

## Training and Preparation of Scientific Papers for the Indonesian Student Research Olympiad in MAN 1 Palu City

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### ABSTRACT

One of the high schools that is close to campus is MAN 1 Palu City. One of the extracurricular activities in MAN 1 Palu City is KIR (Youth Scientific Work). The interest of students to participate in these activities is very high but requires more intensive coaching. So far, no scientific paper writing training has been conducted for students. This is one of the reasons why students are less able to compete with other schools in Palu in scientific writing competitions. The problems of partners (MAN 1 Palu city) are: a) The KIR group's mastery of writing scientific papers in preparation for the OPSI competition is still low, b) The KIR MAN 1 group in Palu city still often misunderstands the content of scientific papers and scientific paper writing techniques. 3) The lack of resource persons who can be occupied asks if the KIR MAN 1 group in Palu has difficulty in making papers. For this reason, we have held a service activity at MAN 1 Palu City, including training activities and workshops. Providing training (material for writing scientific papers and techniques for writing scientific papers), at that stage the service team acts as a teacher in presenting materials and examples of scientific works that pass the Indonesian Student Research Olympiad (OPSI). b) Assisting in writing scientific papers.

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### INTRODUCTION

One of the high schools that is close to campus is MAN 1 Palu City. Student Council or Intra-School Student Organization is the only largest organization consisting of all students and students of MAN 1 Palu City. Student Council is a forum for MAN 1 students in Palu to organize and channel their interests and talents through extracurriculars under the student council. The student council is also divided into several field sections (sekbid) which are further divided into several subsections to carry out their respective functions to support the needs of all residents of MAN 1 Palu city. Student councils are considered structurally and functionally valid by the school and the education office. One of the activities in the Student Council of MAN 1 in the city of Palu is KIR (Youth Scientific Work). According to the coach of KIR MAN 1 Palu Kasmawati, S.Pd, student interest is very high, only it needs more intensive coaching and the lack of coaches who can guide them. So far, no

scientific paper writing training has been conducted for students. This is one of the reasons why students are less able to compete with other schools in Palu in scientific writing competitions.

In scientific writing competitions held by various study programs at FKIP or MIPA Tadulako University, they have never entered the semi-final round, as well as scientific writing competitions held by Balitbangda, Honda the best student, especially in the National event scientific work competition, the Indonesian Student Research Olympiad (OPSI) and the Indonesian Science Project Olympiad (ISPO).

Among the most prestigious scientific writing competitions at the level of the Science Olympiad (OSN) is OPSI. OPSI is organized by the Directorate of High School Development. This activity aims to 1) attract students who have talents and abilities in the field of research; 2) foster a culture of research among high school students; 3) motivate high school / MAN students to be creative in various fields of science according to their interests and talents; and 4) obtain original, quality, and competitive research results. 5) Facilitating research communities at the high school / MAN student level from various regions to conduct research meetings 6) Selecting prospective participants to be included in research activities at the international level. OPSI's activities began with the submission of papers to be selected nationally, where 90 finalists will be called to Jakarta to participate in exhibitions and presentations of research results as a national-level selection to select 30 winners who will be guided to prepare the competition team to international. One of the competition fields at OPSI is basic science which includes: Mathematics, Chemistry, Physics, and Biology.

To qualify as 90 finalists of OPSI representing Central Sulawesi province, intensive guidance is needed. Generally, other provinces cooperate with local universities. High School / MAN in the city of Palu which often passes to OPSI in collaboration with the chemistry study program and physics study program FKIP Tadulako University. Therefore, careful preparation is needed from teachers to be able to guide and motivate students to compete with schools in Central Sulawesi and National provinces, and training is needed for students on writing scientific papers. Students who need guidance for the preparation of writing competitions at the city level of Palu, the provincial level of Central Sulawesi, and the National level. The reality on the ground from 2000 until now students from MAN 1 city have never passed the provincial scientific writing competition, let alone the national level OPSI competition.

Seeing this reality, this team felt moved to carry out a community service activity, with the title: Training of KIR MAN 1 Student Group in Palu City who Had Difficulty Making Scientific Papers for the Indonesian Student Research Olympiad (OPSI).

## **METHOD**

### **2.1 Method of Approach**

The approach method used is the lecture method on Rules and Introduction to the Indonesian Student Research Olympiad (OPSI) competition, competition rules, and techniques. Providing training in making scientific papers, writing techniques, processing research data, and writing final reports of research results according to OPSI's guidelines. Participants will then work and study in groups to make important points of scientific work. The titles are expected based on the ideas of the students after the training. Assisting to ensure that the material presented to partners can be implemented properly so that the results obtained can achieve the target.

### **2.2 Implementation of Activities**

Training and practice of making scientific papers will be carried out in MAN 1 Palu city. The training participants consisted of members of KIR MAN 1 Palu City and KIR MAN 1 supervisors of Palu City. In the practice of making scientific papers, participants are divided into 4 groups with each group consisting of 7-8 people who will be accompanied by the service implementation team. The participants were guided/accompanied starting from identifying problems, making titles, and then systematically, making introductions, literature reviews, research methods, results discussions, and conclusions.

## RESULTS OF SERVICE IMPLEMENTATION

### 3.1 Implementation of Education and Training

The implementation of the service began with socialization with related agencies, principals, and Trustees of KIR MAN 1 Palu City (Picture 1). This socialization aims to provide information to relevant agencies regarding the implementation of the service so that participants know the purpose of the implementation of the program by the implementation team so that there is no misinformation. Furthermore, after the submission of a comprehensive program plan, it was continued with the provision of training related to the theme of making scientific papers to increase teacher and student activities in writing scientific papers, especially for the preparation of the Indonesian Student Research Olympiad (OPSI).

The training was carried out in the hall of MAN 1 Palu City (Picture 2), the training participants were KIR Guidance teachers and MAN 1 students of Palu City. Training materials include Introduction to the Indonesian Student Research Olympiad (OPSI) competition, competition rules and techniques, Good scientific work-making techniques, data analysis techniques and data interpretation, Data retrieval/presentation techniques, and making research instruments and library search techniques.



**Figure 1 Socialization with the Principal and KIR Supervisor**



**Figure 2 Implementation of Training on Making Scientific Papers**

### 3.2. Practical Work for Making Scientific Papers

In the practice of making scientific papers, participants are divided into 4 groups with each group consisting of 7-8 people who will be accompanied by a service implementation team and field personnel (Figure 3). Activities carried out in practical work are participants guided/accompanied starting from identifying problems, making titles, and then systematically, making introductions, literature reviews, research methods, results discussions, and conclusions, adjusted to the OPSI guidelines. These steps are by the guidelines for writing scientific papers from various sources [1,2,3,4]. All of these activities are carried out in such a way as to make it easier for trainees to do this on an ongoing basis.



**Figure 3 Practice of making scientific papers accompanied by the Service Team**

### 3.3 Mentoring

Mentoring activities are carried out to ensure that the material/technology delivered to partners can be implemented properly so that the results obtained can achieve the target

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## CONCLUSION

The implementation of workshops and training on making scientific papers is very useful for teachers and students of MAN 1 Palu City who have not been able to compete in the Indonesian Student Research Olympiad (OPSI) competition. In the application of the practice of preparing scientific papers, three students have made research manuscripts that are ready to be contested at next year's OPSI.

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