




# Beginner researcher training for Giovanni high school students in Kupang, East Nusa Tenggara

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ARTICLE INFO	ABSTRACT
<p><b>Article history</b>            Received: 2023-08-04            Revised: 2023-09-09            Accepted: 2023-09-26            Published: 2023-10-04</p> <p><b>Keywords</b>            Beginner researcher training            Giovanni senior high school            Literacy            OPSI            Partnership</p>	<p><i>The purpose of the Beginner Researcher Training activities for Giovanni Kupang Senior High School students is to help students become competent researchers in order to participate in scientific activities and be able to compete academically in scientific competitions such as the Olimpiade Sains Nasional (OPSI). This goal also supports the realization of a literacy awareness movement that has been programmed and implemented well by Giovanni Kupang's Senior High School partners. Beginner researcher training activities were held at Giovanni Senior High School in Kupang City, East Nusa Tenggara Province. Implementation of training activities for novice researchers is carried out using training and mentoring methods which are carried out through Material Presentations/Providing Information, Questions and Answers and Discussions, Focused Group Discussions (FGD) and Technical Guidance. Based on the implementation of community service activities and evaluation with partners, it can be concluded that; (a) The implementation of this activity has been able to improve literacy performance through training activities for novice researchers; (b) Give appreciation and attention to students by carrying out scientific activities at school and competing in the Olimpiade Sains Nasional; (c) Can anticipate the emergence of students' learning laziness and reluctance to be scientifically competent; (d) Being able to provide added value in the field of knowledge and skills for students so that they can complete school assignments given by teachers.</i></p>
<p><b>Kata Kunci</b>            Literasi            Kemitraan            OPSI            Pelatihan peneliti pemula            SMA Giovanni</p>	<p><b>Pelatihan peneliti pemula untuk siswa SMA Giovanni Kupang, Nusa Tenggara Timur.</b> Tujuan dari kegiatan Pelatihan Peneliti Pemula bagi siswa SMA Giovanni Kupang adalah untuk membantu siswa menjadi peneliti yang kompeten agar dapat mengikuti kegiatan ilmiah dan mampu bersaing secara akademis dalam kompetisi ilmiah seperti Olimpiade Sains Nasional (OPSI). Tujuan ini juga mendukung terwujudnya gerakan sadar literasi yang telah diprogram dan dilaksanakan dengan baik oleh SMA Giovanni Kupang. Kegiatan pelatihan peneliti pemula dilaksanakan di SMA Giovanni Kupang, Provinsi Nusa Tenggara Timur. Pelaksanaan kegiatan pelatihan bagi peneliti pemula dilakukan dengan metode pelatihan dan pendampingan yang dilakukan melalui Penyajian Materi/Pemberian Informasi, Tanya Jawab dan Diskusi, Focused Group Discussion (FGD) dan Bimbingan Teknis. Berdasarkan pelaksanaan kegiatan pengabdian kepada masyarakat dan evaluasi bersama mitra, dapat disimpulkan bahwa; (a) Pelaksanaan kegiatan ini telah mampu meningkatkan kinerja literasi melalui kegiatan pelatihan bagi peneliti pemula; (b) Memberikan apresiasi dan perhatian kepada siswa dengan melaksanakan kegiatan ilmiah di sekolah dan berkompetisi dalam Olimpiade Sains Nasional; (c) Dapat mengantisipasi timbulnya rasa malas dan keengganan belajar siswa untuk berkompeten secara ilmiah; (d) Mampu memberikan nilai tambah dalam bidang pengetahuan dan keterampilan bagi siswa sehingga dapat menyelesaikan tugas sekolah yang diberikan oleh guru.</p> <p style="text-align: right;">Copyright © 2023, Nara et al            This is an open access article under the <a href="#">CC-BY-SA</a> license</p> <div style="text-align: right;">  </div>

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## INTRODUCTION

The biggest challenge for Indonesia's education development during the fourth phase of the medium-term development period (2020–2024) is to prepare quality and internationally competitive Indonesian human resources. To respond to these challenges, as well as as a manifestation of the mandate of Law Number 20 of 2003 concerning the National Education System, the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia continues to strive to foster and develop the talents, interests and achievements of Senior High School/MA/equivalent students through various student activities (Indonesia, 2003).

The main target of the learning and education process is students or learners, who must be involved in various extracurricular and co-curricular activities that are comprehensive and integrated as a pattern of student development. This pattern of coaching must be able to support the preparation of a quality generation that is formed on a foundation of intellectual competence, skills and qualified attitudes. In order to realize achievements in various fields of science. The Ministry of Education, Culture, Research and Technology of the Republic of Indonesia through the National Achievement Center views that competition programs, contests and festivals must also be used as a means of fostering and developing students' competencies in mastering science and technology. These efforts are enriched by various programs that can increase students' interests, talents, and abilities in various research activities (Nasution, 2017).

Research activity is a process of obtaining or obtaining a knowledge or solving problems encountered, which is carried out scientifically, systematically and logically (Noor, 2010). The benefits of research for high school (SMA) students are increasing learning outcomes and student solidarity to find knowledge and develop insights, increasing the ability to analyze a problem through learning with innovative learning models. Giovanni Senior High School in its activities in the world of education, in supporting student achievements, is often involved in national and international competition activities. One of the competition activities that is often participated in by Giovanni Senior High School students is the OPSI Activity (Indonesian Student Research Olympiad).

The Indonesian Student Research Olympiad (OPSI) was held as an important agenda for the National Achievement Center in order to develop Indonesian people with creative and innovative characteristics. OPSI focuses on growing scientific character through competition activities in order to develop students' freedom of thought to continue researching (Wiyoko et al., 2019). Through this activity, students' concern for the surrounding environment, including exploring the potential of local resources that have a global impact will continue to be grown. Thus, OPSI becomes a forum for high school/MA/equivalent students to actualize their talents, interests, and abilities in research and innovation as well as inculcating a research culture among students. This activity is also a selection of superior research works to be included in various research competitions, scientific forums, as well as national and international publications. Even though the partner, Giovanni Senior High School, has included students to take part in the OPSI competition, based on reports from the Giovanni Senior High School student body, in the last four years the students who have taken part in the OPSI competition apparently have not had the chance to enter the final/win the competition.

The problem is of course very important to solve, because Giovanni Senior High School is one of the very superior high schools and is also the best high school model in Kupang City. With this Beginner Researcher Training PKM Activity, it is hoped that the problems of these partners can be resolved. The purpose of the Beginner Researcher Training activities for Giovanni Kupang Senior High School students is to help students become competent researchers in order to participate in scientific activities and be able to compete academically in scientific competitions such as the Olimpiade Sains Nasional (OPSI).

## METHOD

Beginner researcher training activities are held at Giovanni Senior High School, Kupang City, East Nusa Tenggara (Gena, 2022). The activity was held in the Giovanni Senior High School Hall on Tuesday, 02 August 2023. The target group in the novice researcher training activities were 35 Giovanni Kupang SMAK students and 5 accompanying teachers who also took part in the activity. The 35 students consist of students from class X (10) and class XI (11). The selection of students from grades X and XI is because these students still have the opportunity to take part in competitions or Olympiads for high school students such as the National Science Olympiad (OPSI), while class XII (12) are not targeted because they have an interest in to prepare for National Examination and School Examination. In addition to these considerations, another consideration is the students participating in this activity, some of whom are currently involved in OPSI at the stage of receiving proposals to then proceed with research, so that it is an advantage for themselves to be involved in this novice researcher training activity.

The instructors/speakers in this activity were lecturers selected from two majors, namely the Department of Political Science on behalf of Yohanes Jimy Nami, M.I.Pol. and the Department of Communication Science on behalf of Abner P.R. Sanga, S. Sos., M.Si. These two presenters were chosen based on the consideration of their qualified abilities in terms of research and scientific article writing. In order to solve the problems that have been formulated in the problem formulation above, the implementation of novice researcher training activities is carried out using the training and mentoring method, where the implementation of the two methods is carried out by:

- 1) Presentation of Material/Provision of Information  
This activity begins by providing information to participants regarding the activity material using the material presentation method (Indrayani, 2022). This activity is carried out with the hope that students will get a comprehensive understanding related to scientific research so that there is an understanding between the speakers and the participants. This will make it easier later in the implementation of exercises / simulations.
- 2) Questions and Answers and Discussion  
A form of method used so that presenters can ensure that participants follow the training activities well and get explanations on certain sub-materials that cannot be understood. In the process of question and answer and discussion the moderator gave the opportunity for the participants to ask various kinds of things they wanted to ask related to the material and the answers were immediately given by the presenters and then discussed by all the training participants (Juliangkary & Pujilestari, 2022). The benefits of the discussion method are also to stimulate the reasoning power and speaking ability of students.
- 3) Focused Group Discussion (FGD)  
A group discussion technique used to get an overview of the various opinions related to the research material provided (Suparwoto, 2022). The participants were divided into 6 groups to be asked to express their opinions regarding the material in a directed manner, without having to solve the problem. Within 30 minutes the participants were asked to discuss the problems that had been designed by the trainers, so that participants had a new understanding of various problems from various different perspectives from each participant.
- 4) Technical Guidance  
Is a method used in the form of directly guiding students (table to table) so that students can directly practice the material presented (Emilda et al., 2022). This technical guidance is necessary because in delivering the material, the speaker requires the participants to install the Mendeley application for citation, in order to facilitate the training of these novice researchers, in terms of the practice of writing comprehensive scientific research results.

The stages of implementing activities are (1) Partnership Development; Expand partner collaboration networks which include training for novice researchers, research practice and research science and technology transfer. (2) Training; The next stage is discussion with partners for the continuation of the activity. To overcome partner problems, there are several things that will be carried out by the implementing team, namely (1) Meeting with the Giovanni Senior High School, (2) Counseling about Becoming a novice researcher, and (3) Beginner Researcher Training:

- 1) Speaker 1  
Delivering material and training on general research systematics, how to determine themes, focus, problem formulation and research objectives.
- 2) Speaker 2  
Delivering material and training related to research methods, types of research, techniques for collecting data, techniques for analyzing data and formulating results as well as discussing research

The progress of work in the field will always be monitored and cared for. Monitoring will be carried out in conjunction with training guidance and assistance activities as well as monitoring and evaluation will be scheduled periodically. Furthermore, monitoring activities are carried out to monitor the development and progress of community service activities. Meanwhile, this activity aims to follow up on monitoring results which can later be used as input in further coaching or guidance. This activity will be carried out starting from the preparation and implementation of extension activities, guidance and training. Schematically the activity plan in the community service program that has been agreed with partners is in Figure 1.

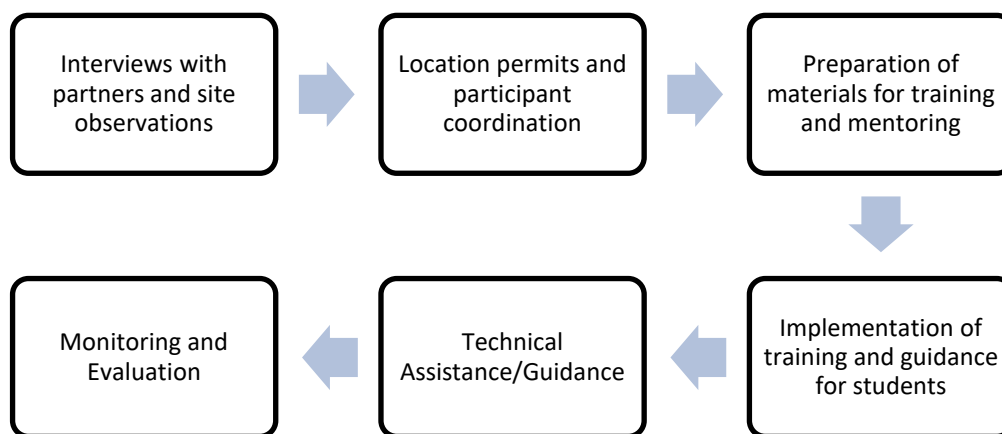


Figure 1. Community Service Program Scheme that is agreed with Partners

## RESULTS AND DISCUSSION

This Beginner Researcher training activity has been carried out properly according to the prepared plan. The implementation of activities is carried out in the following stages:

### Preparation

This activity requires more time in preparation for its implementation to ensure the level of success in the entire program of activities. The preparations made include: a) Determining the location (a school that is a community service partner) and determining the participants who are the target of implementing novice research activities. b) Conduct outreach to activity partners to ensure the continuity of this activity by disclosing the time schedule and matters that are the consequences of the activity, c) Coordinating and TOT (training for trainers) on novice researcher training to student teams who will assist this community service program sustainably. The team prepared 3 students to become trainers and companions for peer counseling activities, d) Prepared training materials and training materials that would be given to all activity participants.

### Implementation

Documentation of these community service activities is presented in Figure 2, Figure 3, Figure 4, Figure 5, dan Figure 6. In the implementation stage of community service activities this is in accordance with the implementation plan and agreement with activity partners. The stages of these activities include:

- 1) Making materials and training materials for novice researchers  
This activity aims to provide provisions to participants so they can carry out research activities more practically. This material contains practical instructions in conducting research accompanied by systematics and research examples. Besides that, the material is also equipped with comprehensive research examples. This material was given to all participants and teachers as partners in this service activity. It is hoped that these materials and materials can be used as a reference for carrying out research/writing research reports for students.
- 2) Basic training  
The next activity is conducting basic research training for activity partners. The objectives of this activity are: Introducing the systematics of writing research that is good and correct, Providing knowledge and understanding of the process of making a research, Forming the basic soul of a researcher, Increasing sensitivity to problems in the surrounding environment, Helping students who have the potential or are currently taking part in the OPSI championship.
- 3) Advanced Training,  
In accordance with the purpose of carrying out this community service activity and the evaluation results from the training of novice researchers, further training is needed. This activity aims to; Improving the competence and skills of participants in conducting research, Forming an interest in research that fits any needs including competitions, Disseminating good research techniques as an alternative support in carrying out practice-based assignments. Further training is needed in order to identify problems that are felt and encountered in the application of training activities for novice researchers.
- 4) Accompaniment  
The mentoring program is an activity that is structured as an activity package to ensure that participants paraphrase sentences in writing research results and have the basic skills needed when conducting research. Besides that, this activity is also to bridge the latest information related to problems faced by peers and individual problems when conducting research, so that the community service team can develop new steps and help solve problems faced by participants and partners. The mentoring program is intended to provide basic

insight so students can make research and formulate it in a research report. In addition, mentoring activities are also used to share problems faced by students and individual problems in conducting research. The mentoring program is carried out 3 times in accordance with the partners' agreement to provide assistance in the formulation of research problems and references used in writing research reports.



Figure 2. Activity opening



Figure 3. Delivery of Materials to Participants



Figure 4. Intermezzo /Icebreaking



Figure 5. Team with Partners After Awarding the Certificate



Figure 6. Team With Headmaster Giovanni Senior High School

### Supporting and Inhibiting Factors

Based on the evaluation of the implementation and results of the activities, supporting factors can be identified in implementing this community service program. In general, the supporting factors include: a) Adequate experts are available in developing novice researcher training materials; b) Enthusiasm of students is high enough to take part in beginner researcher training activities; c) Support from the Giovanni Senior High School principal who welcomed the implementation of the training activities and helped the service team organize the time and place for the activities; d) Availability of supporting funds from the faculty for the implementation of this community service activity. In addition to the supporting factors, the Beginner Researcher Training PKM activities encountered several inhibiting factors, namely; a) There are still many students participating in the training who do not have initial knowledge about research and the formulation of research reports; b) The participants' comprehension varied, some were fast but some were slow so that the time spent was not optimal.

### Evaluation of Activity Results

The results of novice researcher training activities in outline include several components, including: a) The success of the target number of training participants; b) Achievement of training objectives; c) Achievement of material targets that have been planned; d) The ability of some participants in mastering the material. The target participants for the activity previously planned were 35 representatives of class X and IX from the total number of classes at Giovanni Senior High School. In its implementation, this activity was attended by 32 students who were representatives from each class of Giovanni Senior High School. This shows that novice researcher training activities are said to be successful/successful. Achievement of target material in novice researcher training activities is very important, because peer counselor training material can be delivered in its entirety. The training materials that have been delivered are: a) Basic Concepts of Scientific Research; b) Research objectives and functions; c) Systematics of Writing Research Reports and Sentence Paraphrases.

This training and mentoring activity will still be followed by mentoring activities by one of the lecturers in the community service team, so that participants can continue the beginner researcher training process (Jelahun, 2022).

Through the mentoring process it makes a positive contribution to activity participants. The intended contributions include: a) The activities carried out have been able to make a positive contribution to students and have been able to open new insights into the aims and benefits of research; b) The socialization of the importance of literacy carried out by the school needs to get support and be improved for the better; c) The training has had immediate results with an increasing number of students who are interested in taking part in scientific competitions specifically in the field of research. The indicators include: being interested in being scientifically competent, being able to see issues in the surrounding environment, being able to formulate all of these things in OPSI competition proposals, being able to become OPSI champions at the national level, and being able to hone academic skills in preparation for entering lectures and can become candidates for solving problems that occur in society by using scientific methods.

## CONCLUSION

Based on the implementation of community service activities and evaluation with partners, it can be concluded that; (a) The implementation of this activity has been able to improve literacy performance through training activities for novice researchers; (b) Give appreciation and attention to students by carrying out scientific activities at school; (c) Can anticipate the emergence of students' learning laziness and reluctance to be scientifically competent; (d) Being able to provide added value in the field of knowledge and skills for students so that they can complete school assignments given by teachers. Based on the evaluation that has been carried out, several suggestions can be put forward, namely: a) The time for carrying out community service activities needs to be increased so that the objectives of the activity can be fully achieved, but with the consequence of adding implementation costs. Therefore, the cost of community service should not be the same between several teams proposing a proposal, bearing in mind that the target audience is different; b) The existence of follow-up activities in the form of similar training is always held periodically so as to create a Literacy Awareness Movement in Partner schools as well as part of organizing literacy in schools.

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