

CHAPTER III

METHODOLOGY

3.1 The Research and Development (R&D) Method

The Research and Development (R&D) method used in this study was based on the theory proposed by Borg and Gall (1983). According to Muthoharoh and Marmoah (2025), the Research and Development method is a research method that produces a specific product and tests its effectiveness to ensure its suitability for implementation in the learning process. According to Setiawan et al. (2024), product development methods emphasize a systematic process to produce innovations that provide practical value and competitive advantages. Therefore, this method differs from studies that only propose recommendations for improvement because development research focuses on creating tangible products that can be directly applied in practice. It is an important scientific approach that identifies needs, designs solutions, and validates those solutions into new products that effectively address those needs (Okpatrioka, 2023).

According to Borg and Gall (1983), as cited in Hidayah et al. (2023), the Research and Development model consists of ten stages carried out systematically. The first stage is research and information gathering, which includes activities such as literature studies, needs analysis, and small-scale preliminary research to understand existing problems. The second stage is planning, which includes determining research objectives, identifying necessary skills, and preparing a research design. Furthermore, in the preliminary product development stage, researchers develop initial materials, prototypes, and supporting components for the product. After the initial product is developed, preliminary field testing is conducted on a small scale. The results of these trials are then used as the basis for revising the main product. The next stage is the main field test, which evaluates the product on a larger group to determine its effectiveness. This stage is followed by operational product revision to refine the product based on the previous test results. The revised product is then retested through operational field testing to ensure that

it can be applied in real-world conditions. Final product revisions are made to address any remaining deficiencies. The final stage is dissemination and implementation. In this study, the researcher implemented the Borg and Gall model and adapted it into several stages according to the research needs and available resources.

3.1.1 Research and Development (R&D) Stages

Borg and Gall Research and Development (R&D) method, as cited in Hidayah et al. (2023), consists of ten sequential stages, including:

- 1) Research and information gathering: This stage includes a review of relevant literature, needs assessment, and conducting small-scale preliminary research as a basis for developing a research framework.
- 2) Planning: In this phase, a research plan is developed that includes identifying the necessary skills, setting objectives for each stage, and designing the research methodology. If necessary, a limited feasibility study is also conducted.
- 3) Initial product development: The initial product is developed by preparing supporting components such as guidelines and manuals, as well as evaluating the feasibility of the tools used in the research.
- 4) Initial field testing: Initial trials are conducted on a small scale with a limited number of research subjects. Data is collected through interviews, observations, or questionnaires to assess the effectiveness of the initial product.
- 5) Revision of the main product: The product is revised based on the results of the initial testing. This refinement process can be repeated several times until a main draft is obtained for further testing.
- 6) Main field testing: Large-scale testing is conducted involving more research subjects. Evaluation is carried out quantitatively by comparing

the results before and after implementation using an experimental research design.

- 7) Operational product revision: Findings from the main field test are analyzed to make further improvements, ensuring the product is ready for operational use.
- 8) Operational field test: Validation tests are conducted on a larger scale, involving more participants and institutions. Evaluation methods include questionnaires, interviews, and observations to assess product readiness without direct intervention from developers.
- 9) Final product revision: Final revisions are made based on the results of the validation tests to ensure that the product is in its final form and ready for implementation.
- 10) Dissemination and implementation: The final product is introduced to a wider audience through various means such as seminars, journal publications, and presentations to stakeholders to facilitate the adoption of the product in education or related industries.

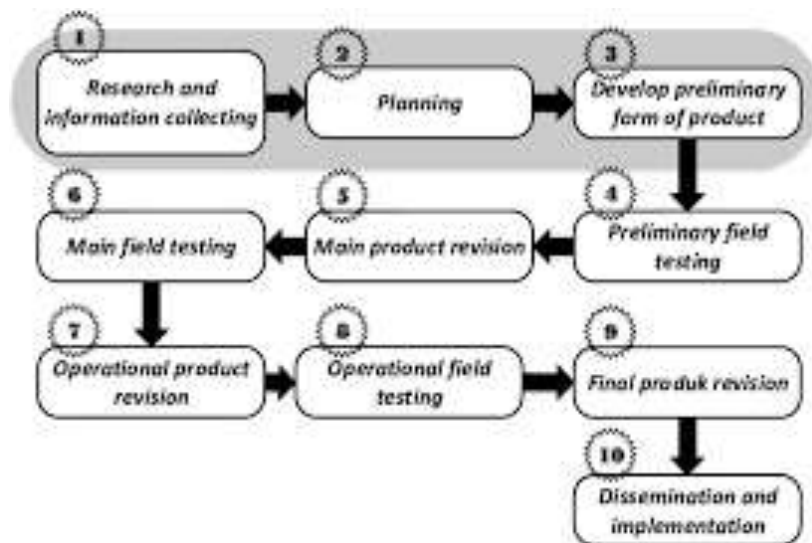


Figure 3.1 Stages of research and development (r&d) (www.researchgate.net)

The breakdown of the ten stages is as follows:

1) Research and information collecting

The Research and Development (R&D) method was used as the primary guideline and reference for the creation and development of this guidebook. Data in this study were collected using a qualitative approach through the following techniques:

a. Observation

According to Kumar and Sharma (2023) , observation is the process of directly observing the object being studied in its environment, both in terms of ongoing activities and those still in the development stage. This process is carried out by systematically observing the research object through the use of the five senses to obtain the required information. In this study, the researcher used observation techniques with descriptive analysis. Descriptive analysis is a data analysis technique used to describe and explain data obtained from research systematically without intending to make broader generalizations (Jailani & Saksitha, 2024). Through this technique, the observation from questionnaire data were clearly described to provide an overview of the conditions or phenomena undergoing research.

A questionnaire is a data collection technique that presents a set of written questions or statements that must be answered by respondents (Andre et al., 2024). This technique allows researchers to obtain data on respondents' opinions, perceptions, and experiences related to the research topic. In addition, the use of questionnaires facilitates the systematic and efficient collection of data from a number of respondents (Saádi, 2025). In this study, the questionnaire was designed in accordance with the research objectives so that the answers obtained could provide a clear and relevant picture of the issues being studied.

2) Planning

In this stage, product content development was carried out through the following steps.

a. Defining the Target Readers

The first step in the planning stage was to determine the target audience in accordance with the purpose of this book. This guidebook was intended for college students who were about to begin an internship in a new field so that they can quickly adapt and persevere until the internship is complete. The main target audience is college students who are about to undertake an internship. Therefore, this book was designed to be easy to understand and can be used as a practical guide for internship training.

b. Defining the Structure

The researcher defined the structure by systematically organizing its chapters and subchapters in the guidebook. This process ensured that the content flows logically and covered all important aspects of professional communication. A well-structured guidebook helped college students easily understand the material and master key concepts to adapt effectively to a new internship. By establishing a clear framework, this book becomes a comprehensive and practical resource for college student training.

c. Drafting the Materials

The researcher developed an initial draft of the book based on the results of the research that had been conducted. This process included gathering information, collecting materials, and adapting them to the needs of college students. By developing a systematic

draft, the book served as an effective and easy-to-understand guide while allowing for initial evaluation before further revision and refinement.

3) Developing Preliminary Form of Product

In this phase, the design format of the guidebook was developed, including the layout and visual elements that supported readability and information delivery. During this process, the researcher used illustrator and graphic design platforms such as Canva to ensure a professional and structured appearance for the guidebook. A systematic layout helped to present information clearly, while visual elements such as illustrations and infographics served to clarify the material. The use of organized design allows readers to better understand the contents of the book. In this phase, there were several aspects included, as follows:

a. Designing the Guidebook Format

The design of the guidebook format included the arrangement of layouts and visual elements that supported readability and information delivery. In this process, graphic design platforms such as Canva were used to ensure a professional and structured look for the guidebook. A systematic layout helped to present information clearly, while visual elements such as illustrations and infographics were used to clarify the material. The use of an organized design allows readers to understand the contents of the guidebook better.

4) Preliminary Field Testing

In this stage, the validity of the product was evaluated by experts, particularly those from academic institutions. This validation process played an important role in ensuring the accuracy and completeness of the guide. Evaluation by experts provides valuable

input for improving the content and structure of the material. In addition, the validation process included revisions necessary to improve the overall quality of the guide.

The expert validation sheet was divided into two aspects. The first aspect evaluated the design of the guidebook, including layout, typography, and visual elements. The second sheet assessed the content, focusing on the accuracy, clarity, and relevance of the material. The details of the validation sheet evaluated by experts are as follows.

a. Expert Validation for Media

Table 3.1 Statement of Expert Validation for Media

No	Questions
1	The layout of the guidebook is well-structured and visually appealing. (Strongly Agree/Agree/Disagree/Strongly Disagree)
2	The typography (font type, size, and spacing) is clear and easy to read. (Strongly Agree/Agree/Disagree/Strongly Disagree)
3	The visual elements (images, graphics, icons) support the understanding of the content. (Strongly Agree/Agree/Disagree/Strongly Disagree)
4	The color scheme and design aesthetics are appropriate and professional. (Strongly Agree/Agree/Disagree/Strongly Disagree)
5	The organization of sections and headings enhances readability and navigation. (Strongly Agree/Agree/Disagree/Strongly Disagree)

b. Expert Validation of Material

Table 3.2 Statement of Expert Validation of Material

No	Questions
1	The information provided in the guidebook is accurate and fact-based. (Strongly Agree/Agree/Disagree/Strongly Disagree)

- 2 **The content is clear, well-explained, and easy to understand.** (Strongly Agree/Agree/Disagree/Strongly Disagree)

- 3 **The material is relevant and applicable for college students facing a new job environment.** (Strongly Agree/Agree/Disagree/Strongly Disagree)

- 4 **The language used in the guidebook is appropriate and professional.** (Strongly Agree/Agree/Disagree/Strongly Disagree)

- 5 **What suggestions do you have for improving the guidebook's design?** (Paragraph)

- 6 **What recommendations do you have for enhancing the guidebook's content?** (Paragraph)

5) Revising Main Products

Based on expert validation results, revisions were made to improve the design and content of the guidebook. Changes to the layout, typography, and visual elements were implemented to improve readability and visual appeal. These revisions aimed to optimize the effectiveness of the guidebook as a training resource for college students.

6) Main Field Testing

This stage involved implementing the developed guidebook in a real-world setting with a broader group of users, such as students participating in internship programs. The purpose of this phase was to evaluate the practicality, usability, and initial effectiveness of the guidebook in supporting communication skills in workplace contexts. Data were collected through observations, questionnaires, and feedback from users to identify strengths and areas for improvement. The evaluation was conducted using the following assessment criteria:

a. Identity of the Respondent

Table 3.3 Questions List of Respondent Identity

No.	Questions
1.	Full Name
2.	Age (Example: 22)
3.	Have you ever taken training before an internship? • Yes, i have ever • No, i have never

b. Main questions

Table 3.4 List of Main Questions

No	Questions
1.	This guidebook has an attractive design. (Strongly Agree/Agree/Disagree/Strongly Disagree)
2.	The layout and font choices make the guidebook easy to read. (Strongly Agree/Agree/Disagree/Strongly Disagree)
3.	The use of images and illustrations aids in understanding the material. (Strongly Agree/Agree/Disagree/Strongly Disagree)
4.	This guidebook provides clear and well-structured information about internships. (Strongly Agree/Agree/Disagree/Strongly Disagree)
5.	The language used is simple and easy to understand. (Strongly Agree/Agree/Disagree/Strongly Disagree)
6.	The content is relevant and beneficial for students preparing for an internship. (Strongly Agree/Agree/Disagree/Strongly Disagree)
7.	This guidebook can be used as a self-study resource. (Strongly Agree/Agree/Disagree/Strongly Disagree)

8. The exercises and examples provided help improve the ability to adapt to professional communication styles at the future internship site.
(Strongly Agree/Agree/Disagree/Strongly Disagree)

 9. I would recommend this guidebook to other students who are about to start an internship or practical training.
(Strongly Agree/Agree/Disagree/Strongly Disagree)

 10. I would recommend this guidebook to my friends who are about to start an internship or practical training.
(Strongly Agree/Agree/Disagree/Strongly Disagree)

 11. In your opinion, which parts of this guidebook still need improvement? (Any feedback from you is highly appreciated) (Short Answer)
(Strongly Agree/Agree/Disagree/Strongly Disagree)
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To analyze the data, the researcher combined two research methods, namely quantitative and qualitative methods. The qualitative method was used to collect criticism and suggestions from respondents regarding product improvements before revision. Meanwhile, quantitative methods were obtained from the scores given by respondents to the product. To analyze the data, the scores obtained were calculated using the Likert scale theory, which helped in assessing the level of acceptance and effectiveness of the product based on the respondents' responses.

The Likert scale is a measurement method used to determine the perceptions, attitudes, or opinions of individuals or groups toward a phenomenon or social event (Wibowo et al., 2025). In this study, the scale categories used consisted of Strongly Disagree, Disagree, Agree, and Strongly Agree. Through the Likert scale, respondents are asked to state their level of agreement or disagreement with a number of statements that have been systematically compiled. These statements are designed to describe

the respondents' attitudes ranging from very positive to very negative towards the object being studied (Wibowo et al., 2025).

Table 3.5 Likert Scale Score

No	Category	Score
1.	Strongly Disagree	1
2.	Disagree	2
3.	Agree	3
4.	Strongly Agree	4

The score that has been obtained from the scale above is then calculated using the following formula.

$$X = Mx/n$$

M = Average Score

Mx = Total Scores

n = Total Respondents

The scores obtained from the test results were then converted using a four-point scale, by dividing the standard scores into four levels or specific qualifications (Yusrizal & Rahmati, 2022). This scale was used to make it easier for researchers to group the test results into clearer categories. Furthermore, the average score from the respondent response questionnaire is converted into qualitative data by referring to the criteria in the score conversion table (Rabbani & Arianingsih, 2023). In this way, the assessment results can be interpreted more easily according to the predetermined categories.

Table 3.6 Intervals		
No	Intervals	Category
1.	1.00 – 1.75	Strongly Disagree (SD)
2.	1.75 – 2.50	Disagree (D)
3.	2.50 – 3.25	Agree (A)
4.	3.25 – 4.00	Strongly Agree (SA)

If the calculation results show a number in the interval of 3.25 or above, then most of the responses are categorized as “strongly agree.” Therefore, this guidebook is considered suitable and appropriate for use as a learning medium for college students who will undergo internships. Although some items are slightly below 3.25, the overall average is above 3.25, so the guidebook is still categorized as “strongly agree” based on the dominant data trend. Therefore, small variations do not affect the overall suitability of the guidebook.

7) Operational Product Revision

Based on the findings from the main field testing, revisions were made to enhance the quality and effectiveness of the guidebook. This process included refining the content, improving clarity of instructions, adjusting design elements, and addressing any limitations identified during implementation. The goal of this stage was to produce a more polished and operational product that was ready for wider application.

8) Operational Field Testing

At this stage, feedback was collected from three target audiences and the expert. They were asked to evaluate the guidebook based on its design, content, and overall suitability as a learning resource, particularly in the field of internship. The feedback was also given the opportunity to provide constructive criticism and suggestions for further improvement.

9) Revising Final Product

At this stage, revisions to the “Survive Through Communication” guidebook were made based on criticism and suggestions provided by respondents through a questionnaire that had been distributed. These feedbacks was the final stage before the guidebook was printed as the final result of product development in this study. The improvements made included enhancements to the content, language, and layout to better suit the needs of students. The results of the revisions at this stage determined the final quality of the manual before it is distributed and used in professional communication training for college students adapting to new jobs during their internships.

10) Disseminating and Implementing

At this stage, the “Survive Through Communication” guidebook, which had undergone the entire design and revision process, was printed and registered for Intellectual Property Rights (IPR) protection. In addition, the guidebook was planned to be submitted to the Applied Foreign Language Study Program as a learning resource to support students in developing their ability to adapt to and survive in new work environments during internships.