imply that improvements in online learning designs are necessary to support better understanding and mastery of culinary competencies. Strategies such as flipped classrooms, virtual simulations, and interactive synchronous sessions can be considered to bridge the gap between theory and practice. Supporting this, Rapanta et al. (2020), Pokhrel and Chhetri (2021), and Sun and Chen (2022) recommend integrating interactive technologies and real-time feedback mechanisms to enhance cognitive and psychomotor outcomes in remote vocational learning environments.

4. CONCLUSION

Based on the research findings and discussion regarding the level of understanding of online learning outcomes in the Cookery subject for Class XI students at SMK Negeri 57 Jakarta, it can be concluded that the overall comprehension level achieved by students is categorized as quite good. This conclusion is drawn from the results of a study involving 85 students who were selected through simple random sampling and assessed using a multiple-choice test consisting of 30 questions related to food and beverage service material. The analysis revealed that students' level of understanding predominantly fell within the extrapolation category. Extrapolation, as a cognitive process, involves the ability to infer, predict, and estimate outcomes based on previously acquired knowledge. Although students were able to demonstrate an adequate level of inference and prediction skills, there were still significant gaps in their basic translation and interpretation abilities, indicating that the foundational understanding of core concepts requires reinforcement. Specifically, the students showed relatively better mastery in procedural aspects, such as food and beverage service procedures, while their understanding of conceptual elements, including the definition, functions, and principles of food and beverage service, was comparatively weaker. This discrepancy highlights the need for a more balanced instructional approach that strengthens both theoretical knowledge and practical skills, particularly in the context of online learning where direct teacher supervision is limited. In relation to the targeted basic competencies (KD 3.8 and 4.8), which are evaluating and providing food and drink services, the students demonstrated a reasonable level of achievement. However, to achieve higher learning outcomes, further improvements in instructional methods, integration of interactive learning media, and enhancement of practical learning opportunities are recommended. Continuous evaluation and targeted intervention strategies are essential to ensure that students not only comprehend but also master the competencies required for professional success in the culinary field.

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DOI: http://dx.doi.org/10. 17509/xxxxt.vxix
p- ISSN 2085-9783 e- ISSN 2549-6123