Training for Competency Improvement of Widyaiswara in Writing Scientific Writings in the Field of Training and Human Resources Development Agency (BKPSDM) Karawang District

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Abstract. Widyaiswara as a functional official has duties, responsibilities, and authority to educate, teach and/or train Civil Servants at government Education and Training Institutions. As a professional official requires special expertise. In accordance with the main tasks and functions of the widyaiswara are educators, instructors and trainers with various roles that are carried out as facilitators, motivators, moderators, inspirers, innovators and dynamics, including writing scientific papers as a means of increasing their functional positions. Therefore, widyaiswara are required to meet competency standards for writing scientific papers through training. The purposes of this study are to analyze the abilities of widyaiswara and to compile and develop training designs to improve widyaiswara competence on writing scientific papers at BKPSDM Karawang Regency. This study uses the ADDIE method which is carried out through the analyze, design, develop, implement, evaluate. The results of the study show that first, the ability to write scientific article systematics, Second, write the contents of scientific articles. Fill in the writing of the title, author^s name, abstract, research method, and bibliography, third, the use of Indonesian spelling. Several errors were found, which need attention, namely capital letters, italics, periods, commas, and standard words. There is an increase in the ability of widyaiswara in writing scientific papers at BKPSDM Karawang Regency. In detail, the improvement was in terms of: writing abstracts, contents, methods, results and bibliography.

Keywords: Competency Training, Scientific Writing, Widyaiswara.

1 Introduction

Widyaiswara Functional Position based on Article number 1 of the Regulation of the Minister of Administrative Reform and Bureaucratic Reform (Permenpan RB) Number 22 of 2014 concerning the Functional Position of Widyaiswara and its Credit Score is a position that has the scope of duties, responsibilities, authorities and rights to carry out educational activities, teaching, training Civil Servants (PNS), evaluation

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and development of Education and Training (Training), at government training institutions.

One of the factors that influence the ongoing training and education activities is the widyaiswara which is one of the functional positions that is quite decisive in the running of the wheels of government, especially in realizing good governance and forming clean government institutions [1]. Widyaiswara is one of the elements that builds the character and competence of the State Civil Apparatus (ASN) through education, teaching and training activities [2].

The success of implementing education and training is determined by the four pillars of education and training [3], [4], namely widyaiswara, education and training programs, education and training organizers who serve participants, and the availability of infrastructure [5], [6]. The four pillars are an inseparable unit [7], [8]. One form of educational success from the widyaiswara aspect is that they have competence in writing and compiling their scientific papers as a key element to rise to a higher position [9], [10], because one of the elements that can be said to be difficult for widyaiswara to obtain at this time is the element of professional development [11], [12], namely work scientific writing. According to that a professional in carrying out his duties, he acts on the basis of scientific principles to improve the quality of education [13], [14].

Widyaiswara as a functional official by an authorized official with duties, responsibilities, authority to educate [11], [15], teach and/or train Civil Servants at government Education and Training Institutions. As a professional official certainly requires special skills and expertise. In accordance with the main duties and functions of a widyaiswara, they carry out the mandate as educators, teachers and trainers with various roles as facilitators, motivators, moderators, inspirers, innovators and dynamics, including writing scientific papers as a means of increasing their functional positions. Therefore a widyaiswara is required to meet the established competency standards for writing scientific papers [16], [17].

Scientific writing is an indicator of mastery of professional competence, including widyaiswara, as well as being a medium or means of communication in expressing ideas and knowledge in order to develop teaching materials and ensure the effectiveness of the learning process. Given the importance of scientific work for the professional development of widyaiswara, it is not only quantity that must be considered, but quality is also the main criterion in the context of fulfilling the written work. To realize widyaiswara who are proficient in writing and publishing their scientific work, it requires knowledge and competence. In this case that Competence refers to the ability to carry out something obtained from education, which requires knowledge. Based on the reality on the ground, it shows that not all widyaiswara have competence in the field of scientific publications as an obligation that must be carried out by them, especially when submitting a List of Proposed Credit Scores, this is still constrained by insufficient scientific writing elements.

2 Method

This study aims to develop a training design that can improve the ability to write scientific papers of widyaiswara at BKPSDM using the ADDIE approach. This type of research is research and development (research & development) which aims to develop a model, both in the form of hardware (hardware) and software (software). "Educational Research and Development (Educational R&D) is an industry-based development model in which the findings of the research are used to design new products and procedures, which then are systematically field-tested, evaluated, and refined until they meet specified criteria of effectiveness, quality, or similar standard".

The ADDIE model is an instructional process consisting of five phases, namely dynamic analysis, design, development, implementation and evaluation (Fig. 1.).

1. Analysis, to analyze the development of teaching materials for training purposes.
2. Design, which includes planning for the development of teaching materials.
3. Development, in producing or revising teaching materials used to achieve training objectives.
4. Implementation, which is the application of the training design that has been developed to real situations in the classroom.
5. Evaluation, as a process of assessing the development of design and training teaching materials.

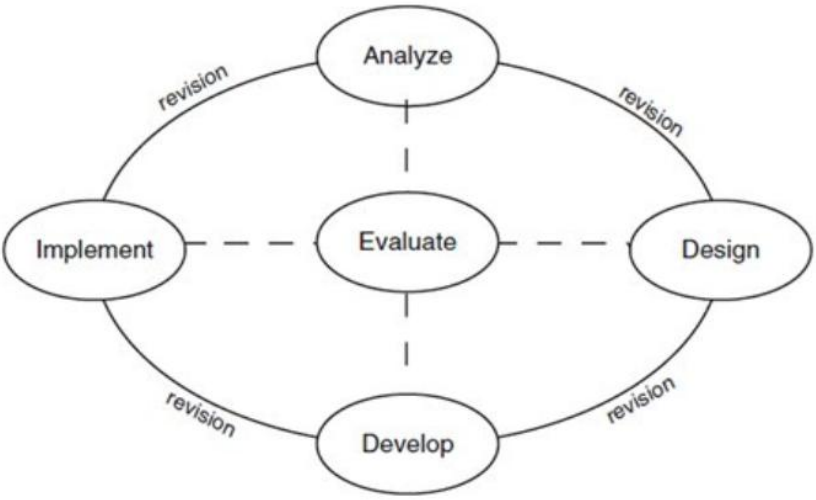

Fig. 1. ADDIE model

3 Result and Discussion

3.1 Results

Based on the research results, Widyaiswara's ability to write scientific papers is described in three forms. First, the ability to write systematic scientific articles. As many as 8 Widyaiswara or 80% are categorized as good or able to write scientific article systematics. The remaining 2 Widyaiswara or 20% are categorized as needing guidance. Second, Widyaiswara's ability to write scientific articles. The contents of writing titles, author names, abstracts, research methods, and Widyaiswara bibliography are categorized as good because more than 80% can write. The rest, in preliminary writing, research results, discussion, conclusions and suggestions, Widyaiswara are categorized as needing guidance because only 20% can write well. Third, the ability to use Indonesian spelling. Several errors were found, which need attention, namely errors in capital letters, italics, periods, commas, and standard words. This error, because Widyaiswara does not read scientific papers, so that knowledge of the use of Indonesian spelling is still relatively lacking.

There are 10 Widyaiswara in BKPSDM Karawang Regency. Each individual is given a test to write scientific articles based on article writing training activities. As many as 8 people or 80% can compile scientific article systematics. The rest, as many as 2 Widyaiswara 20% still need guidance in the systematic preparation of scientific articles (Table 1).

Table 1. Ability to write systematic scientific articles

Number of Widyaiswara	Percentage	Information
8	80 %	Well
2	20 %	Need Guidance
10	100 %	-

After analyzing the systematics, the researcher analyzed the contents written in each part of the scientific article. The ability to write the contents of scientific articles is described as follows. 1) The ability to write titles and author names is 35 Widyaiswara or 100% can write titles well. 2) The ability to write abstracts and keywords as many as 8 Widyaiswara or 80% can write well, the remaining 2 Widyaiswara or 20% still need guidance. 3) Preliminary writing skills of 8 or 80% can write well, the remaining 2 Widyaiswara or 20% still need guidance. 4) The ability to write research methods is 80 Widyaiswara or 80% can write well, the remaining 5 Widyaiswara or 20% still need guidance. 5) The ability to write research results as many as 7 Widyaiswara or 70% can write well, the remaining 3 Widyaiswara or 30% still need guidance. 6) The ability to write a discussion of 6 Widyaiswara or 60% can write well, the remaining 40 Widyaiswara or 40% still need guidance. 7) The ability to write conclusions and suggestions as many as 8 Widyaiswara or 80% can write well, the remaining 2 Widyaiswara or 20% still need guidance. 8) The ability to write a bibliography is 9 Widyaiswara or 90% can write well, the remaining 1 Widyaiswara

or 10% still need guidance. Furthermore, with regard to the Ability to Write Scientific Article Contents Based on the Systematics, it is presented in the following Table 2.

Table 2. Ability to write scientific article content based on systematics

Number of Widyaiswara	Writing system	Percentage	Information
8	Introduction	80 %	Well
2		20 %	Need Guidance
8	Research methods	80 %	Well
2		20 %	Need Guidance
7	Research result	70 %	Well
3		30 %	Need Guidance
6	Discussion	60 %	Well
4		40 %	Need Guidance
8	Conclusions & Suggestions	80 %	Well
2		20 %	Need Guidance
9	Bibliography	90 %	Well
1		10 %	Need Guidance

Analysis of the contents of the systematics, sharpened by an analysis of the use of Indonesian spelling. The ability to use Indonesian spelling in research is limited to 1) writing letters including capital letters and italics; 2) writing punctuation marks including periods and commas; and 3) writing standard words (Table 3). In writing letters, namely a) capital letters found errors of 40 letters and b) italics found errors of 30 letters. In writing punctuation marks, namely a) full stops found 40 errors and b) commas found 20. In writing standard words, 35 non-standard words were found.

Table 3. Ability to use Indonesian spelling

Indonesian Spelling	Number of Errors
Capital letters	40
Italic	30
Dot	40
Commas	20
standard word	35

Ability to Compile Scientific Article Systematics. The ability to compile scientific article systematics Widyaiswara BKPSDM Karawang Regency is quite good, namely 80% can compile scientific article systematics. The remaining 20% still need guidance in preparing systematics. There are 8 lecturers who can arrange the systematics of scientific articles. In carrying out the Widyaiswara, nine scientific article systematics have been included, namely article titles, author names, abstracts and keywords, introduction, research methods, research results, discussion, conclusions and suggestions, and bibliography. In this discussion, the researcher still ignores the contents of the article systematics. Researchers only analyze from the systematics of articles that can be seen in plain view. The remaining 5 Widyaiswara or 14% still need guidance. The five Widyaiswara did not include keywords, discussions and suggestions. Key-

words are ignored because they are not the essence of scientific article systematics. In addition, Widyaiswara does not know that keywords are an important part of the article. Regarding the discussion that was not included in the work on the article, it was because the Widyaiswara had made the research results. The results of the research already contain all the Widyaiswara's findings in the research without the need for discussion. Finally, the Widyaiswara's suggestion section does not include it because it is located at the end of the work before the bibliography. Widyaiswara who is less thorough, you can be sure does not include suggestions. Widyaiswara who need guidance in preparing scientific articles are Widyaiswara who are not present in lectures on scientific writing material. These Widyaiswara students do not catch up on lecture material while not attending. As a result, Widyaiswara compiled scientific articles that were not in accordance with the systematics of scientific articles.

Ability to Write Scientific Article Contents. The second research objective is to analyze the ability to write the contents of scientific articles Widyaiswara BKPSDM Karawang Regency. Analysis of the contents of scientific articles based on scientific article systematics. All Widyaiswara can write good article titles. The title is said to be good if the title created can provide a clear picture of the material scope of the problem to be discussed and attract the attention of the reader. To make it easier for Widyaiswara, all titles are directed to qualitative research. The goal, in qualitative research, research content prioritizes descriptions of words rather than numbers.

The second systematics are abstract and keywords. Widyaiswara who can make abstracts and keywords with good categories are 8 Widyaiswara or 80%. The rest, 2 Widyaiswara or 10% still need guidance. The contents of the abstract follow the rules of each institution. In working on the abstract, it contains background, objectives, types of research, data sources, research data, collection techniques, analysis techniques, data validity techniques, and research conclusions. For keywords refer to the variables contained in the research title. A total of 8 Widyaiswara who are categorized as good have fulfilled the contents of the abstract and keywords in accordance with applicable regulations. Three Widyaiswara, can't fill in properly or need guidance. The reason is not including keywords, while others are wrong in writing keywords. In accordance with the theory of writing, keywords refer to research variables.

The third systematic, namely the introduction. Preliminary work of 7 Widyaiswara or 70% is categorized as good, the remaining 3 or 30% Widyaiswara is categorized as needing guidance. The introductory section contains the background of the problem, the purpose of the discussion, the scope/limitation of the problem, the theory used, data sources, methods and techniques used and presentation systematics. The contents of the introduction are for thesis, while for scientific articles it is simpler. In scientific articles, the introduction contains the research background, the scope or limitations of the research and the research objectives. The patterned background from the details (specific) is drawn to the general conclusion. This is in accordance with qualitative research. The pattern of qualitative research contains specific problems or case studies at a place/location of research and then elaborates it to make a conclusion. The scope contains the limitations of the research, which can be in the form of object or subject variable boundaries. The research objective contains the purpose of the researcher in

conducting the research. A total of 7 Widyaiswara are categorized as good because in the preliminary work they have included three things, namely background, scope, objectives and special-general patterns. In contrast to the 3 Widyaiswara who were categorized as needing guidance. The location of the guidance is 1) the background content is less focused or still general in nature, 2) there is no specific-general pattern, but general-general, and 3) there is no research scope or limitation. Widyaiswara lacks focus or casuistry because Widyaiswara does not deepen and understand phenomena. Widyaiswara does not work on a specific-general pattern but generally because Widyaiswara needs to read a lot of scientific papers so they can write well. The Widyaiswara did not include the scope of the research, the reason was forgotten and said it was not an important problem in the research. These three things need to be paid attention to by seminar and thesis supervisors.

The fourth systematics, namely the research method. In working on the research method, as many as 8 Widyaiswara or 80% are categorized as good. The remaining 2 Widyaiswara or 20% are categorized as needing guidance. The research method contains types of research, sources of data and data, types of data collection and analysis, and types of data validity. As many as 8 Widyaiswara can fulfill the contents of the research method well. The remaining 2 Widyaiswara experienced problems in 1) they were still confused about differentiating data and data sources, 2) they were less varied in determining the type of data analysis, and 3) they did not include the type of data validity. These three obstacles are due to Widyaiswara's lack of enthusiasm in finding research references. As a result, knowledge of scientific papers, especially qualitative research, is still minimal.

The fifth systematics, namely research results. This section contains the presentation of the results of the research analysis without discussion. There are research results presented without citations from other studies. As many as 7 Widyaiswara or 70% are categorized as good, the remaining 3 or 30% Widyaiswara are categorized as needing guidance. It is categorized as good, because in the process there is an analysis of a phenomenon according to the type of analysis that has been described in the research method. Widyaiswara who needs guidance, because the analysis carried out is not in accordance with the research method. In addition, in the introductory chapter of the Widyaiswara which does not include the scope of the research, there will be confusion in giving proper boundaries and analysis. As a result, research is not focused and broad.

The sixth systematics, namely discussion. This section is a continuation of the systematic research results. If, in the research results section, it is a presentation of research results, then the discussion section is a description of the research results. Descriptions can be in the form of descriptions that describe data sources in generating data. Thus, research can reveal the reasons for something to happen in greater depth and focus. This is the difference between qualitative and quantitative research. Qualitative research is focused on the description of words so that it can be known in depth the phenomena that occur. In contrast to quantitative research in the form of numbers to measure a treatment or event without being able to reveal the reasons behind an event. As many as 6 Widyaiswara or 60% are categorized as good because they can reveal in depth the results of the research. The remaining 4 Widyaiswara or 40% are

categorized as needing guidance for the following reasons. 1) The Widyaiswara does not include a section discussing the reasons in the research. The most important part is the research results without any discussion of the research results. Another opinion states that if there are already research results, there is no need to discuss them. 2) Widyaiswara does not conduct in-depth research, because the research data is in the form of text without any observations or interviews regarding the text. 3) Widyaiswara is not good at composing words, as a result the contents in the discussion are the same as the research results. These three reasons can be overcome if Widyaiswara often reads scientific papers and often writes scientific papers. Seventh systematics, namely conclusions and suggestions. All groups load and fill in the section properly. In conclusion, Widyaiswara concluded that the research results were in accordance with the research objectives. For suggestions, it contains tips that readers need to do. If the reader as a researcher, is given advice to do good research. That is, the constraints or problems that occur by the Widyaiswara (researcher) are not repeated to the reader as the next researcher. If readers are connoisseurs of scientific writing, they are given suggestions according to research results in order to get better knowledge.

The eighth systematics, namely bibliography. Bibliography is a list of books, magazines, articles in magazines or newspapers, or articles in a collection of essays used as a reference in research. As many as 9 Widyaiswara or 90% are categorized as good. The reason, can write a bibliography in accordance with the rules and all the results of citations in scientific papers entered into the bibliography. The rest, 1 group or 10% are categorized as needing guidance. The reason is, there is still confusion in writing a bibliography such as writing the name of the author of the book that needs to be reversed, the authors of more than two books are all written by the Widyaiswara and the title of the book is not written in italics. In addition, not all citations are included in the bibliography.

3.2 Discussion

A person's ability to write is determined by his accuracy in applying every element of language, organizing ideas into narrative form, accuracy in applying language, and choosing diction to be taken. But apart from all that, in fact the ability to write is greatly influenced by one's intensity in reading. Someone with a high reading intensity will find it easier to write because he understands how beautiful and good writing is. In fact, it is not uncommon for someone to be influenced by the reading sources they usually read. The function of writing is as a medium for indirect communication. It is said to be indirect because the writing will face other parties who read it, but only face the writing. In Tarigan's view, the most important function of writing is as an indirect means of communication. Writing has proven to be very important for the world of education because writing makes it easier for students to think. It can also make it easier for us to feel and enjoy relationships, sharpen our perceptions and responsiveness. So that in everyday life, we often encounter what we really think and feel about people, problems, ideas, and events only in the actual writing process [18].

Based on the understanding and explanation above, it can be concluded that writing can be defined as a person's ability to depict graphic symbols that are understood by the writer as well as the reader into writing, to convey ideas, thoughts, wills, feelings, so that they can be understood by readers. From this explanation it can be said that writing is one of the most important parts of everyday life. So that the teaching of writing must be seriously considered in Indonesian language learning activities at school. In the context of writing skills, it turns out that there is a lot of data and information which says that the ability to write scientific papers of Widyaiswara is still very low, the rules for writing scientific papers do not heed guidelines, coupled with a very high level of plagiarism [19], [20]. Currently, the reality is that the culture of writing scientific papers among Widyaiswara can be said to be still very low. This can be seen from the lack of lecturers who publish scientific papers.

Scientific work according is a written work whose composition is based on scientific studies. The preparation of scientific work is preceded by library research and/or field research [21], [22]. Meanwhile, scientific work is essay written based on general facts, namely facts that can be proven true or not. General facts are facts that can be verified based on empirical observations.

In [23] scientific work is often also referred to as scientific essay or scientific writing is a human work on the basis of knowledge, attitudes and scientific ways of thinking which are then set forth in written form in a scientific way as well. According to Boyd and Westfall, the difference between the scientific and non-scientific approaches, as quoted by [24] lies in three characteristics of the scientific method, namely: (1) Research objectivity. Opinions or considerations taken are based on facts; unlike the way to obtain other beliefs (method of tenacity, --authority, --intuition), (2) Size accuracy. The scientific method seeks to obtain the most accurate measurement possible. This for natural science is very necessary and possible to do. For the social sciences the size used is relatively rough, often with a questionnaire or questionnaire. (3) The character of continuous investigation and towards perfection. Scientific investigation weighs all the facts precisely into the problem. It is an aggressive research to find evidence and draw conclusions. But the researcher is never so sure that he has found the ultimate truth. This always challenging attitude brings the advancement of science. From that understanding, it can be said that scientific work is formed from three components, namely scientific knowledge, scientific attitude and scientific thinking. The results of the process of the three components are then communicated in writing to the target group.

Therefore [25] argues that scientific work functions: (1) As a tool for communicating in writing new ideas as a result of literature review, investigation or someone's thoughts, (2) As a tool for writing reports about scientific experiences both experiences theoretical and practical experience, (3) As a tool for communicating in writing about the development of science and technology, (4) As a tool for disseminating in writing an innovation or new discoveries, (5) As a scientific documentation tool in written form that can be used as a source of information. While the form of scientific work consists of: (1) Scientific work with a research. This scientific work is more of a report of research results organized in full starting from the problems raised to the results of data analysis that answers these problems. Scientific work in this form is

usually called an article, (2) Scientific work is not research. This scientific work is more of a description of a discussion of a particular topic which is limited to the thoughts of the author and is limited from a literature review without being accompanied by the results of data analysis from a study. This form of scientific work is usually called a paper or paper.

The general characteristics or requirements of scientific writing according to [26] are: (1) Content, where scientific writing must present general facts that can be proven empirically and can be used to draw conclusions, (2) Systematics, where scientific work must use certain systematic writing techniques, (3) Language, where the language and style of writing scientific papers must be standard and logical, not everyday language which is unclear and emotional in nature., (4) Publication, where scientific papers must be published both in print and non-print, both directly and indirectly, so that it can be known and followed up in various forms by the public. The characteristics of scientific work in general are also stated by [27] who states that there are four requirements for a written work to be included in a scientific work, namely content, systematics, language and publication. First, scientific work must present general facts that can be proven empirically and can be used to build a conclusion. Second, scientific work must have a certain writing systematic. The three languages and their writing style must be standard and logical, not everyday language which is unclear and emotional in nature. Fourth, scientific works must be published or disseminated through various forms, both printed and non-printed, both directly and indirectly, so that they can be known and followed up in various forms by the public.

While the characteristics of scientific work according to [28] are as follows: (1) Logical, meaning that all the information presented has arguments that can be accepted by common sense, (2) Systematic, meaning that everything presented is arranged in a continuous and tiered sequence. , (3) Objective, meaning that all the information put forward is based on existing facts and actually happened and not the result of the author's (fictitious) fiction, (4) Complete and thorough, meaning that the things put forward are the result of a problem study and discussed thoroughly , so that the existing description provides complete and thorough information about the problem, (5) Thorough, meaning that the contents of the writing are avoided from various errors even though they are small, (6) Clear and straightforward, meaning that all the information put forward can clearly express the intention by using language that simple tends to be standard and not convoluted. The use of convoluted language can lead to misunderstandings for the reader, so there is a possibility that the true intent cannot be clearly captured. (7) Valid, meaning that all information is based on correct data, so that the correctness of the writing can be tested, (8) Open, meaning that something that is put forward can change if a new opinion emerges that is acknowledged and has been tested for truth, (9) Generally accepted, meaning that the conclusions put forward can be generalized or apply to all members of the population, (10) The presentation pays attention to politeness of language and writing which is standard.

4 Conclusion

Widyaiswara's ability to write scientific papers is described in three forms.

1. The ability to write systematic scientific articles. As many as 8 Widyaiswara or 80% are categorized as good or able to write scientific article systematics. The remaining 2 Widyaiswara or 20% are categorized as needing guidance.
2. Widyaiswara's ability to write the contents of scientific articles. The contents of writing titles, author names, abstracts, research methods, and Widyaiswara bibliography are categorized as good because more than 80% can write. The rest, in preliminary writing, research results, discussion, conclusions and suggestions, Widyaiswara are categorized as needing guidance because only 20% can write well.
3. Ability to use Indonesian spelling. Several errors were found, which need attention, namely errors in capital letters, italics, periods, commas, and standard words. This error, because Widyaiswara does not read scientific papers, so that knowledge of the use of Indonesian spelling is still relatively lacking.

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