Analysis of Research Skill in Understanding Research Method to Prospective Teacher at Islamic Elementary School

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Abstract

At both the secondary and tertiary education level, Indonesia's low research ability is a sign which prospective teachers have not demonstrated the best research abilities. The purpose of this study was to identify skills in understanding research methodology for prospective teachers at islamic elementary school. The research method used is a case study using a qualitative approach. The data used are primary data and secondary data, primary data obtained through observation and interviews with 23 prospective teachers in class VI while secondary data researchers obtained from supporting reference documents in the form of relevant articles and books. Data validation is in the form of data triangulation with three classifications, namely analysis, interpretation and conclusion. The results of the findings of this study are the ability to observe problems that will be identified later. Achievement with this indicator has not shown optimal achievement. The ability to interpret the problem with the formulation of the problem. The achievement of this indicator is not optimal. The ability to group variables to formulate hypotheses. The achievement of this indicator has shown optimal ability. The ability to take samples to make research designs, the achievement of this indicator has experienced optimal achievement. The ability to collect, analyze and compare data, the ability to collect and analyze data has been optimally achieved because it is supported by observational data such as the spontaneity of prospective teachers when given assignments or questions and answers in class regarding the indicators contained in this study while for the ability to observe problems , formulating problems and comparing data that has not been optimally achieved due to the lack of reading literature and the condition of prospective teachers who take part in online learning because there is a task of introducing school fields (PLP) outside the campus so that the understanding of prospective teachers is not optimal.

Keywords: Prospective teacher, Research method, Research skill

Abstrak

Baik di tingkat pendidikan menengah maupun tinggi, rendahnya kemampuan riset Indonesia merupakan tanda bahwa calon guru belum menunjukkan kemampuan riset terbaik. Tujuan penelitian ini ialah mengidentifikasi keterampilan dalam memahami metodologi penelitian pada calon guru Madrasah Ibtidaiyah. Metode penelitian yang digunakan yaitu studi kasus dengan menggunakan pendekatan kualitatif. Data yang digunakan ialah data primer dan data skunder, data primer diperoleh melalui observasi dan wawancara kepada 23 calon guru dikelas VI B sedangkan data sekunder peneliti peroleh dari dokumen rujukan yang mendukung baik berupa artikel dan buku yang relevan. Validasi data berupa triangulasi data dengan tiga klasifikasi yaitu analisis, interprestasi

dan penarikan kesimpulan. Hasil dari temuan penelitian ini yaitu kemampuan mengamati permasalahan yang nantinya hendak diidentifikasi, Ketercapaian dengan indikator ini belum menunjukkan ketercapaian yang optimal. Kemampuan menafsirkan permasalahan dengan rumusan masalah, Ketercapaian indikator ini belum optimal. Kemampuan mengelompokkan variabel untuk merumuskan hipotesis, Ketercapaian indikator ini sudah menunjukkan kemampuan yang optimal. Kemampuan pengambilan contoh untuk membuat desain penelitian, ketercapaian indikator ini sudah mengalami ketercapaian secara optimal. Kemampuan untuk mengumpulkan, menganalisis dan adanya pembandingan data, pada kemampuan mengumpulkan dan menganalisis data telah tercapai secara optimal karena didukung oleh data observasi seperti spontanitas calon guru ketika diberikan tugas ataupun tanya jawab dikelas mengenai indikator-indikator yang termaktub pada penelitian ini sedangkan untuk kemampuan mengamati permasalahan, merumuskan masalah dan pembandingan data belum tercapai secara optimal diakibatkan oleh minimnya literatur bacaan dan kondisi calon guru yang mengikuti pembelajaran via daring dikarenakan ada tugas pengenalan lapangan persekolahan (PLP) diluar kampus sehingga pemahaman calon guru tidak maksimal.

Kata Kunci: *Calon guru, Keterampilan meneliti, Metodologi penelitian*

INTRODUCTION

A number of studies have been conducted which show the poor level of research ability in Indonesia both at the middle and high school levels, including according to (Aripin et al., 2021; Ariyanto & Trisna, 2020) with the conclusion that teachers or educators in the future are used as subjects because they are still in the process of with research skills, especially those related to using research methodology, organizing research, responding to research hypotheses, and presenting research findings .

In fact, we often see teachers who are trying to improve their research skills but are constrained by several things, namely: First, for example the teacher is not aware of the importance of writing ethics (for example, the teacher is not familiar with the term plagiarism). Second, teachers do not have the ability to paraphrase study findings and put them in indirect speech. Third, the teacher's lack of knowledge of scientific writing terminology (eg, publishing, reviewing articles, or even the inability to distinguish between journals and articles). Fourth, not many teachers have been able to publish their writings in recognized national or worldwide journals. Of these four factors, of course, have a major influence on the ability of teachers' research skills (Maknun et al., 2020).

Naturally, there are a number of factors that need to be considered to build research skills including: First, teachers must be accustomed to engaging in activities related to literacy (reading, sharing their thoughts in conversations and seminars). Second, teachers must be accustomed to working collaboratively in academic settings with professors, students, and other members of the community. Third, teachers must develop the habit of reading literature based on previous research findings to identify research gaps in a study. Through a series of exercises that motivate students to develop their abilities, this research ability must be trained. It is very important to increase the research ability of teachers through this habit, realized through a planned and methodical learning process, and because there are suggestions that lecturers can play a role in research (Ikram & Ilyas, 2022; Marx & De Swardt, 2023).

So the Research Methodology course is one of the courses that helps in the preparation of scientific work (Khoir, R. Eka Murtinugraha, Sittati Musalamah, 2020). In this study, various forms of research, appropriate research methodologies, research variables, theoretical foundations,

hypotheses, and others include. Prospective teachers often lack the ability to articulate their thoughts in the scientific work they write, as well as the necessary reading skills and expertise with compiling scientific work (Khoir, R. Eka Murtinugraha, Sittati Musalamah, 2020).

This shows how complicated the teaching profession is, especially when it comes to human development, namely students within the framework of national education (Al Faruq & Supriyanto, 2020; Priyatna, 2017; Srinalia, 2015). Teachers are the forerunner of National Education, as seen from the various responsibilities they carry out (Syafe'i, 2017; Triposa et al., 2021). This implies that a country's education system is influenced by the quality of its teachers (Arseni et al., 2020; Mutiawati, 2019; Nursyamsiyah et al., 2021; Widiansyah, 2017). In addition to increasing educational standards, this can be done through increasing the standards of prospective teachers (Vidiarti, 2019). Improving prospective teacher professionalism and instructional skills are two other ways to improve teacher quality besides focusing on their welfare (Kusumaningrum et al., 2020). Instructor professional and pedagogical skills are basically very important for teachers, according to (Dirgantoro & Soesanto, 2021; Sudianto & Kisno, 2021; Turmuzi & Eka Kurniawan, 2021) in higher education, not only current teachers but also those who wish to become prospective teachers must prepare well.

Based on this explanation related to research skills through research methodology on prospective teachers, the question in this research is: How is the ability of research skills to understand research methodology on prospective Madrasah Ibtidaiyah teachers. This research has similarities with previous studies, namely, First, research from Nafri Yanti, Suhartono & Fina Hiasa (2018) with the title: "Academic Writing Skills of Undergraduate Students in the Indonesian Language and Literature Education Study Program, FKIP University of Bengkulu". Second, research from Muhammad Ikram, Ma'rufi & Muhammad Ilyas (2022) with the title: "Analysis of Difficulties and Lecturer Responses to Research Skills for Students: Preliminary Study to Design a Hypothesis of Student Learning Trajectories". Third, research from Lisa Aditya Dwiwansyah Musa (2020) with the title: "Implementation of Research-Based Learning to Improve Students' Research Skills". Fourth, research from Siti Syamsuduha, Ayu Ruqayyah Yunus, Danial Rahman (2020) with the title: "Review of Student Research in the Postgraduate Islamic Education Management Masters Program at UIN Alauddin Makassar (Analysis of Trends and Fields of Student Research Studies)". Fifth, research from Djohar Maknun, Ria Yulia Gloria & Jajang Aisyul Muzakki (2020) with the title: "Research Skills Possess by Biology Education Study Program Students in Region III Cirebon". Of the five previous studies, what made the difference was that this study focused more on understanding the research methodology of prospective teachers at Madrasah Ibtidaiyah, while the previous research emphasized research skills only but did not rely on research methodology courses.

The aim of this research is to identify skills in understanding research methodology for prospective Madrasah Ibtidaiyah teachers. In line with these objectives, the researchers here are interested in elaborating more comprehensively related to the theme/title: "Analysis of Research Skills in Understanding Research Methodology on Prospective Madrasah Ibtidaiyah Teachers".

RESEARCH METHOD

Case study is the method that the researcher chose in this article. This research adopts a qualitative descriptive approach that refers to various sources (Purwanti, Zuanita Adriyani & Ega Fatmawati, 2022). This qualitative descriptive research seeks to create a methodical, factual, and precise description of the details, characteristics, and relationships between the events studied. In line

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with this, this study aims to describe skills related to research in understanding research methodology in prospective Madrasah Ibtidaiyah teachers.

Primary data sources and secondary data sources are the subjects in this study (Afian & Donny Agung Saputra, 2021; Raibowo et al., 2019). Class VI B teacher candidates serve as the main source of information or research subjects. As for the main sample of data collection were prospective teachers as many as 23 people. This is based on the overall coverage of the available population. Secondary data sources include information collected from previously published works, such as books, essays, or scientific articles, which are related to the problem at hand (Hamzah, 2020; Hasyim Achmad, 2021; Roberts et al., 2018). This research was conducted in May 2023, then the place for this research was carried out at UIN Sunan Kalijaga Yogyakarta which is located on Jl. Rear Admiral Adisucipto, Papringan, Caturtunggal, Kec. Depok, Sleman Regency, Special Region of Yogyakarta.

Structured interviews, documentation, and observation were all used as data collection strategies (Kustian et al., 2018). Data validity test is used to ensure that conclusions are validated. When conducting qualitative research, data triangulation is carried out to check the accuracy of the data (Ramadanti, Andi Alim Syahri, Kristiawati, 2022). In this study, the process of collecting data and analyzing it occurs simultaneously, which consists of three: critical analysis, critical interpretation, and conclusions (Nawangsih, 2022; Swara Gema Ramadhan & Gallant Karunia Assidik, 2022). In line with the data validation techniques and data collection techniques that have been described above, the researchers formulated indicators of research skills and indicators of understanding of the research methodology to become indicators of research skills in research methodology to determine the achievement of these indicators, therefore the researchers presented them in the following table:

Table 1. Indicators of Research Skills and Understanding of Research Method

Research Skill Indicator	Understanding Indicator	Indicator of Research Skill in Understanding Research Method
Identification of problem	Inferring	Observing problem for identification
Formulate Problem	Interpreting	Interpreting Problem Through Problem Formulation
Formulating Hypotheses	Classifying	Grouping Variable to Formulate Hypotheses
Make a research plan/design Collecting data	Exemplifying	Take Example for Make a Research Design,
Analyzing Data Making Conclusions	Comparing	Collect, Analyze and Summarize Data for Comparison

After formulating the indicators of research skills and indicators of understanding of research methodology to become indicators of research skills in research methodology, they can be formulated and reduced to become the main reference in making interview instruments, which are as follow:

Table 2. Interview Instruments with Islamic Elementary School Teacher Candidates

No	Question
1	How would you look at the problem to identify in the research methodology?
2	How do you formulate the problem in order to have an accurate interpretation of the research methodology?
3	How do you group variables to formulate hypotheses within the research methodology?
4	Where do you take reference examples to make research designs on research methodology?
5	How do you collect, analyze and conclude data to be synthesized and then compare the data to the research methodology?

Next, the researcher will present the results and discussion related to skill abilities in understanding the research methodology of prospective Madrasah Ibtidaiyah teachers. So that the researcher will display some data derived from interviews with prospective class VI B teachers and display document data in discussion based on the suitability of the literature with the focus point of the title that the researcher took from journal articles, books, texts or other available references.

RESULT AND DISCUSSION

Based on the data obtained by the researchers in the form of observations, interviews and documents while in the field, the findings are presented in line with the question indicators that the researchers designed based on the available indicators. Following are the findings of this study:

Table 3. Research Finding

No	The Concept of Research Skills in Research Methodology	Finding
1	Observing Problem for Identification	By going through field studies such as observation at the object of research until within a period of several days or several times so that it reaches the point of the problem being explored. Then, apart from observations or surveys, literature studies are also carried out to explore the problems that occur in the current era, after that the problems are mapped/conceptuated through steps in identifying problems.
2	Interpreting Problem Through Problem Formulation	In order to have an accurate interpretation, there are several steps. First, choose a phenomenon or discussion theory. Second, determine the design used to determine the scope of the study. Third, the formulation of research problems. The problem formulation is studied through 5W + 1H questions so that more specific problem analysis results are obtained and then consulted with lecturers or colleagues.
3	Grouping Variable to Formulate Hypotheses	Through the research title used so that researchers can classify existing variables, for example the independent variable (x), the dependent variable (y). then from these variables the researcher can predict whether the variables x and y influence each other or not, so that they can find hypotheses (temporary guesses) so as to find factors that are influenced, influenced or mutually influenced and ensure that the hypothesis can and is feasible to be tested.
4	Taking Sample to Create Research Design	Obtaining examples in making research designs through sources originating from previous research in the form of theses, theses, dissertations, books or journal articles of national or international reputation that are relevant to the title/theme taken.
5	Collect, Analyze and Summarize Data for Comparison	Data collection techniques were carried out by observation, interviews, questionnaires and document studies. Then analyzed the data by comparing the data either in the form of descriptions or quantitative data which was analyzed with the help of SPSS as one of the data analysis tools so that data conclusions were obtained to be compared from each data obtained.

In line with the findings, the researcher through observation stated that there were several facts from field data related to the description of the five indicators that had been formulated, namely, first, the ability to observe problems to be identified. Based on the researchers' observations that some prospective teachers/students have been able to observe existing problems, while some of them have not been able to do so. The problem is the lack of reading material or the condition of prospective teachers who are currently practicing at school and they are required to learn this research methodology online because it has not been maximized in lectures which is the main problem related to the ability of prospective teachers to observe problems.

Second, the ability to interpret problems with problem formulation. Through the observation of researchers that the ability to interpret problems with the formulation of this problem is also not optimal because there are still gaps between prospective teachers with one another due to the lack of reading literature so that components related to classification, identification of problems and even interpreting problems systematically have not run optimally.

Third, the Ability to Group Variables to Formulate Hypotheses. Based on the observations that the researchers made that related to the ability to group variables to formulate hypotheses, they did not experience difficulty in formulating them. The researchers observed that the ability of prospective teachers regarding the separation of variables, for example dependent variables, independent variables, intervening variables and affected variables was not an obstacle because they could adjust to the title selected theme.

Fourth, Sampling Ability to Make Research Designs. Through the observation of researchers related to the ability to take samples to make research designs that prospective teachers are very good at this, it can be seen that when researchers go through teaching, ask and answer spontaneously, prospective teachers can immediately answer correctly and well. This is one of the researchers' indicators related to the achievement of the ability to take samples to make research designs.

Fifth, the ability to collect, analyze and compare data. Based on the observations of researchers related to the ability of prospective teachers to collect, analyze and compare acquisition data, it states that the ability of prospective teachers has not mastered it optimally data.

Therefore, related to the five achievement indicators regarding research skills in understanding the research methodology of prospective teachers, the researchers obtained through interviews and field observations that there were several indicators that were achieved and also those that had not been achieved optimally. This achievement can be observed by several indicators, for example through assignments with the achievement of being able to do a good job of research methodology through research skills. Then it is not achieved optimally also researchers can observe or with the ability to answer questions When being interviewed regarding research skills in understanding research methodology.

Based on the results obtained in this study through research skills towards understanding research methodology, there are five main indicators namely. First, observe the problem for identification. Second, interpreting the problem through the formulation of the problem. Third, grouping variables to formulate hypotheses. Fourth, take an example to make a research design. Fifth, collect, analyze and conclude data for comparison. Through these indicators, the researcher observed and interviewed 23 class B students in Semester VI with the results and essence of each indicator as follows:

First, prospective teachers in observing problems that will later be identified through several efforts including direct observation of the field, reading existing literature and so on. So in terms of research methodology, these steps are justified in exploring problems that will later become research material. In line with this, based on the observations of researchers that some students have been able to observe existing problems, while some of them have not been able to do so. The problem is the lack of reading material or the condition of prospective teachers who are currently practicing at school and they are required to learn this research methodology online because it has not been maximized in

lectures which is the main problem related to the ability of prospective teachers to observe problems. In line with research (Movitaria et al., 2023) that from the results of the research data obtained it shows that a lack of interest in reading will affect writing skills so that it becomes an obstacle in understanding research methodology. So according to research (Budhyani & Angendari, 2021) that the ability to write scientific papers is lacking. This is based on the ability to gather ideas for the final project, the ability to write scientific papers and collect reading sources which are still at a low percentage.

Second, interpreting the problem with the formulation of the problem carried out by prospective teachers including choosing the phenomenon or theory of discussion being studied, determining the object of study, determining the design used, determining the scope of the study after that the problem is formulated in accordance with the chosen title (Afandi, 2018). In line with this, based on the results of the interviews that the researchers obtained in the field, the ability of prospective teachers to interpret this problem was also not optimal because based on the observations that the researchers obtained, there was still a gap between prospective teachers with one another due to the lack of reading literature so that the components related to classification, identification of problems and even interpreting problems hierarchically has not run optimally. In line with research (Yanti et al., 2018) states that some of the obstacles that cause the low ability to write scientific articles are due to the low reading culture, so they have difficulty finding ideas to write about. In addition, low motivation, objectivity in assessment, and limited references are also one of the reasons for the low ability to write student articles supported by research (Khanifah et al., 2019) as a result, prospective teachers are not optimal in presenting problem solving using different ways.

Third, the efforts of prospective teachers in grouping variables to formulate hypotheses include grouping based on theoretical foundations and support from relevant observations, grouping between variables x and y, then formulating hypotheses (Ho and Ha) and observations from the research title used so that the existing variables can be grouped, for example the independent variable (x) and the dependent variable (y), then from these variables one can estimate whether the x and y variables influence each other or not, so that one can find a hypothesis (temporary conjecture). In line with this statement, prospective teacher mastery is related to grouping variables and formulating indicators without difficulty in formulating them. On the other hand, based on observations made by researchers, the ability of prospective teachers regarding the separation of variables, for example dependent variables, independent variables, interfering variables and affected variables is not an obstacle because they can adjust to the chosen theme title. Hypothesis ability is a very important part of research, especially for quantitative research (Zaki & Saiman, 2021).

Fourth, taking samples of prospective teachers to make research designs, there are several accesses that are carried out, namely through examples of previous research in the form of articles, theses and online databases in the form of books or other tools that help find written reference sources. In line with this statement, the ability of prospective teachers to find reference sources related to research design is already very good. Therefore, this has an impact on the ability of prospective teachers to determine research designs in accordance with the abilities and expectations of each individual. Along with this fact, it is also strengthened based on the observations that researchers have made that the ability of prospective teachers related to the formulation of research designs does not have any obstacles. It can be seen that when researchers ask and answer spontaneously, prospective teachers can immediately answer quickly and well and are able to do assignments well (Akiri et al., 2020).

Fifth, the ability of prospective teachers to collect, analyze and compare data obtained with previous research has not shown an accurate understanding as seen from the answers based on the interviews that the researchers obtained. But in this case, to collect and analyze data, it seems that prospective teachers are able to put it into their tasks, for example data acquisition, in this case data collection, can be obtained through observation, interviews, questionnaires or literature studies. Meanwhile, for data analysis, prospective teachers have also been able to transmit this ability. For

example on quantitative data analysis can be done using analytical tools in the form of SPSS and so on. As for the comparison of their perceptual data, data 1 and 2 are separated and then compared, while the ability to compare data ideally is our data acquisition, the results are comparisons, but after presenting the data from our research, we then compare the data, are there similarities or differences between them? . Therefore it is compared and that is the importance of comparing the data we get with data from other people in the form of previous studies. In line with the statement above, based on the researcher's observations that the ability of prospective teachers to compare acquisition data has not been able to be understood optimally, this can be seen that prospective teachers are still confused about techniques for ideally comparing data so that this is the main obstacle at this point. Relevant to research from (Juita & Yusmaridi, 2018) that in his research stated that the indicators of comparing and explaining had a low category, this was because all the explanations of the presenters were not all absorbed by students. On the other hand students are required to be able to detect similarities and differences in research results (Handayani et al., 2021).

Based on the discussion related to the five indicators regarding research skills in understanding research methodology by prospective Madrasah Ibtidaiyah teachers it is relevant to the results of previous research, namely by (Maknun et al., 2020) with research results an average of 62.82% of people have mastered the art of research and design. Less instruction is given in research skills during the learning process; Only 34% of practicum supervisors do this. Therefore the conclusion in the research of Jhohar Maknun et al is still in the poor category for mastering research skills.

The research skills from this research are also based on indicators that there are some who are in a state of lack of understanding such as the ability to observe problems that will be identified later, the ability to interpret problems with problem formulation and the ability to compare acquisition data. While those that are categorized as capable are the ability to group variables to formulate hypotheses, the ability to take samples to make research designs and collect and analyze research data.

Considering the results of this study there are several aspects that are still lacking and several aspects through indicators that can be achieved, this also has similarities with research (Aripin et al., 2021) which states that by being given a research skills workshop program can be a provision for basic research abilities. Therefore the importance of learning outside of lectures is to improve research skills considering that based on this research it states that several indicators have not fulfilled good achievements.

This good achievement is supported by several aspects such as teaching lecturers, motivation of prospective teachers as learners or activities outside class hours that are able to equip prospective teachers to master research skills. Research (Ikram & Ilyas, 2022) shows that student difficulties and lecturer responses have a significant impact on students' research skills simultaneously or partially. In particular, recommend.

CONCLUSION

The findings of this study are the ability to observe problems that will be identified later. Achievement with this indicator has not shown optimal achievement. The ability to interpret the problem with the formulation of the problem. The achievement of this indicator is not optimal. The ability to group variables to formulate hypotheses. The achievement of this indicator has shown optimal ability. The ability to take samples to make research designs, the achievement of this indicator has experienced optimal achievement. The ability to collect, analyze and compare data, the ability to collect and analyze data has been achieved optimally because it is supported by observational data such as the spontaneity of prospective teachers when given assignments or questions and answers in class regarding the indicators contained in this study while for the ability to observe problems , formulating problems and comparing data that has not been optimally achieved due to the lack of

reading literature and the condition of prospective teachers participating in online learning because there is an assignment to introduce school fields (PLP) outside the campus so that the understanding of prospective teachers is not optimal.

From the conclusion of the above results. This research is limited to several things, namely, First, the informants that the researchers studied were limited to one agency. Second, data collection is limited to the results of interviews, observations and documents. Because of that, the researcher suggests for the next researcher that the selected informants use a wider scope using an ethnographic approach. Then data collection was also expanded using development studies so that there was a product offer to overcome existing problems.

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