

Utilization of Management of Writing Scientific in the Learning Process in Higher Education

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Abstract

In a scientific work, it is closely related to a writing management. Writing which is a writing activity is inseparable in the learning process. Writing can also be used as a management communication tool in conveying information. There are 4 (four) written communication elements as media tools. But recently a new paradigm has begun to develop that a management of scientific work does not have to be based on scientific research, but also a study of a problem that is analyzed professionally by experts. With the method of description using 5 (five) principles in the management of scientific writing to solve problems. So writing management is needed in compiling scientific papers in order to create good work by following the development of the industrial era 4.0. Thus, the task of intellectuals and intellectuals is not only able to read, but also must be able to manage writing about scientific writings and master the procedures for preparing scientific works. Utilization of Management of Writing Scientific Writing in the Learning Process in Higher Education.

Keywords: *management of scientific work, management of writing, scientific work.*

1. Introduction

Life activity activities are needed fast and precise information [1]. Technological advances have a rapid effect on human life [2]. Writing activities are an integral part of the learning process. Writing means organizing ideas systematically and expressing them explicitly. Writing management can mean lowering or describing graphic symbols that describe a language that is understood by someone in quality [3]. In principle, the main function of writing according to Tarigan is as an indirect communication tool. Writing management is very important for education because it makes it easier for students and students to think critically [4].

The activity of communicating through writing will establish interaction between the writer and the reader only through writing. From this, it builds up significant information [5]. Communicating through writing is not limited by the presence of readers in a room. Communicating through writing does not have to be when the writing is made but can be done by the reader at different times. The activity of communicating through writing will establish interaction between the writer and the reader only through writing. One of the written communication media is a scientific essay which is commonly called a scientific paper. Scientific work is usually accompanied by data and facts when plunging directly into the field [6].

In written communication, there are four elements involved, namely: (1) the author as the messenger; (2) message or writing content; (3) channels or media, in the form of writing; (4) the reader as the recipient of the message. Writing has many benefits that can be learned in this life, including: (1) increasing intelligence, (2) developing initiative and creative power, (3) developing courage, and (4) encouraging the willingness and ability to gather information. management of scientific work, management of writing, scientific work.

Management scientific work is writing based on scientific research. But recently a new paradigm has begun to develop that a management scientific work does not have to be based on scientific research, but also a study of a problem that is analyzed professionally by professionals and accompanied by sophisticated management technology [7]. Moreover, a student as a prospective scientist must master the management procedures for preparing scientific work. In addition, in managing scientific work is done easily from the willingness and effort of oneself [8]. With management able to manage scientific work activities and facilitate writing [9].

2. Research Method

In this study using observation method and descriptive methods to solve problems in the management of the preparation of scientific work [10]. Using 4 (four) characteristics of scientific writing according to Made Wirartha [11].

1. The characteristics of concrete non-technical essays are as follows: informative, popular in nature without specific technical terms, specific and concrete topics, without emotional or imaginative invitations, figurative language is only used to warm the problem, systematically arranged and aimed at the reader with basic scientific knowledge.
2. The characteristics of a general technical scientific essay are all informative words of technical terms without definitions, not pursuing sincere personal gain, do not contain judgments, but put the problem, in general, is concrete, the order and tone are normal, no emotional invitation is addressed to knowledgeable readers technical.
3. The characteristics of a formal abstract scientific essay are as follows: general, informative, non-technical summary, not pursuing personal gain, sincere, including information about other people's opinions, but without supporting evidence, formal tone and language there is no emotional invitation, the contents popular and the terms used are also popular.
4. The characteristics of historically specific scientific essays are as follows: all informative, based on historical sources, without invitation, emotionally not pursuing personal gain, sincere, do not contain concrete and specific, semi-technical, formal language and arrangement. Because of these characteristics, the scientific essay does not include literature.

In addition, 5 (five) principles are used as management of writing good scientific work, namely:

1. Good writing is accurate (good writing is accurate). What is meant accurately here is that the writing gives an image as it is without twisting the facts. To get accurate data, not only trust a group of people who live there and then summarize it into writing, but must dig data in various ways.
2. Good writing is clear (good writing is clear). Writing that can be used clearly the contents can be easily understood or understood by the reader. To achieve clarity of writings that the writer must use the cover with good language without making it difficult for the reader to understand it so as not to fulfill the misinterpretation of what he wrote.
3. Good writing is concise (good writing is concise). What is meant by concise is that the writing directly hits the problem, without needing to stretch it out so that it further obscures the main idea. This can be achieved by the use of words, sentences, or effective paragraphs and expertise the author in formulating his ideas in an effective sentence and presented in the whole paragraph. Thus, the reader will easily understand every idea contained in each paragraph and in the end easily and quickly can understand the writing as a whole.
4. Good writing is conventional (good writing is conventional). Conventional here means conventional in the use of language (spelling, words, phrases, sentences) and also conventional in terms of writing in the use of language for example how to write elements of absorption, uppercase, repetition and the like, while conventional in terms of writing can be in the form of writing systematics, bibliography footnotes (footnote) and so on.

5. Posts that are either solid or intact (good writing is appropriate). What is meant by solid or intact here are the three things (material, goals, and readers) that can be interwoven well. That is, the author as an intermediary must be able to embrace the material, forms and ways of expressing a unified in a discourse that is appropriate and harmonious information about the material he wrote and to whom the writing was intended.

3. Results and Analysis

3.1 Definition of scientific work

In this era communication is the most important element in everyday life [12]. Scientific work is writing that has academic weight both in terms of organizational aspects of writing, substance problems, data accuracy, and presentation. In valuing scientific works are also works that design, describe, or determine them appropriately, on target and honestly, using language, and supported by facts, and/or empirical evidence, are not very useful if not disseminated. Management of writing can be abbreviated as scientific work or in English in scientific works. Scientific work is also often referred to as academic writing or academic writing [13]. Terms that arise because job management is more often written in campus society. Lecturers and students have an obligation to be able to develop and disseminate management knowledge that produces accurate information [14].

3.2 Benefits of scientific work

There are six (6) the benefits of scientific papers management, namely:

1. The author will be trained to develop effective reading skills because before writing a scientific essay, he must first read the literature that has relevance to the topic to be discussed.
2. The writer will be trained to combine reading results from various source books, take the essence and develop it to a more mature level of thinking.
3. Penulis akan berkenalan dengan kegiatan perpustakaan, seperti mencari bahan bacaan dalam katalog pengarang atau catalog judul buku.
4. The author will become acquainted with library activities, such as searching for reading material in the author's catalog or catalog of book titles.
5. The author will gain intellectual satisfaction.
6. The author helped broaden the horizons of public science.

3.3 Various works of scientific writing

That the management of scientific compilation follows a scientific method consisting of steps to organize and organize ideas through conceptual and procedural lines of thought that have been agreed upon by scientists. The development of students who follow the times in digital writing management [15]. Compilation Management is definitely based on a scientific method that presents a topic systematically and is equipped with facts and valid data using a distinctive language.

Tabel 1. Various works of scientific writing

Type of writing scientific work	Definition
Skripsi	Skripsi is a scientific paper that expresses the opinion of the author based on the opinions of others. Or a scientific work compiled by undergraduate program students (one-time program) from the results of research on the basis of secondary data analysis.
Thesis	Thesis (thesis or proefschrift in Dutch) means that theoretical statements or conclusions put forward by fiber are supported by scientific arguments and scientifically recognized references made by a Master candidate. The Thesis is prepared by the

	Master's candidate independently at the end of the study period and is one of the requirements to achieve a Master's degree [16].
Dissertation	Dissertation is a scientific paper that proposes a proposition that can be proven by the author based on valid data and facts with detailed analysis. The scientific argument in a dissertation can use patterns of deductive and inductive reasoning [17].
Paper	Paper is a scientific paper that presents a problem whose discussion is based on empirical-objective data in the field.
Scientific articles	Scientific articles is a scientific work written for publication in scientific journals or magazines with procedures for writing that follow agreed with scientific guidelines or conventions. The form of scientific articles is divided into three aspects, namely material, systematics, and writing techniques. Materials written for scientific articles are very important things, for example in research articles, which are written containing an introduction, methods, findings, and discussion. The systematics of writing scientific articles is written according to the essay format in the form of sections and subsections and is not written in the form of chapters and subsections or enumerations. Scientific article writing techniques follow universal patterns and norms that mark a scientific paper and follow the style of confinement that is determined by the journal publisher.
Popular scientific articles	Popular Artikel Ilmiah are scientific works whose forms, contents, and languages use scientific rules and are presented in languages that are relaxed and easily understood by ordinary people.
<i>Working Paper</i>	Working papers are written to be presented at seminars or workshops, which are usually attended by scientists. In the scientific event, work paper is used as a reference for certain purposes. It could be that the working paper is countered because it is weak, both in terms of rational, empirical analysis, the accuracy of the problem, analysis, conclusions, or its usefulness.
Field Studies	Field studies or practice reports (laboratories) are written with formal and material procedures. Formally, it must go through field research.
Review	Reviewi is a paper that contains the results of weighing, repetition, or assessment of a book. A reviewer also called a book or book review scale is often delivered to the reader through newspapers or magazines.
Textbook and handbook	The Textbook is a scientific essay that has a source of library material. The textbook contains scientific principles or laws that are generally accepted.

Report	Report is a writing made by someone after conducting an experiment, review, observation, reading a book (reference) and so on.
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According to Ahmad, there are general differences between theses, theses, and dissertations as follows [18]:

Tabel 2. According to Ahmad

No	Aspect	Skripsi	Tesis	Disertasi
1	Level	S1	S2	S3
2	Problem	Can be lifted from empirical experience, not deep	Appointed from empirical and theoretical experience, is profound	Appointed from theoretical studies supported by empirical facts, are very profound
3	Authors' independence	60% of the role of the writer 40% counselor	80% of the role of the writer 20% counselor	90% of the role of the writer 10% counselor
4	Scientific Weight	Low - medium	Medium - high. Deepening and developing existing theories and research	High - highest in the academic field. Required to find new breakthroughs and theories in the field of science.
5	Exposure	Dominant descriptive	Descriptive and analytical	Dominant analytical
6	Analytical model	Low - medium	Medium - High	High
7	Number of problem statements	About 1-3	Minimum 3	More than 3
8	Method or statistical test	Usually using a qualitative test / descriptive test. Parametric statistical tests (1 party test, 2 parties) or nonparametric statistics (binomial test, chi squared, run test). Comparative hypothesis test, comparative hypothesis test, associative hypothesis test, correlation, regression, different test, chi square test, etc.	Usually using advanced qualitative tests or multiple regression, multivariate, multivariate advanced (dummy regression, panel data, simultaneous equations, logistic regression, linear log analysis, static & dynamic econometrics, econometric time series) Path analysis, SEM	Such a thesis with a more complex, weighted method aims to find new breakthroughs and theories in the field of science.

9	Level of supervisor or examiner	Minimum Magister	Minimum Experienced Doktor and Magister.	Minimum Experienced Professor and Doktor.
10	Originality of research	Can replicate other people's research, where the case is different.	Prioritizing originality	Must be original
11	Discovery of new things	Do not have to	Preferred	Required
12	Publication of research results	Internal Campus and recommended nationally	Minimum national	National and International
13	Number of references or bibliography	Minimum 20	Minimum 40	Minimum 60
14	The statistical method or program used	Qualitative / manual, Excel, SPSS and others	Qualitative advanced / SPSS, Eview, Lisrel, Amos and others	Qualitative advanced / SPSS, Eview, Lisrel, Amos and others.

Basically, the qualitative aspects that distinguish theses, theses, and dissertations can be put forward conceptually, but are difficult to put forward operationally.

The difference between the essays of scientific science from non-scientific ones can be listened to through their characteristics. In summary, the characteristics of scientific science are [19], 1. Presenting systematic facts objectively or presenting the application of natural law to specific situations. 2. Writing is accurate, precise and true, and sincere. 3. Not pursuing personal gain, which is not ambitious so that the reader sits with him. 4. Each step is planned systematically controlled, conceptually and procedurally. 5. Scientific essays are not emotive, do not highlight feelings. Scientific essays present reason and understanding. 6. Does not contain views without supporters, except in the working hypothesis. 7. Written sincerely and contains only the truth. Does not provoke doubtful questions. 8. Scientific essays are not argumentative. Scientific essays may reach conclusions, but the writing allows facts to speak for themselves. 9. Scientific essays that are not persuasive, the facts and application of natural law to specific problems suggest that belief is difficult, but self-belief is not scientific.

3.3 The attitude of the writer of the scientific work

The authors in scientific essay management should have scientific attitudes so that their work can be accounted for, both to the community and to itself. According to Brotowidjoyo, people who are scientific in spirit are people who have seven kinds of scientific attitudes. The seven types of attitudes are (1) curiosity, (2) critical attitude, (3) open attitude, (4) objective attitude, (5) willingness to respect the work of others (6) courage to defend the truth and (7) attitude to reach forward.

Management of scientific work is written after getting a problem then followed by research, data collection, data processing, analysis, and conclusions, then reported to be a separate text or report following the development of technology[20]. Therefore, writing can be said to be scientific if the writing is based on facts and data, both theoretically and empirically which can be justified and good management[21]. This means that scientific writing must be presented in the form of an objective, logical, and accountable writing. Especially in the delivery of information on the management of scientific work students are required to convey well[22].

Submission of current communication requires information that is delivered effectively in management to compose scientific writing[23].

4. Conclusion

Writing management can be defined as an act of delivering messages or communication using written language as a tool or medium both scientifically and non-scientifically. Management of scientific writing is a paper based on the results of observations, a review of research in a particular field, arranged according to certain methods with systematic writing that has language and its contents can be justified (scientific knowledge). Scientific essay management is an essay of science that presents general facts and is written according to a good and correct writing methodology.

Skipsi is a scientific work prepared by study program students (one-time program) from the results of research on the basis of secondary data analysis. Thesis has a deeper level of discussion than Skipsi. Tesis is a scientific paper that is more profound than a thesis. The thesis will reveal new knowledge gained from the research itself. Disertasi is a scientific paper that proposes a proposition that can be proven by the author based on valid data and facts with detailed analysis. Makalah is a scientific paper that presents a problem whose discussion is based on empirical-objective data in the field. The paper presents problems through a deductive or inductive thinking process.

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