

DEVELOPMENT OF A QR CODE-BASED PRACTICAL GUIDEBOOK FOR THE INTERNSHIP COURSE IMPLEMENTATION OF INDEPENDENT LEARNING FOR COMMUNITY EDUCATION STUDENTS

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ABSTRAK

The aim of this research is to develop a QR Code-based practical guidebook for internship courses for students of the Public Education Study Program, FKIP, Sriwijaya University, looking at its validity and practicality. This research uses a type of development research with the ADDIE (Analysis, Design, Development, Implementation and Evaluation) development model. Through certain considerations, this research was carried out in only 4 (four) stages. Data collection was carried out using questionnaires and documentation methods. The research results showed that at the analysis stage, respondents needed a QR Code-based internship practice guidebook. Data collection was carried out using questionnaires and interviews. The results of the development showed a percentage of 75% with a valid category for Indonesian language experts, then the validation of material experts obtained a score of 92.5% which means very good and valid, then the results of the media expert validation obtained a score of 97.5% which means also very good, from three validators an average score of 88.33% was obtained which means the product is valid. Furthermore, the results of the product trial for one to one obtained a score of 100%, meaning it is very practical, then the results of the small group trial obtained a score of 99.75% which means it is very practical. Based on these results, the study concludes that the PLS internship practice guidebook media based on Qr Code can be said to be practical and can be implemented to students of Community Education, FKIP, Sriwijaya University.

A. RESEARCH BACKGROUND

Law of the Republic of Indonesia Number 20 of 2003 on the National Education System states that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to possess spiritual-religious strength, self-control, personality, intelligence, noble character, as well as the skills required by themselves, society, the nation, and the state. Education is a conscious and planned effort to create a learning atmosphere and learning process in which learners actively develop their potential to possess spiritual-religious strength, self-control, personality needed by themselves, society, the nation, and the state, intelligence, noble character, and skills [7].

Higher education institutions are among the bodies responsible for managing this conscious effort to develop students' potential, which covers three aspects: knowledge, attitude, and skills. Skill-oriented

education provides students with proper knowledge and practice. Practice is a learning strategy that enables students to empirically perform, demonstrate, or simulate cognitive, psychomotor, and affective abilities simultaneously by using laboratory facilities. In line with this definition, practical learning in the laboratory is a manifestation of a higher education institution's role in carrying out its responsibility to manage education.

Universities are institutions that also have the responsibility to develop students' potential in specific fields of science, so they must keep up with the development of science and technology. Referring to the university's role in fostering potential in particular scientific and skill-based fields, and in accordance with technological advancements, it is necessary to design a curriculum that supports these objectives. The university curriculum is an essential component of education because it serves as a reference for educators in carrying out the learning

process, containing teaching materials aligned with technological developments and the fields of study pursued by students, as outlined in specific courses. Currently, the “Merdeka Curriculum” promoted by the government has also been implemented at the higher education level, down to the smallest unit, namely study programs. Students are given the freedom and opportunity to develop themselves outside the campus with academic credit recognition, while in other cases, some study programs have specifically designed courses that are part of the Merdeka Belajar policy. To realize skill-oriented education in line with technological developments, courses are designed in such a way that courses are designed in such a way that they can develop knowledge and provide training or practice in accordance with current technological advancements, for example, through internship courses. One of the study programs that has currently implemented the *Merdeka Belajar* program for students is the Community Education Study Program, Faculty of Teacher Training and Education (FKIP), Universitas Sriwijaya. The services of the Community Education Study Program at FKIP Universitas Sriwijaya are provided through the Community Education Laboratory, which aims to implement the Tri Dharma of Higher Education, namely education, research, and community service. A laboratory is not limited to an enclosed space; it can also take the form of an open area used for learning activities, research, and community service. It may be utilized for practicum, observation, testing, and other relevant activities, and is equipped with specific facilities according to its specifications [19].

The laboratory functions to support and facilitate the learning process through practicum services in various courses. One form of practicum service in the field of education is to ensure that the learning process runs effectively. The Community Education Laboratory is one of the 18 laboratories at the Faculty of Teacher Training and Education (FKIP), Universitas Sriwijaya. Several services provided by the Community Education Laboratory include the implementation of PLP (School Environment Introduction Program), course practicums, final examinations (UAP) conducted in the laboratory, mentoring activities, webinars, guest lectures, as well as activities of Himapenmas (Community Education

Student Association). Equally important is the implementation of practicum in internship courses.

The success of these educational services must, of course, be supported by adequate facilities and infrastructure, proper scheduling, and practicum media such as the provision of appropriate and accurate guidebooks. In the national education goals, it is stated that practicum guides should be designed to enhance students’ creativity, sharpen their activeness, and improve their soft skills as well as hard skills [17]. Initial data collection through observations and interviews with laboratory managers (head), lecturers, and Community Education students revealed that, so far, for practicum courses some already have guidebooks, while the majority still do not. The existing guidebooks are also not very appealing and lack interactivity, with access still being quite limited. In fact, the presence of guidebooks is highly important as a reference and guideline for both students and lecturers in carrying out practicum activities. Specifically, in internship courses, guidebooks do exist but are still incomplete and remain conventional in nature. Therefore, there is a need for innovative information dissemination so that information can be delivered more effectively, efficiently, attractively, easily accessible, and interactively. A QR code is a two-dimensional image that represents certain information; by integrating this technology into guidebooks, the learning process can be supported, making it more empowering for students to take an active role [8].

The service processes in the Community Education Study Program Laboratory at Universitas Sriwijaya are still conventional, such as delivering information through WhatsApp group messages, face-to-face meetings, and the use of information media like banners and posters. Several practicum activities have been running quite well, such as skill-building, fertilizer making, *jumputan* (traditional tie-dye technique), and others. However, information dissemination still relies on simple media, particularly in practicum services such as internship courses. As a form of innovation and solution to improve laboratory services so that practicum activities can run effectively, it is necessary to prepare practicum guidebooks. Considering these conditions, this study proposes the development of a practicum

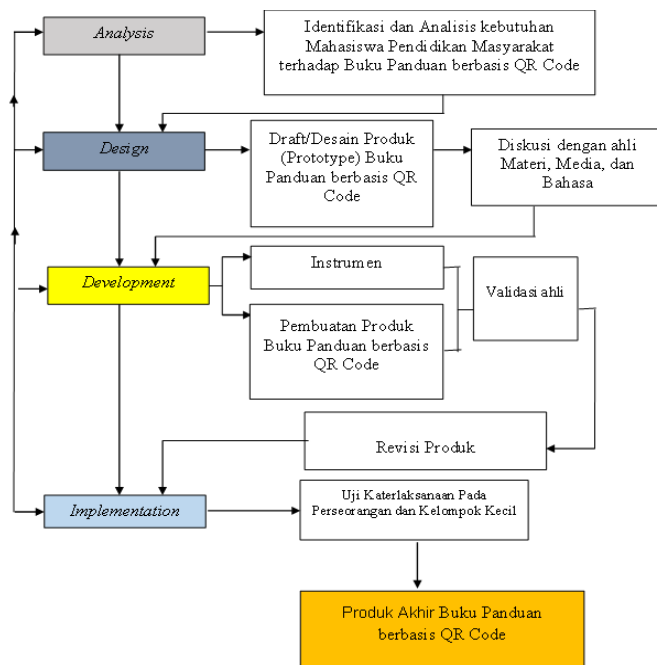
guidebook based on QR codes, especially for internship courses.

The aim of the research on developing a QR code-based practical guidebook is to make it easier for students to access and carry out practical activities and to create media in the form of a more interactive book. Until now, conventional guides in the form of ordinary PDF files have been used, whereas today's information systems are already technology-based, including Android. The benefit of this research is that it can serve as an engaging and needs-based learning resource for Community Education students.

B. RESEARCH METHOD

The research method used in this study is R & D (Research and Development). The product developed is a QR code-based guidebook for the Internship course as an implementation of the *Merdeka Belajar* program for Community Education students. This study employs the model developed by Robert Maribe Branch in [15], namely ADDIE (Analysis, Design, Development, Implementation, and Evaluation), which has been modified to suit the needs of the respondents. In general, the development procedure in the ADDIE model consists of five stages: Analysis, Design, Development, Implementation, and Evaluation, as stated by Robert Maribe Branch in [15].

This research was conducted in the Community Education Study Program, FKIP Universitas Sriwijaya, specifically in the Community Education Laboratory. The data collection methods used in this study were questionnaires and documentation. Data analysis was carried out through validity testing with three experts: a language expert, a subject matter expert, and a media expert, as well as limited testing and small group trials to assess the practicality of the developed product. The development procedure in the ADDIE model consists of five stages; however, considering various factors, this study was conducted only up to four stages: analysis, design, development, and implementation. This process is illustrated in the flowchart below:



Picture 1. Konseptual Alur Penelitian

The data analysis was carried out by assigning scores to the responses given using a scale ranging from 1 to 4, with SB = 4, B = 3, TB = 2, and STB = 1. The total score was then calculated using the formula $\text{score} = \sum R$, where R represents the total response score. Subsequently, the percentage of implementation was calculated using the following formula

$$\text{Presentase (\%)} = \frac{\text{Total Score for Each Statement}}{\text{Number of Respondents}} \times 100$$

The results of the percentage calculation were interpreted based on the categories shown in the following table:

Tabel 1. Product Assessment Criteria

Persentase (%)	Validity Category (Expert)	Practicality Category
76% – 100%	Highly Suitable	Highly Practical
51% – 75%	Suitable	Practical
26% – 50%	Unsuitable	Impractical
≤ 25%	Highly Unsuitable	Highly Impractical

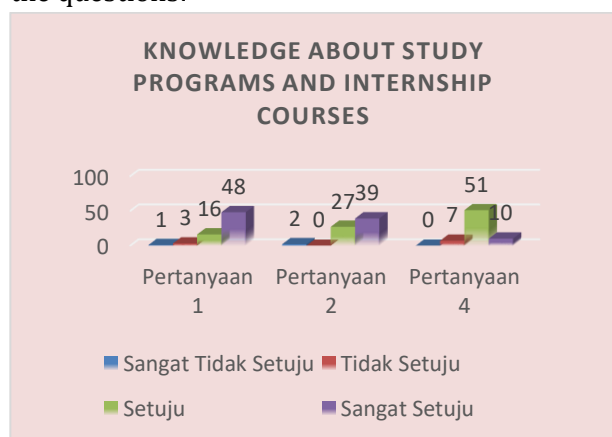
C. RESULTS AND DISCUSSION

This stage describes the results of developing the QR code-based practicum guidebook for the Internship course for Community Education students at FKIP Universitas Sriwijaya. The stages were carried out in sequence, starting from analysis, design,

development, and implementation, as outlined in the following results:

1. Results of Identification and Needs Analysis of the QR Code-Based Internship Guidebook for Community Education Students

The initial stage of the research was a needs analysis by collecting preliminary data through identifying information from Community Education Study Program students. This preliminary data was gathered using questionnaires filled out by the research respondents, namely Community Education students, particularly those in the third semester, since in the upcoming odd semester (5th) they will undertake Internship activities. The questionnaire was distributed in the form of a Google Form link, aimed at finding out whether the QR Code-based Internship Guidebook is genuinely needed by Community Education students, especially those who will soon participate in internship practices. The following is a recap of the questionnaire results, grouped according to the elements of the questions:



Source: processed from questionnaire data

Picture 2. Understanding of the Study Program and the Internship Course

The diagram above shows the respondents' initial knowledge of the Community Education Study Program and the Internship Practicum Course. Out of a total of 68 respondents, 48 answered "strongly agree" (70.59%) and 16 answered "agree" (23.53%) for Question 1, indicating that the majority of respondents were already aware of the existence of practicum courses in the Community Education Study Program. For Question 2, regarding the importance of practicum courses in enhancing students' skills, 39 respondents (57.35%) answered "strongly agree" and 27 respondents (39.71%)

answered "agree." This indicates that students highly understand the importance of practicum courses for skill development.

For Question 3, concerning respondents' knowledge of whether the Internship Course has a guidebook, 51 respondents (75.00%) answered "agree," while 7 respondents (10.25%) answered "disagree," meaning that some respondents were not aware of the existence of a guidebook for the Community Education Internship Course. However, in general, most students were aware of it.

It can be concluded that the majority of students/respondents understood the existence of practicum courses and were aware of the Internship Course in the Community Education Study Program. Furthermore, the findings also illustrate students' interest in participating in internships, their prior experiences with internships, and their views on the use of QR code-based guidebooks.*



Source: processed from questionnaire data

Picture 3. Interest and Experience in Internships and the Use of QR Code-Based Guidebooks

The figure above describes that, out of a total of 68 respondents (students), the interest in participating in internships is very high. This is evidenced by 39 respondents (57.35%) who answered "agree" and 29 respondents (42.65%) who answered "strongly agree." This means that all students expressed their interest in participating in internship practicum activities. Next, in Question 5 regarding respondents' prior experience in internships, it was shown that the majority had never participated in internship activities. This is indicated by 45 respondents (66.18%) who answered "disagree" and 3 respondents (4.41%) who answered "strongly disagree." Combined, this shows that most students had never joined an internship before. This result also corresponds with the responses to Question 6, which revealed that quite a large number

of students had never used a QR code-based book. Specifically, 42.65% answered “disagree” and 5.88% answered “strongly disagree,” which, when combined, amounts to 33 respondents who had never used QR code-based books before.

Based on the data above, it is evident that respondents require a more interactive and easily accessible internship guidebook, specifically one that is QR code-based. To provide an engaging and effective internship practicum program, this study seeks to develop a QR code-based internship guidebook for students of the Community Education Study Program, Faculty of Teacher Training and Education, Universitas Sriwijaya. This need is further reflected in the following data:



Source: processed from questionnaire data

Picture 4. The Need for an Internship Guidebook Based on QR Code

From the data above, it is illustrated that regarding Question 7 on the importance of a guidebook for students in carrying out internship activities, out of 68 respondents, 38 students answered *strongly agree* (55.88%) and 29 students answered *agree* (42.65%). This means that students highly desire and consider the presence of a guidebook essential for the Internship course. Next, for Question 8 on the need for an interactive QR Code-based internship guidebook, 12 students (17.65%) answered *strongly agree*, and 56 students (82.65%) answered *agree*. This shows that, in conclusion, all respondents expressed the importance and necessity of an interactive QR Code-based Internship Guidebook. The importance of a QR Code-based Internship Guidebook in helping students understand and easily access information is also reflected in Question 9, where 19 students (27.94%) answered *strongly agree* and 47 students (69.12%)

answered *agree*. From these responses, it can be concluded that nearly all students stated they need a QR Code-based Internship Guidebook. This finding is further strengthened by Question 10, which reveals that students require a QR Code-based Internship Guidebook specifically for the Community Education Internship. The data shows that 55 students (80.88%) answered *agree* and 11 students (16.18%) answered *strongly agree*. Based on the above data, it can be concluded that students of the Community Education Study Program, Faculty of Teacher Training and Education, Universitas Sriwijaya, require a QR Code-based Internship Guidebook to support their internship practice.

2. Design Stage of the QR Code-Based Internship Practice Guidebook for Community Education Students at FKIP Unsri

The design stage in this study includes preparing the content for QR Code displays, drafting the guidebook material, and developing validation instruments to be used by experts in evaluating the videos integrated into the guidebook.

1) Preparation of Internship Guidebook Content with QR Codes.

This stage is crucial to produce a QR Code-based guidebook aligned with the objectives of the study, namely developing a QR Code-based Internship Course Guidebook for the Community Education Study Program. The researcher conducted a document review of the materials to be presented and held discussions with experts and lecturers within the Community Education Study Program at FKIP Unsri to determine the appropriate content, which was then decided to focus on developing the Internship Guidebook.

2) Manuscript Preparation.

After the content/materials have been properly organized and completed, the next stage is preparing and drafting the manuscript along with the flow of QR Code displays to be developed. The following is the structure of the Internship Guidebook:

COVER

PREFACE

TABLE OF CONTENTS

CHAPTER I: INTRODUCTION

CHAPTER II: TIME, LOCATION, IMPLEMENTATION PROCEDURES, AND INTERNSHIP TASKS
CHAPTER III: INTERNSHIP SUPERVISORS AND TASK DESCRIPTIONS
CHAPTER IV: INTERNSHIP ASSESSMENT AND EVALUATION
CHAPTER V: INTERNSHIP REPORT WRITING
APPENDICES
LIST OF INTERNSHIP INSTITUTIONS

After compiling the content/material into the flow of the Guidebook, the next step is to create the storyboard for the QR Code-based Internship Guidebook. The purpose of developing the storyboard is to illustrate the overall storyline that has been structured from beginning to end. The following is the storyboard of the QR Code-Based Internship Guidebook:



Picture 5 Barcode Display of the Internship Guidebook



Picture 5. Storyboard of the QR Code-Based Internship Guidebook

3) Preparation of Validation Instruments

In the design stage of the ADDIE development model, there is a step for preparing validation instruments. These instruments are created to evaluate the developed product—in this case, the QR Code-based Internship Guidebook for Community Education students at FKIP Unsri. The instruments are designed according to the assessment needs of the guidebook both prior to and during its trial. The validation instruments include media validation, content validation, language validation, one-to-one trial instruments, and small-group trial instruments.

3. Development Stage: Creation of the QR Code-Based Internship Guidebook

To produce the Internship Guidebook for trial use, the development was carried out by conducting validation with experts, including a language expert, a content expert, and a media expert. After analyzing the validation results from these three experts, trials were conducted with the target group in the form of individual (one-to-one) testing and small-group testing.

Table 1. details or table of the validation results

NO	VALIDATOR	ASPECT ASSESSED	TOTAL SCORE	PERCENTAGE (%)	CATEGORY
1	Language Expert	Language Feasibility	30	75.00	Valid
2	Content Expert	Content Feasibility	37	92.50	Very Valid
3	Media Expert	Media Feasibility	39	97.50	Very Valid
Average Score				88.33	Very Valid

Based on the validation results, it can be concluded that the media is considered valid, with an average score of 97.5%. This indicates that the QR Code-based Internship Guidebook for Community Education students can proceed to the implementation stage.

4. Implementation Stage

The limited one-to-one trial was conducted with third-semester (odd semester) Community Education students at FKIP Universitas Sriwijaya. The trial was carried out using a questionnaire aimed at assessing the feasibility and practicality of the QR Code-based Internship Guidebook. Usability of the product was measured based on questionnaires completed by five respondents during the one-to-one trial. Subsequently, revisions were made based on any difficulties or feedback regarding its usage or

other aspects. The following is a description of the results from the individual (one-to-one) trial:

Table 2 Results of the Individual Trial

Respon den	Statement Item									
	1	2	3	4	5	6	7	8	9	10
AR	4	4	4	4	4	4	4	4	4	4
AS	4	4	4	4	4	4	4	4	4	4
RPS	4	4	4	4	4	4	4	4	4	4
SJ	4	4	4	4	4	4	4	4	4	4
D	4	4	4	4	4	4	4	4	4	4
Score Amount	20	20	20	20	20	20	20	20	20	20
Total Score	200									
Percent age	100%									
Categor y	Very Practical.									

Based on the table above, it can be concluded that the one-to-one trial achieved a total score of 200, categorized as very good, or 100%. Therefore, it can be concluded that the internship practice guidebook media can be implemented. Furthermore, after conducting limited trials, small group trials were conducted.

Table 3 Small Group Trial Results

Respo nden	No Item Pernyataan									
	1	2	3	4	5	6	7	8	9	10
HH	4	4	4	4	4	4	4	4	4	4
AZ	4	4	4	4	4	4	4	4	4	4
AS	4	4	4	4	4	4	4	4	4	4
NANZ	4	4	4	4	4	4	4	4	4	4
EFG	4	4	4	4	4	4	4	4	4	4
TA	4	4	4	4	4	4	4	4	4	4
GA	4	4	4	4	4	4	4	4	4	4
MT	4	4	4	4	4	4	4	4	4	4
ARD	4	4	4	4	4	4	4	4	4	4
JS	4	4	4	4	4	4	4	4	4	4
AUA	4	4	4	4	4	4	4	4	4	4
NL	4	4	4	4	4	4	4	4	4	4
MS	4	4	4	4	4	4	4	4	4	4
ANS	4	4	4	4	4	4	4	4	4	4
PH	4	4	4	4	4	4	4	4	4	4
A	4	4	4	4	4	4	4	4	4	4
NS	4	4	4	4	4	4	4	4	4	4

AI	4	4	4	4	4	4	4	4	4	4
DA	4	4	4	4	4	4	4	4	4	4
M	4	4	4	4	4	4	4	4	4	4
YR	4	4	4	4	4	4	4	4	4	4
EO	4	4	4	4	4	4	4	4	4	4
RJ	4	4	4	4	4	4	4	4	4	4
RR	4	4	4	4	4	4	3	3	4	4
FFB	4	4	4	4	4	4	4	4	4	4
AR	4	4	4	4	4	4	4	4	4	4
EDV	3	4	4	4	4	4	4	4	4	4
DPS	4	4	4	4	4	4	4	4	4	4
J	4	4	4	4	4	4	4	4	4	4
MLS	4	4	4	4	4	4	4	4	4	4
Score	1	1	1	1	1	1	1	1	1	1
Amou nt	19	20	20	20	20	20	19	19	20	20
Total Score	1197									
Perce ntage	99,75									
Categ ory.	Very Practical									

Based on the table above, it can be seen that the results of the small-group trial fall into the *very practical* category, with a total score of 1,197 and a percentage of 99.75%. This indicates that the QR Code-based Internship Guidebook for Community Education students at FKIP Unsri can be used practically by the students.

The current advancement of technology has undeniably become a necessity for everyone to support and facilitate daily activities, including in the field of education. The digital era in education has increasingly developed to align with ongoing digitalization, affecting learning processes from primary education to higher education, including Community/Nonformal Education in the Internship course. One crucial aspect is the provision of interactive media that leverages technology, thereby making the learning process more effective.

The success of educational services must be supported by adequate facilities and infrastructure, the provision of schedules, and practical/practicum media such as appropriate guidebooks. The national education objectives emphasize that practicum guidebooks should be designed to enhance students' creativity, cultivate their active potential, and improve both their soft and hard skills [17]. The existence of such guidebooks is crucial as a reference

and guide for students and lecturers in conducting practical or practicum activities.

In line with this, the result of this study is the development of a QR Code-based practicum guidebook for the Internship course. Learning media are essential and serve as a key factor in the success of learning activities. Educational or learning media can be in the form of objects, people, or events that enable students to acquire knowledge, attitudes, and skills [12].

This study employed a four-stage development process, adapted from the R & D development model. The stages include analysis, design, development, and implementation. The development of the guidebook began with a preliminary study or needs analysis, followed by product design and development. The product was then validated by three experts: a content expert, a language expert, and a media expert. Finally, limited trials were conducted, including both one-to-one and small-group testing. At the initial stage of identifying students' needs for a QR Code-based guidebook, regarding the importance of a guidebook for conducting internship activities, out of 68 respondents, 38 students (55.88%) answered *strongly agree* and 29 students (42.65%) answered *agree*. This indicates that students highly desire and consider the guidebook essential for the Internship course. Regarding the need for an interactive QR Code-based internship guidebook, 12 students (17.65%) answered *strongly agree* and 56 students (82.65%) answered *agree*. In conclusion, all respondents expressed the importance and necessity of an interactive QR Code-based Internship Guidebook. The importance of a QR Code-based Internship Guidebook to help students understand and easily access information is further reflected in the responses, with 19 students (27.94%) answering *strongly agree* and 47 students (69.12%) answering *agree*. This shows that almost all students stated they need a QR Code-based Internship Guidebook. Furthermore, students expressed the need for a QR Code-based Community Education Internship Guidebook, with 55 students (80.88%) answering *agree* and 11 students (16.18%) answering *strongly agree*.

Based on these data, it can be concluded that students of the Community Education Study Program at FKIP Universitas Sriwijaya require a QR Code-based guidebook for their internship course practice.

Next, the team proceeded to the development stage, which involved creating the product followed by validation by three validators: an Indonesian language expert, a content expert, and a media expert. Animation media, as noted consist of a series of images processed into moving visuals with added audio to facilitate students in remembering and retaining messages or material [18]. Based on the validation results from the language expert, the QR Code-based Internship Guidebook received a *good* rating with a total score of 30, corresponding to a validity percentage of 70%. Although deemed good and feasible, there were still some comments and suggestions from the validator for improving the media. Validation by the content expert concluded that the product fell into the *valid* and *very good* category, with a total score of 37 or 92.5%. Similarly, the media expert's validation indicated that the guidebook was *valid* and *very good*, with a total score of 39 or 97.5%. In conclusion, the QR Code-based Internship Guidebook for Community Education students, validated by three experts in content, Indonesian language, and media/presentation, was considered valid, with a total score of 106 and an average validity percentage of 88.33%.

The next stage is implementation, which involves one-to-one and small-group trials to assess the practicality of the developed product. The one-to-one trial was conducted with five students, while the small-group trial involved 30 third-semester Community Education students. In the one-to-one trial, the product achieved the maximum score of 200, falling into the *very good* category with a percentage of 100%. This indicates that the QR Code-based Internship Guidebook for Community Education students can be considered practical. Similarly, the small-group trial results were categorized as *very practical*, with a total score of 1,197 and a percentage of 99.75%. This demonstrates that the QR Code-based

Internship Guidebook is practical and can be successfully implemented.

D. CONCLUSION

The results of the study on the development of the QR Code-based Internship Guidebook indicate that the product is valid and practical for use by students in the Community Education Study Program at FKIP Universitas Sriwijaya. Validation by three experts—an Indonesian language expert, a content expert, and a media expert—yielded scores of 30 (75%) for the language expert, 37 (92.5%) for the content expert, and 39 (97.5%) for the media expert, resulting in an average score of 88.33%, categorized as *very good* or *valid*. Subsequently, product trials were conducted through individual (one-to-one) testing with five respondents and small-group testing with 30 respondents. The one-to-one trial achieved a score of 100%, categorized as *very practical*, while the small-group trial achieved a score of 99.75%, also categorized as *very practical*. These results demonstrate that the developed product is valid and highly practical.

Based on these results, it is recommended that future researchers conduct a broader-scale effectiveness test of this product to measure its impact on improving student understanding and independence during internships. Furthermore, future researchers can develop additional interactive features, such as video tutorials, online discussion forums, or integration with digital learning platforms, to make the internship guide more dynamic and adaptable to user needs. Further research could also consider the use of the latest technology.

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