OPTIMIZATION OF ZOTERO AND MENDELEY SOFTWARE TO REFERENCE MANAGEMENT FOR NURSING STUDENTS

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Abstrak*:* Makalah atau laporan karya ilmiah merupakan salah satu bentuk penugasan yang biasa diberikan seorang Dosen kepada mahasiswa. Makalah yang bagus tentunya harus sesuai dengan kaidah penulisan yang baik dan benar, salah satunya harus memenuhi kaidah dalam penulisan sitasi atau sumber referensi. Penulisan referensi dapat dilakukan secara manual ataupun dengan menggunakan software tertentu untuk membantu proses sitasi. Beberapa software yang sering digunakan adalah Zotero dan Mendeley. Pada kegiatan PKM ini bertujuan untuk memberikan informasi dan mempraktekkan cara penggunaan software Zotero atau Mendeley dalam pengelolaan referensi termasuk penulisan sitasi dalam sebuah makalah atau laporan karya ilmiah. Kegiatan PKM ini dilaksanakan selama dua hari tanggal 21-22 November 2022 dan diikuti oleh 29 peserta dari Program Studi S1 Keperawatan Universitas Sahid Surakarta. Hasil kegiatan PKM ini menunjukkan bahwa pengetahuan mahasiswa meningkat setelah diberikan pelatihan penggunaan Zotero dan Mendeley dalam pengelolaan referensi, dan mahasiswa mampu mempraktekkan penggunaan salah satu software untuk menuliskan rujukan atau sitasi dalam sebuah laporan makalah.

Kata Kunci: Optimalisasi, Zotero, Mendeley, Mahasiswa

Abstract*: Papers or scientific work reports are a form of assignment that is usually given by a lecturer to students. A good paper must of course be in accordance with the rules of good and correct writing, one of which must meet the rules in writing citations or reference sources. Writing references can be done manually or by using certain software to assist the citation process. Some software that is often used is Zotero and Mendeley. This PKM activity aims to provide information and practice how to use Zotero or Mendeley software in managing references, including writing citations in a paper or scientific report. This PKM activity was held for two days, November 21-22 2022 and was attended by 29 participants from the Sahid University Surakarta Bachelor of Nursing Study Program. The results of this PKM activity show that students' knowledge increases after being given training on using Zotero and Mendeley in managing references, and students are able to practice using one of the software to write down references or citations in a paper report.*

Keywords*: Optimization, Zotero, Mendeley, Student*

Introduction

Papers or scientific work reports are a form of assignment that is usually given by a lecturer to students. A good paper must of course be in accordance with the rules of good and correct writing, one of which must meet the rules in writing citations or reference sources.

Quotations or citations are brief descriptions of a document which are then added or inserted into the text, either in the form of written works or other types of documents, and the full description of the citations is listed in the bibliography. References are a bibliography of cited documents which are generally grouped in a list at the end of a report or scientific work.

Writing references can be done manually or by using certain software to assist the citation process. Some software that is often used is Zotero and Mendeley. Mendeley is an automated bibliography and citation management program. Users of Mendeley's tools can be used to add, remove, and modify citations and bibliographies. On the other hand, there are various alternative applications or software that are used for reference management, such as Zotero and Endnote. Mendeley also provides a menu that can assist authors in managing, searching, and organizing various literature and reference sources.

Several problems were found by several lecturers and the PKM team, that Nursing students at Sahid University, Surakarta were not very familiar with Zotero or Mendeley software in managing references or writing citations. Writing citations in paper reports or scientific work is more often written manually. Based on these problems, the PKM team took the initiative to carry out PKM activities with the theme of optimizing the use of Zotero and Mendeley software in managing references for nursing students at Sahid University, Surakarta, with the aim that students are able to use Zotero or Mendeley software to help write citations, bibliographies or bibliography. , saving articles or reference sources into Zotero or Mendeley software.

Method

Socialization activities and training on optimizing the use of Zotero and Mendeley software in managing references to nursing students are a form of community service. This PKM activity was carried out offline for two days (21-22 November 2022) at Sahid University, Surakarta. The target of this PKM activity were students of the Nursing Study Program at Sahid University, Surakarta, which was attended by 29 participants.

The implementation of PKM activities consists of three stages, which include the preparation stage, the implementation stage, and the evaluation stage.

1. Preparation Stage

    In this preparatory stage, the PKM team coordinated PKM activities with LPPM and the Sahid University Surakarta Bachelor of Nursing Study program. The PKM team prepared a pre-test questionnaire in the form of a google form, which consisted of 10 True-False statements. The PKM team leader coordinates with PKM members in implementing PKM activities by compiling material on the use of Zotero and Mendeley Software in managing references in the form of Powerpoint.

2. Implementation Stage

At the implementation stage, the PKM team provided material regarding the implementation of Zotero and Mendeley Software in reference management.

a. The PKM leader opened the course of the PKM activities and explained the aims and objectives of the PKM activities.

b. The PKM leader, assisted by members, pretests the activity by distributing questionnaires in the form of a Google form. Conducts presentations on the implementation of Zotero and Mendeley Software in reference management.

c. The Chairperson of PKM and members presented material regarding the implementation of Zotero and Mendeley Software in managing references.

d. Socialization and training on using Zotero Software on the first day, Monday 21 November 2022.

e. Socialization and training on using Mendeley software on the second day, Tuesday, November 22, 2022.

f. Posttest activities by distributing questionnaires via the Google form.

The media used in this PKM activity is material in the form of PPT (including how to install Zotero and Mendeley software, storing references and how to cite references with various styles in Microsoft word), Zotero software, Mendeley software, laptops and LCDs.

2. Evaluation

Evaluation activities are carried out to measure or assess the level of success of this community service activity, including:

a. The participation of PKM participants in following the entire series of activities from start to finish was attended by 29 third semester nursing students.

b. The enthusiasm of the PKM participants was quite high, this can be seen from the conditions during the health education activities.

c. PKM participants can understand and practice how to store references and citations by using one of the Zotero or Mendeley softwares.

Results

Sahid Surakarta University is a private university under the Sahid Jaya Welfare, Education and Social Foundation which is located on Jalan Jajar, Laweyan, Surakarta. Sahid Surakarta University has 2 faculties and 10 study programs. One of the Study Programs is the Bachelor of Nursing Study Program. This PKM activity was carried out offline at Sahid University, Surakarta for 2 consecutive days with the target of Nursing students in the Third Semester of the 2022/2023 Academic Year, a total of 29 participants. This PKM activity ran smoothly and was enthusiastically attended by all participants. The results of PKM activities and documentation can be seen in the table and figure below.

Table 1. Characteristics of PKM participants based on gender and age.

Characteristics of respondents	f	%
Gender		
- Male	4	13,79%
- Female	25	86,21%
Age	min 18	
	max 21	
	mean 19,27	

Based on Table 1. It can be seen that the number of participants who took part in PKM activities was 29 participants with an average age of 19.27 years and the majority were women of 25 (86.21%).

Table 2. Pretest and posttest frequency distribution of PKM participants.

Questions/statements	Pre test		Post test	
	f	%	f	%
1. Have you ever used Zotero Software?				
Already	2	6,89	29	100
Not yet	27	93,11	0	0
2. Have you ever used Mendeley Software?				
Already	0		20	68,96
Not yet	29	100	9	31,04
3. Mendeley is software used to assist in writing references/citations.				
Correct	23	79,31	29	100
Wrong	6	20,69	0	0
4. Zotero is software used to assist in writing references/citations.				
Correct	24	82,76	29	100
Wrong	5	17,24	0	0
5. Add/edit citation functions to add citations when writing documents.				
Correct	27	93,11	29	100
Wrong	2	6,89	0	0
6. Document preference is the citation style of a word document.				
Correct	26	89,65	29	100
Wrong	3	10,35	0	0
7. Insert Bibliography functions to insert a bibliography (references) in a document.				
Correct	27	93,11	29	100
Wrong	2	6,89	0	0

8.	There are only 3 menus in the Zotero software, namely, File, Edit and View.				
	Correct	22	75,86	0	0
	Wrong	7	24,14	29	100
9.	Harvard, Vancouver and the American Psychological Association (APA) are examples of Citation Style.				
	Correct	27	93,11	29	100
	Wrong	2	6,89	0	0
10.	Mendeley software functions for reference management.				
	Correct	27	93,11	29	100
	Wrong	2	6,89	0	0

Figure 1. First day of PKM activities: Explanation of PKM objectives and pretest PKM activities (Monday, November 21, 2022)

Figure 2. First day of PKM activities: Socialization on the use of Zotero software in reference management (Monday, November 21, 2022)

Figure 3. First day of PKM activities: Training on using Zotero Software in managing references (Monday, November 21, 2022)

Figure 4. Second day of PKM activities: Socialization of the use of Mendeley software in reference management (Tuesday, November 22, 2022)

Figure 5. Second day of PKM activities: training on using Mendeley software in reference management (Tuesday, 22 November 2022)

Figure 6. Second day of PKM activities: post test of PKM activities and documentation
(Tuesday, 22 November 2022)

Discussion

This PKM activity was carried out offline/face to face for two days with the target of 3rd semester Nursing students, Faculty of Science, Technology and Health, Sahid University Surakarta, totaling 29 students. In the 2022/2023 Academic Year, learning or lectures will be held offline or face to face. One form of student academic activity is face-to-face lectures by lecturers which are carried out according to the credits taken. The form of assignment that is often given by lecturers to students is individual assignments to compile a paper report or scientific work report. In compiling a paper report or scientific work report, of course, students go through various processes starting from determining topics/themes, looking for references, writing citations, writing citations and ending with final drafting. In writing this citation, almost all students are still writing manually and have not used the help of Zotero or Mendeley software or other reference manager tools.

Based on table 1 it can be seen that the number of participants who took part in PKM activities was 29 participants, with an average age of 19.27 years, with the majority being women of 25 (86.21%). Participants who took part in this PKM activity were Nursing students Semester III for the 2022/2023 Academic Year, Sahid University, Surakarta.

Based on Table 2, it can be seen that a total of 27 participants had never used Zotero software, 2 participants already knew Zotero software, but had never used citation writing or saved articles to the Zotero software, and a total of 29 participants had never used Mendeley software, and had never get socialization about Mendeley Software before.

Based on Table 2, it can be seen that there were 9 students who could not use the Mendeley software because there were problems when installing the Mendeley software. This is the same as the results of PKM activities carried out by Iksan, et al (2022) regarding citation training and bibliography management using Mendeley software to improve the quality of

scientific writing. It was also found that there were some participants who could not handle installing applications on laptops and Microsoft Word. So that the PKM team provides opportunities for participants to practice outside of PKM time.

Several activities related to Mendeley socialization and training for students were carried out by[1],[2],[3],[4], and [5]. PKM activities carried out by Pramiastuti, et al., (2020) with the theme of introduction and scientific work citation training using the Mendeley application. The result of this activity is to add new insights for participants in making scientific writing as well as making it easier to search written literature[6]. While the activities carried out by Sudirman, et al., (2021) in training and mentoring activities used the basics of the Mendeley application with the result that around 90% of the training participants were proficient in using the Mendeley application with the tools they owned and were able to access reputable journals in accordance with field of knowledge of each participant[7].

Zotero and Mendeley software are software with an Open Source concept and can be used freely by lecturers, researchers and students to process and organize documents and manage scientific references. Software that can be downloaded for free at www.zotero.org. This Zotero software can be installed on laptops and can be integrated into Microsoft Word so that it will make it easier for students to write citations. The menus offered in Zotero Software are diverse, including offering various quote styles, and are easy to use. In addition, Zotero Software can make it easier for users to manage references and article citations needed in a scientific work report.

Based on Table 2, it can be seen that the participants' knowledge regarding reference management with Zotero increased after the posttest. The results of this PKM activity are the same as the results of the PKM conducted by Aziz, et al (2022) regarding the reference management system with Zotero which found that the training had a significant impact on students' knowledge in managing references with an average participant post-test result of 95.2%[8]. Zotero training activities were also carried out by Izzah & Lubis (2021) regarding training on the use of Zotero reference management, which showed that the ability of students who took part in the training increased in utilizing the Zotero application. Students' ability is also increasing in managing references and determining the right references to be cited in scientific work[9].

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[7] Sudirman et al., "Pelatihan dan Pendampingan Menggunakan Dasar- Dasar Aplikasi Mendeley."

[8] Firman Aziz et al., "SISTEM PENGELOLAAN REFERENSI DENGAN ZOTERO" 2 (2022).

[9] Nurul Izzah and Rini Hayati Lubis, "Pelatihan Pemanfaatan Manajemen Referensi Zotero," *Jurdimas (Jurnal*

Using the Zotero application makes it easy to use a consistent reference writing style and guarantees citation to the right reference source so as to reduce the possibility of plagiarism. Citation activities are an inseparable part of writing scientific papers. In addition, the references cited in the manuscript will facilitate the preparation of a bibliography.

The results of this Community Service activity can increase student knowledge in reference management using Zotero and Mendeley software. Apart from that, students are also able to practice how to save journals to Zotero or move articles (journals) into Zotero software. Students are also able to write citations according to quotes taken in articles using various citation styles such as APA (American Psychological Association 7th edition), Vancouver, Harvard, Turabian and others. So it is hoped that with this PKM activity students will start to get used to saving references, writing citations and writing bibliography using one of the Zotero and Mendeley softwares.

Conclusion

Socialization activities and training on optimizing the use of Zotero and Mendeley software in managing references to nursing students are a form of community service. The conclusion from this PKM activity is that all participants actively participated in the activity from start to finish which was carried out offline for two consecutive days. The success of this PKM activity can be seen from the increase in participants' understanding regarding the use of Zotero and Mendeley software in writing references and the participants' ability to write citations and bibliography using one of Zotero and Mendeley's software.

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