

# KIR training and use of simple science teaching aids for increase understanding and motivation teachers and students of MTs YKUI Maskumabang

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## ABSTRACT

*Not all school active in follow race because lack of understanding and motivation. Based on the problem that needs to be done to increase motivation and understanding partner. The study objective is to increase the understanding and motivation of partners. To follow race until the national level. The method used is to give test understanding, and subsequent questionnaires will analyzed to see the extent of influence PKM has implemented. The location of PKM activities is at MTs YKUI Maskumambang Gresik Regency. Based on data analysis, a percentage of 98.00% can be obtained to increase understanding, 95.33% can motivate partners, and 90% agree that the PKM program is implemented very useful.*

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## INTRODUCTION

Youth Scientific Group (KIR) is a competition program held by the Indonesian Ministry of Education and Culture for junior high school students. This program aims to increase student's interest and ability in conducting research and developing science and technology. The Indonesian Ministry of Education and Culture annually holds KIR with different themes. The themes raised in KIR are usually related to actual issues related to national development and the interests of society. Students interested in participating in the KIR program must form a team and conduct research to produce quality scientific work. A jury of academics and practitioners in related fields will then assess the scientific work. The benefits of KIR are that students can develop critical thinking skills and creativity, improve communication skills, and develop an independent attitude in learning. Apart from that, students can also gain valuable experience and increase their opportunities to achieve achievements at the national level. With this KIR program, it is hoped that it can produce a young generation with reliable abilities and skills in science and technology and can contribute to national development (1).

Guiding students to participate in Youth Scientific Group (KIR) competitions is one way to improve Indonesia's education quality. This program is essential because it encourages students to develop critical thinking, communication, and creativity skills, preparing them to become reliable future leaders capable of facing global challenges. Not only that, but students who take part in KIR will also gain valuable experience in conducting research and developing science and technology. Apart from that, they can also improve their social skills and independent attitude in learning (2,3).

However, several obstacles may be faced in coaching students to participate in KIR. One of the main obstacles is limited resources, such as a lack of teaching staff who can guide students and the facilities needed to conduct research (5,6). This can be an obstacle, especially for schools in remote areas or that do not have adequate access to educational facilities and resources. Apart from that, the lack of student interest in participating in the KIR program is also another obstacle. Some students may not feel interested in

participating in this program, either because they lack interest in science and technology because they have not been trained or lack confidence in conducting research. This shows that there needs to be more intensive efforts to promote the KIR program and provide more complete information about its benefits. Another obstacle is the lack of socialization about the KIR program,; so many students and parents do not know about it. Therefore, more intensive efforts must be made to increase awareness and promote the KIR program to students, parents, and the wider community (7,8).

To overcome these obstacles, the government and schools can take several actions, such as increasing access to resources and facilities, providing training and guidance to teaching staff and students, increasing socialization about the KIR program, and providing incentives or awards for students who excel in the KIR program. In this way, coaching students to participate in KIR can be more effective and improve Indonesia's education quality (9).

One of the schools that already has a KIR program is MTs YKUI Maskumambang Gresik, but it has not been managed optimally. KIR development is conducted at school through extracurricular programs or activities outside class hours. In this program, students are guided by teachers or trainers who have experience in conducting research and developing science and technology. The KIR coaching program usually includes several stages: selecting a research topic, collecting data, analyzing data, preparing reports, and presenting research results. Apart from that, KIR coaching programs usually also emphasize developing critical thinking, creativity, and communication skills. Well, from all criteria, the above is not working well at MTs YKUI Maskumambang. Even if several groups of students have participated in the KIR event, they have not yet been appropriately programmed. Some ideas that can be implemented at MTs YKUI Maskumambang Gresik include: (a) –organizing training and workshops for students and teachers to provide an understanding of research techniques and developing innovative ideas. (b). Form a research team of students interested in participating in KIR and having the appropriate abilities. This team will be guided by a teacher or trainer skilled in conducting research. (c). Implement KIR activities internally at school, where students of the research team can present the results of their research to other students and teachers. (d). Participation in district/city or provincial KIR competitions held by educational institutions or other institutions. These programs are expected to increase students' interest and abilities in participating in the KIR program and prepare them to become reliable future leaders facing global challenges.

To overcome the Youth Scientific Group (KIR) program, which is not yet running in schools, several solutions can be implemented so that students and teachers are more motivated and get support from the school and parents. The solution that will be implemented is to train teachers and students at these schools to increase their understanding of the types of competitions that will be participated in and can motivate them to participate in competitions up to the national level.

## **METHOD**

### ***Place and time***

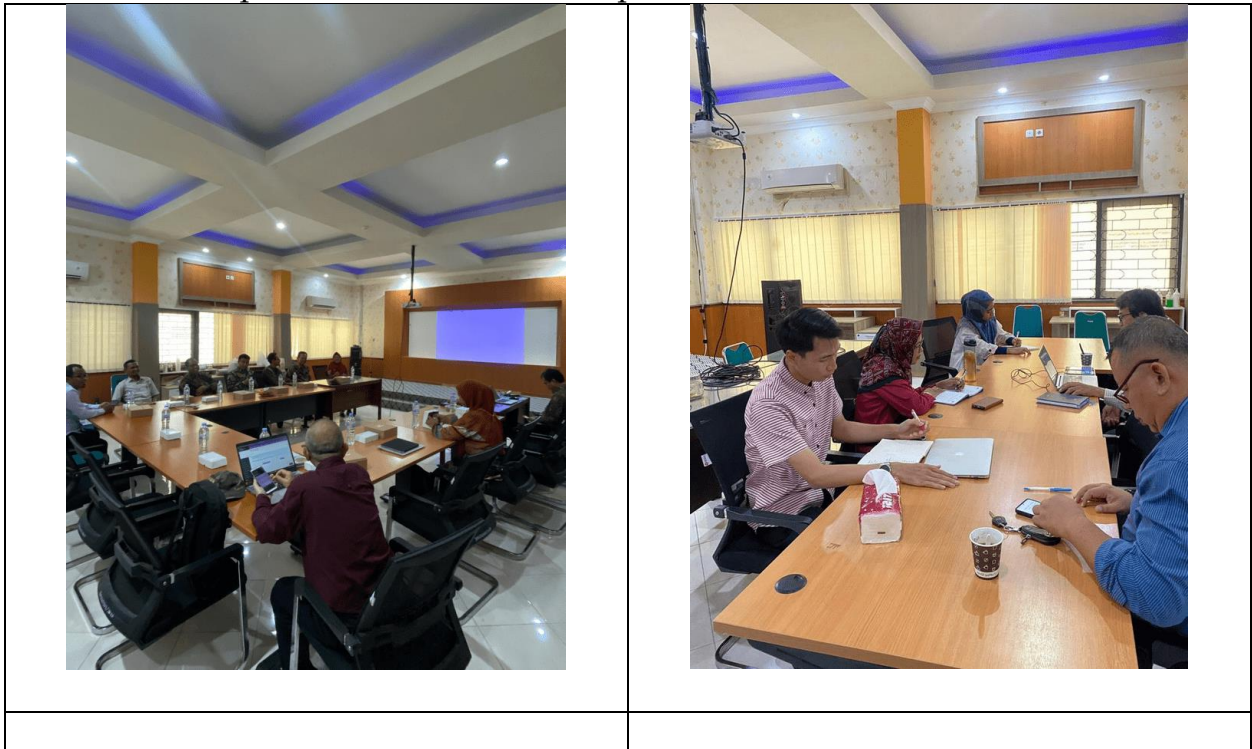
PKM activities were carried out with MTs YKUI Maskumambang in Gresik Regency on September 16 2022. The method used to achieve PKM goals and targets was through questionnaires and comprehension tests.

## IMPLEMENTATION

Implementation of activities is carried out in several stages, including preparation and planning, implementation, monitoring, and evaluation – a series of activities in the field that have been structured according to the schedule.

### *Preparation and Planning*

In stages, the team discusses related societal problems as they have been formulated in the background. In stages, this also includes preparing proposals for PKM activities and related matters \_ with licensing and process of activities in the field and establishing connection with partners and other related parties .



### *Implementation*

The implementation stage consists of counseling about creative ideas, writing work good and correct science \_ as well as giving outlook addition related competitions ing level national to partners.



***Monitoring as well as evaluation***

The monitoring stage is carried out to see to what extent the activities and objectives can be achieved, especially those related to the benefits felt by the target audience, namely teachers and students of MTs YKUI Maskumambang . Evaluation is carried out in line with the implementation of activities, from interviews, providing counseling and mentoring to monitoring during PKM activities.

**RESULTS AND DISCUSSION**

Whether or not PKM depends on the understanding and motivation of teachers and students at MTs YKUI Maskumambang, teacher and student understanding is seen with test understanding after counseling. As for the amount, the question given as many as five questions. Results of related data analysis understanding related types of race level national can be seen in Table 1.

**Table 1.** Analysis Results Partner Understanding

Respondent	Question Number					Score
	1	2	3	4	5	
R1	1	1	1	1	1	100
R2	1	1	1	1	1	100
R3	1	1	1	1	1	100
R4	1	1	1	1	1	100
R5	1	1	1	1	1	100
R6	1	1	1	1	1	100
R7	1	1	1	1	1	100

R8	1	1	1	1	1	100
R9	1	1	1	1	1	100
R10	1	1	1	1	1	100
R11	1	1	1	1	1	100
R12	1	1	1	1	1	100
R13	1	1	1	1	1	100
R13	1	1	1	1	1	100
R14	1	1	1	1	1	100
R15	1	1	1	1	1	100
R16	1	1	1	1	1	100
R17	1	1	1	1	1	100
R18	1	1	1	1	1	100
R19	1	1	1	1	1	100
R20	1	1	1	1	1	100
R21	1	1	1	1	1	100
R22	1	1	1	1	1	100
R23	1	1	1	1	1	100
R24	1	1	1	1	1	100

From Table 1 it can be seen That understanding students and teachers at MTs YKUI Maskumambang is very good, with an average score of 100, indicating that PKM is in the form taken \_ can increase understanding partners in understanding type race until level national.

Counseling's role significantly increases understanding of individual or mob to miscellaneous kinds of problems or gossip. First, counseling possible deliverer issues for adapting messages following use needs and understanding his audience. with method These are the messages conveyed Can customized with the level of knowledge and language that the listener understands; as as a result, they can more practically understand as well as respond to the information provided. letter information studies which support matter This is research by Rogers (1983), which shares that delivery of an adapted message \_ to the audience can increase effective communication and understanding. second, counseling often involves Lots of methods and tools. Communication is not the same; it is similar to visual, audio, or interaction. A study carried out by McQuail (2011) mentioned that the using of miscellaneous types of sense communication can strengthen the message that is delivered as well as help individuals understand gossip use more well. for example, images, graphics, or videos can give an illustration that are obvious as well as makes it easier to understand, and in an interactive discussion it is possible individual for individuals to submit an inquiry and accept an explanation more continue.

The motivation partner can be known by giving a questionnaire to the partner. The results from the questionnaire can seen in Table 2.

**Table 2 . Analysis Results Questionnaire**

Respondent	Motivation Score	Improved Comprehension Score	Response Score
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R1	100	100	100
R2	80	100	60
R3	100	60	100
R4	100	100	100
R5	100	100	100
R6	100	100	100
R7	100	100	100
R8	100	100	100
R9	80	80	40
R10	100	100	100
R11	100	100	100
R12	100	100	100
R13	100	100	100
R13	100	100	100
R14	100	100	60
R15	100	100	100
R16	100	100	100
R17	100	100	100
R18	100	100	100
R19	100	80	40
R20	80	80	80
R21	100	80	80
R22	100	80	40
R23	100	100	100
R24	100	100	100
R25	100	100	100
R26	100	100	100
R27	100	100	100
R28	100	100	100
R29	100	100	100
Average	98.00	95.33	90.00

Table 2 shows that most teachers and students increased aspect motivation and understanding and gave responses positively related to the PKM carried out. That is Because counseling often builds an environment of inclusive and supportive learning in which individuals feel comfortable participating as well as asking. This can motivate individuals to be active in the understanding process. The study of psychology education, as conducted by Deci and Ryan (2000), highlights the important motivation factors for learning. By building an atmosphere that is positive and inclusive, counseling can push understanding that is deeper and sustainable. Holistic counseling raises understanding because it possibly delivers a customized message to the audience, combines effective communication, and forms an environment of supportive learning in matter. This is a letter of information originating from various studies as well as existing



research \_ done over many years which signifies that counseling is an error. One effective way \_ To facilitate understanding individual or mob to various gossip or dilemmas.

## CONCLUSION

After PKM was carried out, the average understanding partner was a score of 100, whereas for the analysis questionnaire, a percentage of 98.00% can be obtained to increase understanding, 95.33% can motivate partners, and 90% agree that the PKM program is implemented very useful. Implications of this PKM can give understanding, motivation, and inspiration related to popular competitions held in Indonesia. After PKM is expected to be carried out, partners will be more active again in following competitions with the hope of becoming champions in the race. Lack of activities that have been done is only done one time face to face so that partner still feels not yet satisfied with the content presented. Furthermore, PKM such as this is recommended for done but possible with more from one look face.

## BIBLIOGRAPHY

- Asnawi , Iriyani D, Prakoso T, Setijorini LE. Elementary School Teacher's Training and Coaching as Trustees of the National Science Olympiad (OSN) in Surabaya Using Science Practicum at SDN I Airlangga Surabaya. *J Phys : Conf Ser* . 2021 Nov 1;2110(1):012019.
- Mariyanti Elvi, Metta Liana, Dios Sarkity , Dina Fitriyah. OSN Mathematics Training Through Critical- Based Questions Thinking Skills for Tanjungpinang 4 Public Middle School Students . *dynamia* . 2020 Sep 4;4(4):649–54. 3.
- Rahmawati R, Saputra IA, Rusli M. Geography Subject Teacher Training in Geography OSN Preparation in Donggala Regency. *Empowered Community Service Journal*. 2020 Mar 2;3(01):9.
- Ministry of Education and Culture. National Achievement Center [Internet]. 2023. Available from : [https:// Pusatprestasinasional.kemdikbud.go.id/event/sains-dan-technology/sma/olimpiade-sainsnasional-2023-smp](https://Pusatprestasinasional.kemdikbud.go.id/event/sains-dan-technology/sma/olimpiade-sainsnasional-2023-smp)
- Maharani D, Nata A. Comparison of Mfep and Death Methods in Selection of Candidates for National Science Olympiad (OSN). *JURTECTION* . 2020 Aug 6;6(3):247–52.
- Suhendar U, Ekayanti A, Merona SP. Development Pattern for the National Middle School Mathematics Science Olympiad in Ponorogo Regency. *Mosharafa* . 2020 May 31;9(2):179–90.
- Sarkity D, Elvi M, Liana M, Fitriyah D. Development of the National Science Olympiad in Mathematics Topics Statistics and Opportunity for Students at SMP Negeri 4 Tanjungpinang . *JA*. 2020 May 31;2(1):27– 36.
- Yuntawati Y, Sanapiah S. Development of the National Science Olympiad (OSN) Mathematics for Middle School Level in Central Lombok Regency. *Sasambo* . 2020 Oct 30;2(3):172–9.
- Muchson M, Santoso A, Kusumaningrum IK, Rokhim DA. Intensive Development Program for Supervising Teachers and KIR Extracurricular Students in Malang Regency Middle Schools/ MTs Based on Research Results. *AKS*. 2022 May 31;6(2):228.
- Rogers Everett M. 1983. *Diffusion of Innovations* . London: The Free Press .
- McQuail , D. 2011. *McQuail's Mass Communication Theory* . Jakarta: Salemba Humanika

Deci. E. L & Ryan RM 2000. The What and Why of Goals Pursuit : Human Needs and the Self - Determination of Behavior . US: Lawrence Erlbaum Associates , Inc. \_

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