

## Development and Implementation of Jobsheets in Basic Culinary Competence

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### Abstract

Vocational education is developed based on societal needs and challenges. To enhance competencies, vocational training is necessary to provide students with real-world experiences. The aim of this research is to develop jobsheets, test their feasibility and practicality, and analyze the improvement in basic culinary skills among students using the jobsheets. This research employs the ADDIE model of Research and Development (RnD), which consists of five development stages: analysis, design, development, implementation, and evaluation. The subjects of this study were 36 tenth-grade culinary students at SMK N 6 Kota Semarang. The data analysis used t-tests to examine how the use of jobsheets impacts basic culinary skills. The research results indicate that (1) the jobsheets are feasible and practical for use in practical learning, (2) the jobsheets effectively improve cognitive, affective, and psychomotor aspects in basic culinary skills, and (3) the achievement of basic culinary competencies is also influenced by motivational and environmental factors.

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## INTRODUCTION

Vocational education focuses on providing specific competencies such as productivity, creativity, innovation, affective skills, and practical abilities, enabling individuals to become high-quality human resources (Kemendikbud Ristek, 2021). According to Sudira (2018), vocational education involves training efforts that help students identify suitable careers, contributing positively to both employers and the individuals themselves.

Based on the description above and in alignment with the theory by Prosser, vocational education requires effective training to introduce students to real-world experiences (Irwanto, 2022). Effective vocational training provides specialized experiences that foster correct habits in behavior and thinking through repeated practice until mastery is achieved, making it useful in their work (Verawardina and Unung, 2018).

In relation to this, vocational education learning processes should aim for effective learning outcomes. Both educators and students should utilize guides that can be repeatedly referenced to support mastery of specific competencies. Practical guides, or jobsheets, serve as procedural manuals for practical work. Ideally, jobsheets facilitate skill development during practice sessions. The purpose of using jobsheets during practical work is to prevent errors in the steps of product creation (Nurhasanah et al., 2020).

The ineffective use of jobsheets impacts differences in learning achievement. When valid jobsheets are used, learning achievements among students align with expected standards, ensuring proper understanding of the workflow. However, in practice, students often use self-made jobsheets that fail to meet criteria for clarity, practicality, and efficiency. This misalignment creates a gap in achieving learning outcomes, ultimately lowering the quality of graduates from vocational schools as competent future workers.

## RESEARCH METHOD

This study employs the Research and Development (R&D) methodology. The media development design in this study adopts the

ADDIE model, which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation.

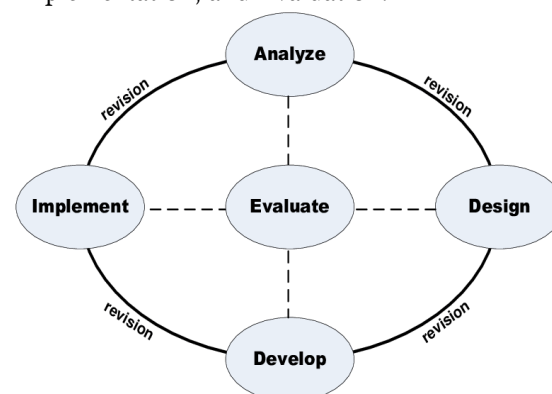


Figure 1. ADDIE Development Flow

### 2.1 Analysis

The Analysis stage includes problem and needs analyses. Problem analysis is conducted through interviews to identify the strengths and weaknesses of existing learning resources. Needs analysis focuses on identifying the requirements for practical learning in basic culinary practices to ensure the learning objectives are met effectively.

### 2.2 Design

In this stage, the researcher determines the location, learning process, subject matter experts, instructional design experts, and media experts. Learning resources are then developed and prepared for testing.

### 2.3 Development

This stage involves developing the jobsheet content, including materials, assessment components, and visual design. Feasibility and practicality tests are conducted, followed by revisions to the jobsheet based on feedback.

### 2.4 Implementation

This stage includes testing the jobsheet with tenth-grade students at SMK N 6 Kota Semarang. The school consists of four classes, and a random selection process determines the experimental and control groups.

### 2.5 Evaluation

The Evaluation stage is divided into formative and summative evaluations. Formative evaluation focuses on the feasibility and practicality of the jobsheet, while summative

evaluation assesses its effectiveness in improving learning outcomes.

## RESEARCH RESULTS AND DISCUSSION

### 3.1 Research Results

#### 3.1.1 Feasibility, Practicality, and Effectiveness Tests

**Table 1.** Results of Jobsheet Testing

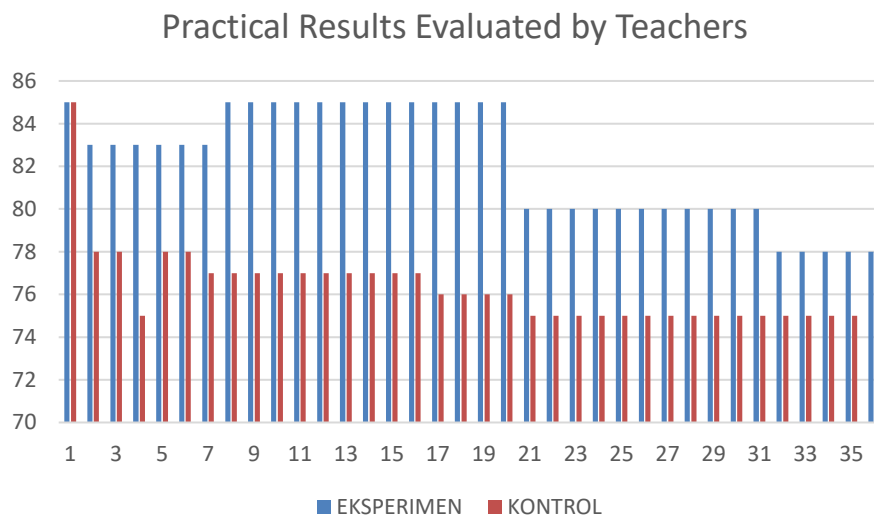
Results of the Basic Culinary Jobsheet Testing			
NO	TEST	SCORE	DESCRIPTION
1	Feasibility	Material Expert: 4.3 Media Expert: 4.4	Highly Feasible
2	Practicality	Kr : 0.91 Ks : 0.796	Highly Practical
3	Effectiveness	T : 10.472 Control Class Mean: 19.53 Experimental Class Mean: 24.64	Effective

The feasibility of the developed jobsheet is determined based on the average validator response, indicating that the jobsheet development is highly feasible. The feasibility aspect achieved a Kr score of  $0.91 > 0.90$  and a Ks score of  $0.796 > 0.60$ , signifying that the developed jobsheet is practical for use. Regarding effectiveness, the t-test result of 10.472, with a mean score of 19.53 in the control class and 24.64

in the experimental class, indicates that the developed jobsheet is effective. Based on these results, it can be concluded that the developed jobsheet is highly feasible, highly practical, and effective in improving basic culinary competencies.

#### 3.1.2 Implementation of Jobsheet

##### a) Cognitive Aspect (Knowledge)



**Figure 2.** Teacher Evaluation Results from Practical Work

Based on Figure 2, it can be concluded that the learning outcomes from teacher evaluations in the experimental and control classes differ. The experimental class achieved an average score of 82, while the control class had an average score of

76. This indicates that the use of jobsheets can improve learning outcomes among students.

##### b) Affective Aspect (Attitude)

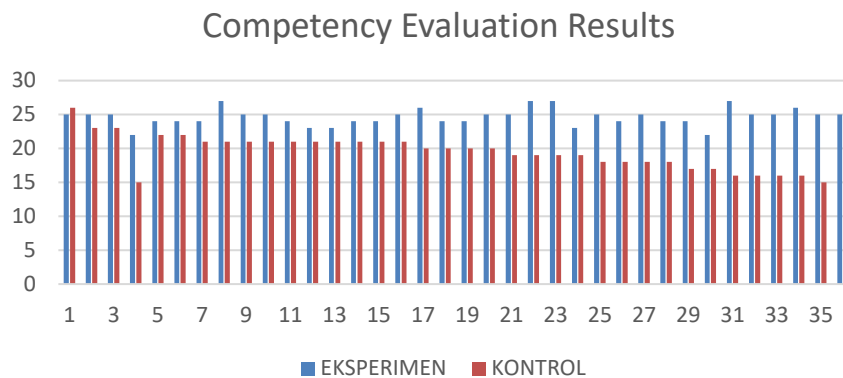
**Table 2.** Results of Affective Aspect Evaluation

Classification	Interval (%)	Experimental Class		Control Class	
		Number	Percentage	Number	Percentage
Very Low	22-39	0	0	1	2,77
Low	40-57	0	0	20	55,55
Moderate	58-75	36	100	15	41,66
High	76-93	0	0	0	0
Very High	94-100	0	0	0	0
Total		36	100	36	100

Referring to Table 2, it can be stated that the implementation of the jobsheet in the experimental class resulted in 100% of students being categorized as moderate in their performance attitude evaluation. In contrast,

55.55% of students in the control class were categorized as low in their performance attitude evaluation during the basic culinary practice.

### c) Psychomotor Aspect (Skills)

**Figure 3.** Psychomotor Evaluation Results (Competence)

Based on Figure 3, the experimental class demonstrated high competency levels with an average score of 24, whereas the control class achieved an average score of only 19 out of a total score of 36. This indicates that the use of jobsheets can improve competencies among students.

### Discussion

The development of jobsheets for basic culinary learning was carried out using the ADDIE model, which consists of five stages: (1) analysis, involving a needs analysis for basic culinary practical learning at SMK N 6 Kota Semarang and format selection; (2) design, where the initial design or layout was created, including the cover, content, and presentation of the jobsheet; (3) development, which involved validation by expert validators and revisions based on their feedback; (4) implementation, where the jobsheet was provided to the

experimental class for practical basic culinary learning; and (5) evaluation, which included both formative evaluation focusing on feasibility and practicality tests and summative evaluation focusing on testing the effectiveness of the jobsheet.

The developed media represents a creative and effective utilization of instructional resources, facilitating independent learning among individuals (Riani et al., 2022). This aligns with Kosasih et al. (2023), who stated that digital media is effective in improving learning outcomes for individuals. Furthermore, Satria et al. (2023) emphasized that creative media usage significantly enhances learning results, supporting the effectiveness of independent practical learning.

The jobsheet developed for basic culinary practice was deemed feasible based on expert evaluations, with an average validator score of 4.4

for media experts and 4.3 for subject matter experts. These scores indicate that the material meets the feasibility criteria for instructional materials. This finding aligns with Ningsih and Ruhidayati (2019), who noted that e-jobsheet development supports program improvement and helps individuals achieve better learning outcomes.

The practicality of the jobsheet was assessed through practicality tests involving users. The results showed that  $K_r = 0.91 > 0.90$  and  $K_s = 0.796 > 0.60$ , indicating that the developed jobsheet is practical for use in learning. These findings are consistent with Fadli and Yuhendri (2020), who reported that jobsheets developed according to specific learning needs are highly practical and effective for achieving learning objectives. Similarly, Oktavia and Yuhendri (2022) emphasized that jobsheets designed based on practical needs are effective for practical learning.

The effectiveness of the jobsheet was evaluated using an independent sample t-test to determine differences in outcomes between the experimental and control classes. The data showed a significance value of  $0.000 < 0.05$ , rejecting  $H_0$  and accepting  $H_a$ , indicating improved learning outcomes through the use of the developed jobsheet.

This finding aligns with Yuliana and Hambali (2020), who found that tested jobsheets have 90% effectiveness and are highly suitable for practical use. Similarly, Riani et al. (2022) noted that e-jobsheets tested by instructors are effective for practical learning. Nurhasanah et al. (2020) emphasized that effective jobsheets should serve as guides for practical learning.

The t-test and mean score comparisons revealed significant differences between the experimental and control classes. These results underscore the importance of using learning resources tailored to specific needs to effectively achieve learning outcomes. However, learning outcomes are influenced by internal and environmental factors. Aini and Taman reported that outcomes among individuals are significantly affected by their environment. Nabillah and Abadi highlighted that poor learning outcomes are often due to inappropriate teaching methods

and insufficient use of instructional media, such as conventional methods.

The cognitive aspect evaluation showed that teacher-assigned scores differed between the experimental and control classes. The experimental class achieved an average score of 82, compared to 76 in the control class, with a minimum passing grade of 75. The experimental class benefited from jobsheets containing brief theories that provided a clear overview of tasks and practical outcomes. In contrast, the control class used jobsheets with minimal structure, resulting in limited understanding and lower confidence during practical sessions.

The use of the jobsheet positively influenced the affective aspect in the experimental class. Individuals demonstrated independence, cooperation, and initiative, as evidenced by fewer questions about procedures and smoother practical processes. In contrast, the control class exhibited a lack of initiative and lower confidence, as individuals often worked in groups without clear task division, hindering the practical learning process.

The psychomotor aspect evaluation, based on performance tests, showed an average score of 24 in the experimental class compared to 19 in the control class (out of a total score of 36). The experimental class followed the expected workflow, producing outcomes that met the required criteria. In contrast, the control class displayed inconsistent practical results.

At SMK N 6 Kota Semarang, the learning environment was equipped with industry-standard tools for practical work. However, challenges arose due to the lack of valid guidelines or reference materials for practical learning, such as jobsheets. Frequent changes in teaching staff also disrupted the learning process, as different instructors employed varying methods, creating challenges for individuals in adapting and mastering learning objectives.

Consistency in teaching plays a crucial role in supporting successful learning processes. This aligns with Totoda et al. (2020), who stated that teachers play a significant role in ensuring the continuity of learning processes. Siahaan and Meilani (2019) emphasized that messages are effectively conveyed when they are communicated comprehensively. The use of the

developed jobsheet in basic culinary practice motivated individuals in the experimental class. The structured guidelines helped individuals smoothly complete their tasks. Gusmania and Wulandari (2018) noted that learning resources increase engagement and facilitate understanding of concepts. Similarly, Suwastika (2018) highlighted that technology-based learning resources enhance motivation and material accessibility.

This finding aligns with Haendel et al. (2023), who stated that learning resources or media improve motivation during the learning process. McGrath and Yamada (2023) also emphasized that motivation enhances continuous learning in training contexts. In contrast, individuals in the control class demonstrated slightly lower learning outcomes due to the absence of structured jobsheets. This lack of clear guidance resulted in frequent questions and hesitation during practical sessions, hindering the learning process. Zakariya (2020) noted that learning resources not designed to meet specific needs fail to improve outcomes. In addition to limitations in instructional resources, SMK N 6 Kota Semarang accommodates individuals with special needs or slower cognitive processing, contributing to lower learning outcomes. Pradipta et al. (2019) reported that individuals with special needs face challenges in mastering specific competencies.

Regarding environmental factors, most individuals at SMK N 6 Kota Semarang come from families where parents work as entrepreneurs or homemakers. Those from merchant families exhibited higher motivation in culinary practice compared to their peers.

In conclusion, the developed jobsheet improved learning outcomes in cognitive, affective, and psychomotor aspects of basic culinary competencies. However, motivation and environmental factors also significantly influence outcomes and competencies in basic culinary practices.

## CONCLUSION

The development of the jobsheet for basic culinary learning was conducted using the ADDIE model, which consists of five stages: (1)

analysis, involving a needs analysis for basic culinary practical learning at SMK N 6 Kota Semarang and format selection; (2) design, involving the creation of the initial design, including the cover, content, and presentation of the jobsheet; (3) development, which involved validation by expert validators and revisions based on their feedback; (4) implementation, where the jobsheet was introduced to the experimental class during practical basic culinary learning; and (5) evaluation, which included both formative evaluation (covering feasibility and practicality tests) and summative evaluation (covering the effectiveness of the jobsheet's use).

The developed jobsheet was deemed feasible and practical for use in practical learning. Its effectiveness was also confirmed, as it improved learning outcomes in cognitive, affective, and psychomotor aspects of basic culinary competencies. However, the achievement of basic culinary competencies among individuals was also influenced by environmental factors.

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