One of the main problems for teachers in Indonesia is the low quantity and quality of scientific work made by teachers. Whereas in terms of administration, writing scientific work is one of the main requirements for teachers to increase the rank of teachers as a form of sustainable professional development. Therefore, assistance is needed for teachers in writing scientific work. This mentoring activity is carried out virtually, in accordance with the government’s recommendation to conduct social distancing during the pandemic. The mentoring participants consisted of 214 teachers from various levels of education spread from various regions in Indonesia. Methods of implementation of this devotional activities include: (1) the delivery of material on Scientific Papers (KTI); (2) providing an understanding of the importance of writing scientific work for teachers and educators; (3) discussion and question and answer sessions by providing opportunities for teachers and educators related to the writing of scientific works; (4) provide an overview and simulation of the writing of scientific works; (5) evaluation of the results of the activities that have been carried out. The response of participants in this activity was very enthusiastic, so that the planned follow-up activities in the form of technical guidance on writing KTI more intensively.
INTRODUCTION

Teachers as education personnel are professionals who are required to develop themselves in order to improve competence and professionals. Sustainable professional development (PKB) in accordance with the Regulation of the Minister of State for The Utilization of State Apparatus and Bureaucracy (PermenPANRB) Number 16 of 2009 concerning Teachers and Their Credit Figures, which states that the development of teacher competencies is carried out in accordance with the needs, gradually, sustainably, to improve its professionalism. Teacher performance assessment is measured by credit score as a unit of value of each item of activity accumulated the value of the items of activities that must be achieved by a teacher in the framework of coaching his rank and position career.

Permen PANRB No. 16 year 2009 concerning Teachers and Their Credit Figures has stipulated that the promotion of teachers is no longer through the regular promotion path but rather must go through a promotion of choice namely structural and functional promotion every 2 (two) years for the teacher of the teacher (IV / a) to the level I (IV / b). The implication of this regulation is that many teachers whose promotions are suspended in IV/an until retirement because they do not compile scientific papers.

Head of The Bureau of Planning and Foreign Cooperation of the Ministry of National Education, Agus Sartono at the Workshop on Teacher Scientific Tradition in Jakarta said that of the 2.6 million teachers for class IV/b only by 0.87 percent, teachers of class IV /C by 0.07 percent and class IV / d by 0.02 percent (Kompas.com, 2010). Head of Progressive Independent Sustainable Professional Development (P2KBM) of Surakarta City, Eny Wiji Lestari during the 1st KTI Dilat in 2019 at Red Chillies Hotel Solo said that the lack of motivation in teachers to develop Class Action Research (PTK), while the preparation of PTK is mandatory and plays a role to raise the rank / group (Jawa Pos Radar Solo, 2019).

Yulhendri, Marna and Oknaryana (2018) found several reasons why the low motivation to write this scientific work is the fear and or anxiety of writing related to the procedures and criteria of writing that are acceptable and valued as scientific works. Most teachers state that the procedures for making scientific work and the criteria are too difficult for them to meet or follow. In addition to being caused by low motivation in writing. Most of the teachers who have not wanted, are able, and used to write, are more due to the lack or absence of material that is worth writing. They stated that they did not yet have time to do the research, and to find the source of the reading to write. Meanwhile, field survey conducted by Kurniawan and Fitrianawati in Community Service conducted in Tempel sub-district stated that, as many as 80 percent of elementary school teachers in Tempel still occupy class III. Relatively few teachers and educators managed to rise up the ranks to occupy the class IV / a or IV / b. In fact, all private principals and teachers and educators in Tempel sub-district are not able to reach class IV/b (Indofakta, 2018).

On the other hand, the government has compiled several programs to support the growth of research traditions, one of which is by providing a Perpetual Education Fund that can be used by teachers and educators in conducting scientific publications. The government also provides teacher certification allowances in the hope of encouraging teachers and educators to be more active in writing scientific work. However, these programs have not been shown to be able to increase the number of teachers who actively write scientific papers.

Based on these problems, it is necessary to do community service on the writing of scientific papers in the field of Class Action Research (PTK) as an effort to implement the sustainable professional development of teachers in Indonesia. This mentoring activity is expected to be able to contribute scientific studies on solutions in improving the motivation of teachers and educators to write scientific work, especially in the field of Class Action Research (PTK) and provide scientific contributions to the study of strategic steps in increasing the participation of teachers and educators in the field of scientific writing and facilitate in the framework of coaching career rank and position.

PROBLEM

The main obstacle faced by teachers and educators is the difficulty of collecting credit numbers on the writing component of scientific work. This is due to the competence of teachers, especially in conducting research is still low. There is evidence from previous studies that show that almost 70% of teachers do not have the correct knowledge of problem concepts and research even nearly 90% of teachers have never done research activities, and ultimately resulted in almost 100% of teachers ever publish about the results of research (Leonard, 2015). The main obstacles faced by teachers and educators are the age factor of teachers and educators and the difficulty of dividing time. So it is important to provide assistance for teachers and educators in the preparation and writing of scientific works in order to collect credit numbers to rise through the ranks.

METHOD

This community service activity is designed virtually so that it can reach more teacher participants from various regions in Indonesia and from different
levels of education units, ranging from elementary to high school and its equivalent. The use of virtual mentoring method managed to attract 214 teachers from various regions in Indonesia, including all regions in Java Island, Sumatra Island, Bali Province, NTB, NTT, Bangka Belitung, West Kalimantan, to Maros Regency in South Sulawesi Province.

The problem solving model applied by the team of service to the community is to conduct training that produces skills and mentoring in writing scientific work for teachers and educators. In this process, teachers will be given knowledge, understanding, information as well as training to write scientific works themed on class action research. The troubleshooting framework is described in the following figure:

![Figure 1. Troubleshooting Outline Chart](image)

The teaching team conducts class action research writing assistance activities with the following details:

1. **Virtual pamphlet deployment**
   The teaching team designed pamphlets to socialize the description of activities to prospective participants, which contained information on the topics of mentoring, time of activities, resource persons and facilities obtained during mentoring activities. The pamphlet was then shared through the official social media of the Department of Economic Education of UNNES and on all major networks, including alumni.

2. **Registration of Assistance Participants**
   Registration of mentoring participants is done by means of prospective participants filling out the Google Form provided by the committee. Filling in this Google Form is required to obtain the participant's email address for the purpose of sending a ZOOM link that will be used as a means of virtual meeting and sending certificates to participants.

3. **Implementation of mentoring, knowledge transfer, socialization, discussion and mentoring activities**
   The assistance was carried out with resource person Mr. Kemal Budi Mulyono, S.Pd., M.Pd., CQInR who is a lecturer in the Department of Economic Education. The background of the resource person as the winner of the PTK competition as a teacher is very relevant so that the process of sharing experiences with participants can be done contextually.

4. **Periodic monitoring and mentoring**
   After the activity was completed, some participants who were willing to be accompanied in arranging PTK conducted intensive guidance with a team of service members in particular and lecturers of the Department of Economic Education concentration of Cooperative Education incorporated in the Center for Economic Education and Entrepreneurship studies in general.

**RESULTS AND DISCUSSIONS**

Training starts from 07.30 am to noon at 11.15 am with several agendas. The training was opened by Mr. Ahmad Nurkhin, S.Pd., M.Si as The Head of Economic Education Department of UNNES with Mrs. Inaya Sari Melati, S.Pd., M.Pd as the head of the service team as the moderator of the discussion. The activity was continued with the presentation of materials by Kemal Budi Mulyono, S.Pd., M.Pd., CQInR. The materials presented include concepts about research Class actions, concepts of research methods, concepts of research reports, concepts of writing scientific articles, as well as tips or tips for finding ideas and drafting scientific work to make it easier and fun to do.

After the material was presented, teachers and educators were given the opportunity to ask questions and discuss with the speakers. The agenda was continued with a simulation of the creation of scientific papers themed Class Action Research (PTK). This type of research is very relevant to the profession of teachers and educators as parties who are in direct contact with students in the classroom. Simulation time allocation is one hour with the hope that teachers and educators are able to understand in more detail about the procedures.
of writing, as well as have experience in the preparation of scientific work. So that it knows where things are not understood and can be a lesson when doing real writing. The activity ended with evaluation and feedback from the presenter. This is done so that the work that has been made by teachers and educators can be evaluated so that they understand the location of errors and mistakes.

Judging from its characteristics, Sunendar (2008) in Triyono (2008) states that PTK at least has characteristics (1) based on problems faced by teachers in learning, (2) collaboration in carrying it out, (3) researchers as well as practitioners who reflect, (4) aims to improve and or improve the quality of learning practices, and (5) is implemented in a series of steps with several cycles. Furthermore, Djajadi (2019) explained about the types of Class Action Research, namely as follows:

1. **PTK Diagnostics**
   What is meant by diagnostic PTK is research designed by guiding researchers towards an action. In this case the researchers diagnosed and entered the situation contained in the background of the study. For example, when researchers attempt to deal with disputes, quarrels, conflicts between students in a school or classroom.

2. **PTK Participants**
   A study is said to be PTK participants is if the person who will carry out the research must be directly involved in the research process from the beginning until the results of the research in the form of reports. Thus, since research planning researchers are always involved, then researchers monitor, record, and collect data, then analyze the data and end by reporting the results of their research. PTK participation can also be done in schools as well as examples in point a above. It’s just that, here researchers are required to be directly and continuously involved from the beginning until the end of the research.

3. **PTK Empirical**
   What is meant by empirical PTK is if the researcher attempts to carry out an action or action and open up what is done and what happens during the action.

   In principle, the research process deals with the storage of records and the collection of research experience in daily work.

4. **Experimental PTK**
   What is categorized as experimental PTK is if PTK is organized by trying to apply various techniques or strategies effectively and efficiently in a teaching and learning activity. In relation to teaching and learning activities, it is possible that there is more than one strategy or technique set out to achieve an instructional goal. With the implementation of this PTK, it is expected that researchers can determine which way is most effective.
effective in order to achieve the teaching objectives.

Based on the discussions conducted during the mentoring activities that have been carried out, various information has been obtained, namely not all teachers understand how to write scientific work properly and correctly. Furthermore, the activity of writing scientific works is not a priority. This is due to various factors including, limited free time, administration that must be filled by teachers are quite diverse, as well as daily activities that are quite time consuming. Limited free time is caused by busy teaching hours, teacher agendas such as internal and external meetings of teachers, as well as mentoring students who participate in certain competitions. Related to administration or commonly called completeness of teacher administration including workbooks, teaching schedules, lists of administrative devices, educational calendars, annual programs, semester programs, and so on. The time spent by teachers and educators is also allocated for daily activities such as taking care of the family and other needs.

This condition resulted in the low participation of teachers and educators in digging deeper into the writing of scientific works. A less supportive work environment such as the lack of massive writing activities is also an obstacle in fostering the motivation of teachers and educators to compile scientific papers. So that efforts to develop and foster motivation through this training become important to be done.

Retnaningsih, Maasawet, and Boleng (2017) revealed that arranging and developing learning tools well is one of the teacher's skills. This can be one of the possible alternatives to analyze learning problems by reviewing existing devices and associated with the implementation that has been done. Learning tools make it easy for teachers in the learning process because every stage of the student is well conditioned so that it is expected to create a pleasant atmosphere in the classroom.

Mentoring is periodically carried out to find out the development of teachers and educators after attending the training. In addition, this assistance is intended to review the understanding of teachers and educators in preparing scientific work. Forms of mentoring include: (1) the implementation of class action research by giving input to the learning plan and preferably in the stages of learning reflection; (2) identify and find problems that are then used as research topics; (3) writing of research reports; (4) writing research articles by lecturers gives directions on the procedures for writing good and correct articles, and (5) the publication of scientific articles, this is related to how to choose a journal that is relevant to the research Class actions that have been done, the requirements, and the procedures submitted to the journal addressed. Mentoring is carried out every day of the week by involving three lecturers each accompanying 5-6 teachers. The expected externality is that teachers are able to produce articles that can be published in journals in local and national periodicals.

The contribution of assistance activities in the preparation of scientific papers to teachers is the first, providing education to teachers in the preparation of scientific papers, especially Class Action Research (PTK). Second, increase teachers' awareness of the importance of scientific writing activities, especially Class Action Research (PTK). Third, the creation of a supportive environment for teachers in making research productively or not only for the short term but for the long term on an ongoing basis. In addition, the results of service in addition to providing benefits to teachers who participate in mentoring activities, are also expected to provide wider benefits to other teachers in the mentoring environment by transmitting the spirit of writing scientific work to colleagues. This activity is expected to encourage teachers to be more productive and willing to start to develop scientific work that can later become pioneers or pioneers that can be exemplified by colleagues.

CONCLUSION

In general, scientific writing assistance in order to improve competence and professionalism as a form of sustainable professional development, running smoothly and received an enthusiastic response from participants. But in implementing it there are still some shortcomings and evaluations that need to be done related to this program. One of them is externally related to the publication of articles to journals both locally and nationally productively. Because, to achieve this, it is necessary to prepare both mentally, time, and personnel from the lecturers or the team of lecturers as well as teachers and educators. Furthermore, research activities should be based on yourself to share and explore knowledge that can only be controlled by yourself. Indirectly, this emphasizes the personal motivation of teachers and educators who always have to continue to grow in order to achieve a high contribution to research. Another drawback is that the implementation system performed online and the internet connection in each individual is different. This resulted in a lack of material conveying to some teachers. In addition, control is quite difficult by the presenter to the teacher during the simulation session of the preparation of PTK scientific work as a whole. Considering this control is important enough to assess how understanding teachers and educators are in understanding the material that has been delivered.

It is hoped that this service will continue as a form of mentoring teachers and educators. Understanding
and education about scientific papers still need to be done further and more intensively so that teachers can analyze and find problems that occurred during the previous learning. The existence of problems that arise as a result of analysis and used as a formulation of problems that will be sought solutions for improvement that are further used as research topics.

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