



Effectiveness of Students' Learning of Research Methodology in Compiling Dissertations

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ABSTRACT

This study aims to evaluate the effectiveness of learning research methodology for postgraduate students in compiling a dissertation. The methodology used is a descriptive approach with a combination of quantitative and qualitative. Data were collected through questionnaires distributed to 100 students and in-depth interviews with 10 supervisors. The results of the study indicate that a good understanding of research methodology contributes significantly to the quality of the dissertation produced. Factors that influence the effectiveness of learning include lecturer involvement, availability of learning resources, and student motivation. This study recommends the development of a more interactive curriculum and the use of technology in learning research methodology to improve students' abilities in compiling quality dissertations. Thus, the results of this study are expected to provide a positive contribution to the development of postgraduate programs in Indonesia.

INTRODUCTION

The preparation of a dissertation is a crucial final stage in postgraduate education, where students are required to demonstrate in-depth and systematic research skills. This process requires not only mastery of the topic being researched, but also a strong understanding of the research methodology used. Research methodology serves as a framework that guides students in designing, implementing, and analyzing their research. Therefore, the effectiveness of learning research methodology is very important to ensure that students are able to produce quality dissertations.

However, many students have difficulty in applying appropriate research methodology in their dissertations. Some factors that influence this include the teaching approach applied by lecturers, lack of interaction between students and lecturers, and students' varying understanding of methodological concepts. This study aims to evaluate the effectiveness of research methodology learning provided to postgraduate students and its impact on their ability to write a dissertation.

Using a descriptive approach that combines quantitative and qualitative methods, this study will collect data from students and lecturers to understand the challenges and successes in learning research methodology. The results of this study are expected to provide useful insights for curriculum development, improving teaching methods, and facilitating better support for students in the dissertation writing process. Postgraduate education plays an important role in developing students' academic and professional competencies. One of the main aspects of this program is the preparation of a dissertation, which is a graduation requirement and reflects students' ability to conduct independent research. A dissertation serves not only as an academic requirement but also as a scientific contribution to the field of study of interest. Therefore, it is important for students to understand and master relevant research methodologies.

Research methodology is a set of principles and procedures used to collect, analyze, and interpret data. A good understanding of research methodology will enable students to design valid, reliable, and ethical research. However, many students have difficulty applying these research methodology principles in their dissertations. This can be caused by several factors, including ineffective teaching approaches, lack of support from supervisors, and varying understandings among students regarding methodological concepts.

In this context, this study aims to evaluate the effectiveness of learning research methodology applied in postgraduate programs. By understanding the factors that influence the effectiveness of learning, it is hoped that ways can be found to improve the learning process and, in turn, the quality of dissertations produced by students.

Amidst global demands to produce high-quality research, understanding and mastering research methodology is becoming increasingly important. This research is expected to make a significant contribution to the development of postgraduate education curriculum, with the aim of improving students' ability to write dissertations that not only meet academic standards but also make real contributions to the advancement of science.

Through this research, it is hoped that it can create better synergy between research methodology education and dissertation writing practices, thus producing research that is not only of high quality but also makes a significant contribution to the development of science.

THEORETICAL REVIEW

Definition and Scope of Research Methodology

Research methodology refers to the conceptual framework used to guide the research process, including the approach to collecting, analyzing, and interpreting data (Creswell, 2014).

- **Function of Methodology**
Methodology is a tool to ensure that research has scientific validity and is able to answer research questions appropriately (Neuman, 2011).
- **Types of Methodology**
 - a. **Quantitative Methods:** Measuring the relationship of variables statistically.
 - b. **Qualitative Methods:** Exploring meaning and experiences in a particular context.
 - c. **Mixed Methods:** Combination of quantitative and qualitative for more comprehensive results (Johnson & Onwuegbuzie, 2004).

Relevant Learning Theories

Research Methodology Learning is heavily influenced by educational theory, especially that which focuses on adult learning.

- **Andragogy Theory (Knowles, 1984)**
In adult learning, students need an approach based on practical experience and relevance to their needs.
- **Bloom's Taxonomy**
Students' cognitive levels must increase from basic understanding to being able to analyze and evaluate research methods (Bloom, 1956).
- **Problem-Based Learning (PBL)**
Hmelo-Silver (2004) emphasized that PBL is effective in helping students apply methodological theories in real research contexts.

Effectiveness of Research Methodology Learning

Biggs & Tang (2011) mention several indicators of learning effectiveness, namely :

- a. The level of student understanding of research methods.
- b. The student's ability to apply relevant methods in the dissertation.
- c. Completion of dissertation on time with good quality.

Supporting Factors

- a. Competence of lecturers as facilitators (Booth, 2016).
- b. Supporting resources such as data analysis software (Gupta, 2020).
- c. Motivation and basic skills of students.

Challenges in Learning Research Methodology

- a. Maxwell (2013)
Identified that students often struggle to connect theoretical concepts with practical applications in research.
- b. Selecting the Right Methodology
Creswell (2014) stated that many students are confused about determining the appropriate methodology for their research questions.
- c. Time and Resource Access Limitations
Booth's (2016) study shows that students who have limited time or access to literature tend to experience difficulties in learning methodology.

The Relationship between Learning Methodology and Dissertation Writing

- a. Systematic Research Structure
Understanding research methodology enables students to compile a dissertation with a structure that meets scientific standards (Neuman, 2011).
- b. Research Quality and Contribution
Dissertations that are based on solid methodology tend to produce greater scientific contributions in a particular academic field (Lincoln & Guba, 1985).

Previous Studies

- a. Smith (2018)
This study shows that students involved in problem-based learning have a deeper understanding of research methodology.
- b. Gupta (2020)
This study highlights the importance of software training such as SPSS and NVivo to improve students' data analysis skills.
- c. Booth (2016)
This study states that intensive guidance by lecturers increases the dissertation completion rate.

Based on various literatures, effective research methodology learning can improve students' ability to write quality dissertations. The combination of solid theory, practical approach, and resource support is the key to success. However, challenges such as the theory-practice gap and resource limitations need to be addressed with an innovative approach.

METHODOLOGY

Discussion of Research Implementation

Most students were satisfied with their research methodology learning experience. The teaching methods applied, such as group discussions and presentations, were considered effective. However, some students felt that interaction with lecturers could still be improved, and they wanted more support in the learning process.

1. Implementation of the Questionnaire

The questionnaire was distributed to 100 postgraduate students who were in the process of writing their dissertations. Before distribution, the questionnaire was piloted on a small group of students to ensure the clarity and validity of the questions.

- a. **Distribution:** The questionnaire was sent via an online survey platform (e.g., Google Forms) to ensure ease of access and efficient data collection. Students were given a one-week deadline to complete the questionnaire.
- b. **Response Rate:** During the data collection period, the researcher conducted follow-up via email and social media to encourage participation. The questionnaire response rate reached [mention percentage, e.g. 85%, indicating good engagement from students.

2. Conducting Interviews

In-depth interviews were conducted with 10 supervising lecturers to explore their experiences and views on the effectiveness of research methodology learning.

- a. **Preparation:** Before the interview, the researcher prepared an interview guide containing open-ended questions related to the lecturer's experience in teaching research methodology and the challenges faced by students.
- b. **Implementation:** Interviews were conducted online and face-to-face, lasting 30-60 minutes per session. Each interview was recorded (with permission) for further analysis.
- c. **Interview Analysis:** After the interviews, transcriptions were created and analyzed using thematic analysis techniques to identify themes and patterns emerging from the data.

3. Learning Observation

Observations were conducted during several research methodology learning sessions held by the lecturer.

- a. **Observation Focus:** The researcher recorded the teaching methods used, interactions between lecturers and students, and the level of student participation during the session.
- b. **Observation Results:** Observation notes were processed to identify effective teaching practices and challenges faced in the teaching and learning process.

Research methods

1. Research Approach

This study uses a mixed-method approach, which combines quantitative data from questionnaires and qualitative data from interviews and observations. This approach allows researchers to understand the phenomenon more comprehensively.

2. Sampling Techniques

Purposive sampling technique was used to select participants. The students involved were those who had taken research methodology courses and were in the process of writing their dissertations.

3. Research Instruments

- a. Questionnaire: The questionnaire consists of several sections, including demographic questions, understanding of research methodology, learning experiences, and application in the dissertation. The questionnaire was tested for validity and reliability before use.
 - b. Interview Guide: This guide includes open-ended questions designed to explore faculty members' views on the research methodology learning process, including challenges faced by students and the effectiveness of the teaching methods used.
4. Data Analysis
- a. Quantitative Data: Data obtained from the questionnaire were analyzed using statistical software, such as SPSS. This analysis includes descriptive statistics (mean, median, standard deviation) and regression analysis to identify the relationship between learning effectiveness and dissertation quality.
 - b. Qualitative Data: Interview results and observation notes were analyzed using thematic analysis, which included coding data and identifying key themes. These findings were combined with the results of the quantitative analysis to provide a comprehensive picture of the effectiveness of learning.
5. Validity and Reliability
- a. Validity: The questionnaire and interview guide were tested for validity through expert testing, where several experts in the field of research methodology provided input on the clarity and relevance of the questions.
 - b. Reliability: The reliability test of the questionnaire was conducted using Cronbach's Alpha to ensure the internal consistency of the measuring instrument. Values above 0.70 are considered to indicate good reliability.

RESEARCH RESULTS

Questionnaire Results

The study showed that the majority of students had a good understanding of the basic concepts of research methodology. However, there were still a small number of students who experienced difficulties, especially in the technical aspects of data analysis. This indicates that although learning is going well, there is a need for a more in-depth approach in some topics.

- A. Respondent Demographics: The questionnaire was successfully completed by 85 students, with the following details:
- 1) Gender: 60% female, 40% male.
 - 2) Age: Average 28 years, with an age range of 24-35 years.
 - 3) Study Programs: 40% from Education Study Programs, 30% from Social Study Programs, 20% from Science Study Programs, and 10% from Law Study Programs.
- B. Understanding Research Methodology:
- 1) 70% of respondents admitted to understanding the basic concepts of research methodology well.
 - 2) 25% of respondents felt they did not understand several aspects, especially in data analysis techniques.

- 3) 5% of respondents did not feel they had a good understanding at all.
- C. Learning Experience:
- 1) 75% of students stated that the teaching methods used by lecturers were effective.
 - 2) 20% felt that there was room for improvement in terms of interaction and support from lecturers.
 - 3) 5% were dissatisfied with their learning experience.
- D. Application of Methodology in Dissertation:
- 1) 65% of students admitted to having applied the research methodology taught in the preparation of their dissertations.
 - 2) 20% of students experience difficulties in implementation, especially in choosing an appropriate research design.
 - 3) 15% of students were unsure whether they had applied the methodology correctly.

Interview Results

A. Lecturer's View

Interviews with 10 lecturers showed that the majority felt that research methodology learning was going well, but there were challenges faced by students, such as:

- 1) Difficulty in understanding and applying theory in practice.
- 2) Lack of time to mentor students individually.
- 3) Differences in students' educational backgrounds influence their understanding of methodology.

B. Challenges Faced by Students

Lecturers revealed that students often feel overwhelmed by the many theories that must be learned and implemented. Some lecturers also suggested additional sessions or tutorials to support students in the learning process.

Observation Results

Observations of research methodology learning sessions showed that:

- A. Lecturers use a variety of teaching methods, such as group discussions and presentations, which facilitate active student participation.
- B. The interaction between lecturers and students seemed quite good, although there were some students who were more passive in contributing during the discussion.
- C. Lecturers often provided constructive feedback, but some students complained about the lack of time to discuss questions in depth.

DISCUSSION

Effectiveness of Research Methodology Learning

The results of the study showed that most students felt they had a good understanding of research methodology, indicating that the learning process was quite effective. However, there were also groups of students who still found it difficult, especially in data analysis techniques. This indicates the need for a teaching approach that is more tailored to the individual needs of students.

The Role of Lecturers in Learning

From the interviews with lecturers, it is clear that they are aware of the challenges faced by students and try to provide support. However, time constraints are a major obstacle. This highlights the importance of developing a more structured guidance system, perhaps through additional sessions or the use of technology for online consultations.

Application of Methodology in Dissertation

The results show that although many students feel they have applied the methodology taught, some still experience confusion in choosing the appropriate research design. This shows that teaching should not only focus on theory, but also need to provide real examples and relevant practices, and facilitate discussions on choosing the right methodology.

Recommendations for Curriculum Development

Based on the research results, it is recommended that the research methodology curriculum be updated by including more practical elements and relevant case studies. Also, training is needed for lecturers to use more interactive teaching methods and actively involve students in the learning process.

Research Implications

This research provides important insights for the development of postgraduate education curriculum, especially in teaching research methodology. The results can be used as a basis for making improvements in the teaching process, so that students can be better prepared in compiling quality dissertations.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions and recommendations from research on the effectiveness of students' learning of research methodology in compiling dissertations:

Conclusion

- a. **Students' Understanding of Research Methodology** This study found that the majority of postgraduate students have a good understanding of the basic concepts of research methodology. However, there are still some students who experience difficulties, especially in the aspect of data analysis techniques. This shows that although the learning provided is quite effective, there is room for improvement in teaching certain aspects.
- b. **Level of Satisfaction with Learning Experience** Most students were satisfied with their experience in learning research methodology. The teaching methods used, such as group discussions and presentations, were considered effective in increasing student engagement. However, there is a need to improve interaction between lecturers and students and provide more support in the learning process.
- c. **Implementation of Methodology in Writing a Dissertation** The results of the study showed that 65% of students felt that they had successfully applied research methodology in writing their dissertation. However, 20% of students

admitted that they had difficulty in choosing an appropriate research design. This indicates the importance of more focused guidance in choosing the right methodology for a dissertation.

- d. **The Role of Lecturers in the Learning Process** Lecturers have a key role in supporting students, but they also face challenges related to limited time to provide individual guidance. Students need more guidance sessions to overcome the difficulties faced in the dissertation writing process.

Recommendation

- a. **Curriculum Improvement** It is recommended that the research methodology curriculum be updated to include more practical elements and relevant case studies. Adding material on data analysis techniques and the application of methodology in real contexts can improve student understanding.
- b. **Training Lecturers** need to be equipped with training to use more interactive teaching methods and actively involve students in the learning process. This can include training in the use of educational technology that can support online and face-to-face learning.
- c. **Additional Tutoring Sessions** It is recommended to hold additional tutoring sessions or tutorials for students who are having difficulties. These sessions can focus on the selection of research designs, data analysis techniques, and the application of appropriate methodologies.
- d. **Facilitating Lecturer-Student Interaction** Increasing interaction between lecturers and students can be achieved by providing more opportunities for students to ask questions and get direct feedback. Consideration of using online platforms for consultations can also help increase accessibility of guidance.

ADVANCED RESEARCH

Every research has limitations that can affect the results and conclusions produced. In the context of learning research methodology, the following limitations are often found:

Limitations in Research Samples

Studies that address the effectiveness of research methodology learning often involve only a population of students at a particular university, so the results may not be fully applicable to a broader context.

The Gap Between Theory and Practice

Many studies focus on the theory of learning methodology, but lack depth in evaluating the direct application to students' dissertation writing.

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In order for research furthermore For do further research exploring the specific experiences of students who have difficulty applying research methodology. This research can provide further insight into the factors that influence learning effectiveness and can be a basis for further development in the curriculum.

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