ZOTERO TRAINING IN IMPROVING STUDENT KNOWLEDGE AND WRITING SKILLS

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Abstract	This study aims to describe the implementation of the Zotero application to increase knowledge and skills in writing papers in class 1A PAI FITK UIN North Sumatra Medan. The approach in this research is qualitative. Data is from observation notes, questionnaire results, and interview notes. Data sources are students as respondents in this study. Data collection techniques are observation, documentation, and unstructured interviews. Data analysis techniques are carried out by condensing data activities, displaying data, and drawing conclusions. The training results show first, application usage training provides benefits in the form of new knowledge for students. This can be seen from the number of students who have never used as many as 39 students after training there. Thirty-six students have practiced how to use the Zotero application. Second, the training activities increased students' writing skills, with indicators of 23 people being quite capable, 13 people capable, and four very capable. Increased knowledge and skills can also be seen from the positive impressions written by students on Google Forms after attending the training. This study concluded that students who previously did not know and could not operate knew and could operate. Reference management training needs to be given to new students for quality scientific writing.
Keywords	UIN Sumatera Utara, Writing Skills; Zotero

INTRODUCTION

Writing activities cannot be separated from the world of academia. Writing has become a part of the lives of lecturers and students. Students are required to be able to write scientific papers. This scientific writing is based on research published in journal articles. Journal articles are interpreted as factual scientific writing that describes ideas or problems to be published. This scientific writing consists of five types: papers, research reports, theses, theses, and dissertations (Fitriana et al., 2023). In the early semester, one of the writing assignments given by lecturers, both group and individual assignments, is papers. Papers are written works that contain thoughts about a topic or problem and are written coherently and systematically, accompanied by logical and objective analysis (Zulfadhli, 2022).

The important thing for writers is to find written material and how to write it (Eliyah et al., 2023). Related to how to write it, the difficulties faced by students are writing citations and bibliography (Himawan, 2023). This difficulty exists because many students are not familiar with reference management, so citing and making a bibliography are done manually. Errors in citations and bibliography will make the author stuck in plagiarism, either intentionally or not, even though one indicator of good scientific work is having a low level of plagiarism or being original (Himawan et al., 2023). The low knowledge and skills regarding citations and bibliography, part of writing activities, need to be improved with training on reference management. By knowing reference management, students will feel the benefits, namely citations and bibliography, made automatically, correctly, and quickly (Sriwijayanti et al., 2022). This will minimize errors in quoting and making a bibliography.

Students' low knowledge and skills regarding reference management is a real problem faced by students of PAI study program class 1A, Faculty of Tarbiyah and Teacher Training (FITK) UIN Sumatra Utara Medan. This was traced from the results of an analysis of group 7's paper, which was presented on November 9, 2022. The paper contains several errors, including on page 8, the given footnote; the body note must be consistent whether (name: year) or (name, year: page), and 12 citations are used as references but must be listed in the bibliography. Whereas in writing, there must be a guarantee of compatibility between the sources cited and those contained in the bibliography (Dodo et al., 2023). So far, writing activities carried out by students need to be corrected in writing bibliography, citation methods, and incompatibility between citations and bibliography (Widodo et al., 2020). For semester one students, of course,

this error is not due to an element of intent but due to a lack of knowledge and skills in Reference Management Software. Due to the ability of students, Reference Management Software does not come by itself, but the knowledge and skills can be obtained through training (Satiti & Ami, 2022).

According to Barry Chusway, training is providing teaching about knowledge and expertise and guidance so that trainees can carry out their responsibilities according to the rules (Ramadhani & Rohmah, 2021). Training can be provided by individuals or groups, and in practice, it does not only provide material in the form of theory but more emphasis on practice with various learning approaches to achieve the training objectives. The training here is intended to provide writing skills in techniques or how to make citations and bibliography with reference management so that students are correct in making citations and bibliography. By acquiring knowledge and skills in using citation techniques and writing a bibliography, the writer will produce critical writing (analysis), draw conclusions (synthesis), write with accuracy (coherence), avoid plagiarism from work, and prioritize the value of honesty by respecting quotations quoted from other people's works (Bayu et al., 2022).

Thus, training on making citations and bibliography is urgent. Student knowledge will increase from previously only knowing that doing citations and making a bibliography manually with reference management training students will change how to make citations and a bibliography with reference management. This training activity aims for students to understand the importance of using applications to make citations and bibliography, realize the awareness to utilize the application and have management skills (Nugraha & Awaludin, 2021).

Reference management that will be introduced to students is Zotero. Reference becomes very important in writing a paper because it is evidence supporting academic writing claims. That way, readers will easily trace the source of a work used as a reference and, no less importantly, can prevent authors from copying it plagiarism (Sumarni et al., 2023). Reference management is no longer a trend among lecturers and students but has become necessary in writing scientific papers. Zotero is a free application based on open source (Ritonga et al., 2022). Zotero will help writers search, collect, make quotes, and share writing online (Inayah et al., 2023). Zotero works automatically make citations and bibliography correctly and quickly; this can certainly minimize citation errors (Sriwijayanti et al., 2022). This research aims to describe the training results held for class A students of the PAI Study Program, Faculty of Tarbiyah and

Teacher Training (FITK) UIN Sumatra Utara Medan.

Previous researchers have carried out the research. Research on reference management utilization training mentions that students' ability to manage references and determine the right ones has increased after training (Izzah & Lubis, 2021). Furthermore, research was conducted by (Asy'ari et al., 2022) regarding training in managing research reference sources. The training results are increased understanding and skills from partners in utilizing such in managing referral sources.

Research (Kuswaya, Tarantang, and 2022) with the results of implementing academic writing through applications able to improve performance and quality, facilitate and support effectiveness in producing academic work. Subsequent research by (Imran, Jusmaniar, and ... 2022) with results through SPSS training, where students feel enthusiastic and find it helpful to write proposals with training.

Similar research was also expressed by (Ilhami Kusumasari, 2023), who found that students already can manage references using applications after training activities. With training, such students also know the importance of properly managing references in compiling scientific papers. Furthermore (Baso et al., 2023) found that after being given application training, students showed enthusiasm for the implementation and responded positively to the training. Subsequent research was conducted by (Maleha and Pramita, 2023) with findings through Management Tools, such as the finding that this application makes it easier for students to manage bibliography, references, and citations in making scientific papers.

This research certainly differs from the research described above, although, in general, all of these studies seek to improve the quality of students in making scientific papers through training. The difference between this research and similar existing research is the use of documentation techniques, Google Forms, to measure the attitudes and opinions of students after participating in training that describes an increase in knowledge and skills in using the application. This study also used a Likert scale of 1-5 with a gradation from strongly agree to strongly disagree as well as very capable to low (very incapacitated). Google Form has been compiled to describe the increase in students' knowledge and skills. This is, of course, a novelty value in research where researchers use Google Forms to collect data from students after participating in training activities.

METHOD

This study uses a qualitative approach. A qualitative approach seeks to explore and understand social and humanitarian problems (Creswell, 2014), with the researcher as the main instrument (Sugiyono, 2015). This type of research is field research. The place of research is UIN West Sumatra. The source of the data in this study was class 1A students of the PAI Study Program, FITK, UIN North Sumatra, Medan. Data collection techniques in this study used observation, documentation, and unstructured interviews. Observations were made when researchers observed papers made by students. At the same time, documentation was carried out by Google Forms to document the answers from respondents and recordings of the Zoom Meeting during the training. Unstructured interviews are questions given directly to students during training. Data analysis was carried out by compacting, presenting, and drawing conclusions. Data compaction in this study was carried out by removing the contents of notes in interviews that were not under the research objectives. Data condensation is an analysis that sharpens, sorts, centralizes, discards, and organizes data to draw and verify conclusions (Matthew et al., 2014). Then, the compacted data is presented in a table, and conclusions are drawn.

FINDINGS AND DISCUSSION

Findings

Service activities carried out for students are Academic Workshops. This service activity is carried out on Wednesday, November 30, 2022, from 08.00 to 11.00 WIB. This service activity in the form of training was carried out due to a need for more student knowledge and skills in utilizing the application. This activity was carried out by students of the Field Study Masters program at UIN Sunan Kalijaga Yogyakarta to class 1A students of the PAI FITK Study Program at UIN North Sumatra as a partner campus. This activity is implemented fully daring through Zoom Meetings. This service activity is carried out with the following details: 1) Delivering remarks from partner campus tutors, 2) Workshop Academic, including material delivery, practice, and assistance, and 3) Evaluation. The results of the activities are presented as follows:

In the preparatory stage, several things are done so that community service activities can be carried out properly, namely preparing material workshops. The material is presented as a PPT, which includes the importance of references, the Reference Management Tool, and steps

in running the application. After preparing the PPT material, the next step is to prepare the Zoom meeting link that we will use for the Workshop.

Furthermore, for the implementation phase, this activity began with remarks from the partner campus supervisor, the Head of the PAI FITK Study Program, UIN North Sumatra, Medan. In his remarks, the Pamong lecturer said that for semester one students, of course, they need to learn more about applications. The Pamong lecturer asked the students to take advantage of and listen to the academic activities well. Expectations from tutors with training activities such students can use directly in the preparation of scientific work. The activity of delivering the greetings of partner campus lecturers can be seen in the following figure.

Figure 1. Greetings from Partner Campus Tutors

In his remarks, the Pamong lecturer said that semester one students had never heard of the application. However, there are still many who have yet to use the application, namely, as many as 39 students out of a total of 49 students. Six students sometimes use the application Zotero, three students have used the application Zotero, and only one student always uses the application Zotero. Next, the presentation of the training material was carried out, which can be seen in Table 1 below.

Table 1. Training materials Zotero

Session	Material	Method
1	1. The importance of managing references 2. Tools that can be used as a reference manager 3. Application *Zotero*	Talk question and answer
2	1. Application installation *Zotero* on the desktop 2. Installation *Zotero Connector* 3. Making*Library* 4. Import references into the library 5. Make quotes/citations 6. Make a bibliography	Practice and assistance to students

Figure 2. Students Practice Using Zotero

Figure 3. Practical Use Assistance Zotero

The evaluation stage in this activity is carried out by sharing or discussing the obstacles students face in operating. In addition, students are given video tutorials on how to use it fully to provide a deeper understanding of how to operate. After the sharing or discussion session, students are given Google Forms to determine the level of benefits or contributions from the training that has been done. Besides that, it is also to discover the increase in students' knowledge and skills in knowing and operating Zotero. This needs to be known because an increase in knowledge and skills about Zotero will be directly proportional to an increase in student's knowledge and writing skills related to making citations and bibliographies to avoid elements of plagiarism.

Based on the results of the Google Form distributed after the training, there are student answers related to whether the training provides contributions or benefits for the writing of scientific papers. Statements from strongly disagree to agree strongly are represented by numbers 1 to 5. Number 1 is for strongly disagree, number 2 is for disagree, number 3 is for neutral, number 4 is for agree, and number 5 is for strongly agree. Eighteen students scored 4, which means they agreed that the Zotero training contributed to writing scientific papers. Meanwhile, 26 students scored 5, which means they strongly agree that the Zotero training has contributed or benefited them in writing scientific papers. This shows that 44 students stated that training contributes to writing scientific papers.

Besides that, the results of Google Forms, which students filled out as feedback or responses to application training activities, show that 40 out of 49 students have experienced increased knowledge about the application. In contrast, these 40 students previously needed to learn the application. After attending the training, students understand the Zotero application and can operate it. Students get to know the elements in Zotero, namely Library, Library Item, and Information Item. Then, 36 students practiced downloading, installing on the desktop, installing connectors, installing connectors, retrieving online reference sources, adding items to the application manually, making citations, and making a bibliography. Meanwhile, other students were constrained by signals and did not have laptops, so other students joined the practice process. This shows that training can increase students' knowledge of writing.

From the results Form, It can also be seen that students' skills have increased from the previous 39 students who had never operated Zotero. After training, students can operate it. The increase in skills after attending the training is quite varied. They are starting from the category of low skill mastery of 1 person, eight people in the less able category, 23 people in the moderately capable category, 13 people in the capable category, and four people in the very capable category. This shows that student skills have increased even though not all are in the capable and very capable categories. Thus, 40 people experienced an increase in skills from the category of quite capable to very capable.

Discussion

Training Zotero What has been done has opened a space for student awareness that a good piece of writing is free from elements of plagiarism. In this case, students become aware that it has a very significant role in making a written work avoid elements of plagiarism. Understanding how to operate Zotero, such as making citations or bibliography, gives students skills to avoid plagiarism in writing. According to research conducted by Hanum et al., plagiarism was carried out due to a lack of skills in using the Zotero application (Hanum et al., 2021). This is manifested in 2 things, namely: 1). citing other people's writings and publishing them without mentioning the reference source; 2). it was done intentionally or unintentionally (Sinurat et al., 2021) and deliberately carried out by practitioners and academics who understand the ethics of publishing scientific papers, while more are accidentally carried out by novice writers, both students or students who do not know how to make citations or bibliography properly (Sinurat et al., 2021). For semester one students in class 1A of the FITK Study Program,

UIN North Sumatra, as novice writers, of course, it was an element of accident that happened. As found in a class 1A student paper, there are 12 citations written that need to be added to the bibliography. In contrast, three reference sources in the bibliography are not included in the citation or citation.

Training Zotero, attended by class 1A Study Program PAI FITK UIN North Sumatra students, has contributed to improving students' writing skills. This ability includes knowledge and skills in making citations and bibliography, which are vital to writing good scientific papers so that the written work is free from plagiarism. Good writing skills are when able to include all quotations and reference sources correctly. Including reference sources in written scientific work is an academic ethic that all students and lecturers must obey. Training Zotero This has helped students manage the information they have obtained, both in journal articles, books, theses, and dissertations. The ease of organizing this information will help students in making scientific papers (Anjali & Istiqomah, 2019) because the activity of collecting reference source data, reading it, and putting it in writing as a quote is work that takes up time and energy (Pangga et al., 2022). By mastering the application, student writing activities become more efficient in terms of time and energy efficiency. In addition, writers can digitize reference collections, which are part of writing skills (Kurniati et al., 2022), where previously reference sources were collected physically, which required physical storage space as well.

CONCLUSION

This study concluded that students who previously did not know and could not operate knew and could operate. This ability will be directly proportional to the increase in students' writing skills in making citations and bibliography. Students will know and be able to make citations and bibliography correctly, so that students will avoid plagiarism, where plagiarism is an academic crime that must be avoided by students who want to write properly and correctly. Students also know that reference collections that were previously done manually can now be done digitally. We know that collecting reference sources is an important part of writing activities. Skills for quick writing will also be honed with the help of applications.

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