

IMPROVING TEACHER COMPETENCE IN DESIGNING MINIMUM COMPETENCY ASSESSMENT TASKS

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Abstrak: Asesmen Kompetensi Minimum (AKM) berfungsi sebagai salah satu indikator untuk menilai kemampuan siswa dalam mencapai tujuan pendidikan. Oleh karenanya, kemampuan menyusun soal berbasis AKM penting dimiliki oleh guru untuk meningkatkan kualitas pembelajaran. Tujuan pengabdian kepada masyarakat ini adalah untuk meningkatkan keterampilan guru dalam menyusun soal AKM. Metode dalam program pengabdian ini adalah *lesson study*. *Lesson study* terdiri dari tiga tahapan kegiatan yakni *plan* (perencanaan), *do* (pelaksanaan) dan *see* (merefleksikan). Mitra pengabdian adalah guru-guru yang tergabung dalam Kelompok Kerja Guru (KKG) Gugus 8 Kecamatan Lowokwaru. Tahapan pelaksanaan pengabdian adalah perencanaan kolaboratif, pengajaran dan pengamatan, diskusi dan analisis, refleksi dan revisi. Hasil pengabdian menunjukkan bahwa pelatihan yang dilaksanakan berhasil meningkatkan kualitas guru dalam menyusun instrumen soal AKM dan selanjutnya menerapkan dalam pembelajaran. Hasil pengabdian menunjukkan bahwa pelatihan yang dilaksanakan berhasil meningkatkan kualitas guru dalam menyusun instrumen soal AKM dan selanjutnya menerapkan dalam pembelajaran. Hal ini dapat diketahui bahwa dari hasil respon peserta pelatihan menyebutkan bahwa 35% peserta memberikan respon sangat puas, 55% puas, dan sisanya cukup puas. Respon peserta terhadap materi program pengabdian menunjukkan bahwa, sebanyak 60% sangat mengerti, 35% mengerti, dan sisanya cukup mengerti. Selain itu, berkaitan dengan tindak lanjut dari kegiatan PKM ini, 12 peserta menyatakan bersedia untuk mengimplementasikan hasil kegiatan PKM, 5 orang sangat bersedia, dan sisanya cukup bersedia. Kegiatan peletihan penyusunan soal AKM terbukti efektif dalam implementasi sehingga dapat mendukung guru dalam memahami implementasi kurikulum merdeka secara komprehensif.

Kata Kunci: asesmen kompetensi minimum, *lesson study*, kelompok kerja guru

Abstract: Minimum Competency Assessment (AKM) is an indicator of assessing students' ability to achieve educational goals. Therefore, teachers need to have the ability to develop AKM-based tasks to improve the quality of learning. This community service program aims to improve teachers' skills in designing AKM-based tasks. This program used a lesson study approach consisting of three stages: planning, implementation, and reflection. The participants were teachers of the Teacher Working Group (KKG) Cluster 8 of Lowokwaru District. The stages of implementing service are collaborative planning, teaching, observation, discussion and analysis, reflection, and revision. The results show that the training improved teachers' ability to design and apply AKM-based tasks in the learning process. The measurement of the training participants' responses shows that 35% responded very satisfied, 55% were satisfied, and the rest were quite satisfied. The participants' responses to the program's material showed that as many as 60% understood very well, 35% understood, and the rest understood quite well. Furthermore, regarding the follow-up to this PKM activity, 12 participants stated they were willing to implement the program results, five people were very willing, and the rest were quite willing. The training program for preparing AKM questions has proven to be effective in its implementation so that it can support teachers in comprehensively understanding the implementation of the independent curriculum.

Keywords: minimum competency assessment, lesson study, teacher working group

Introduction

The growth of information and communication technology, intensive cross-country trade, and the rapid exchange of information and ideas at the global level are indicators of the globalization era. The era of globalization has had a significant impact on human mindsets in various aspects of life. This condition is affected by the fact that human resources are one of the driving components of the development of the globalization era, especially technology, which aims to improve the welfare of society. Undeniably, the paradigm that has developed in the era of globalization significantly impacts how people think and human resources, especially in terms of education, where the curriculum and skills needed to live. The Ministry of Education and Culture in 2021 stated that this era of globalization requires more than just an understanding of concepts. Various other skills are needed to face this increasingly complex era of globalization, such as the ability to apply conceptual knowledge, high-level thinking, and communication skills. Lestari (2018) added that education in the era of globalization means integrating national education into global education. A person can live in a competitive global era with adequate competence. One of the competencies that needs to be considered by both teachers and students is numeracy literacy.

Numeracy literacy is a person's ability to use various numbers and basic mathematical symbols to solve problems in everyday life. Numeracy literacy is different from mathematics. Mathematics is one of the abilities that support someone's numeracy literacy skills. However, mathematical skills alone are not enough to guarantee that someone is proficient in numeracy literacy. According to Siskawati et al. (2021), numeracy literacy is the ability to use mathematical knowledge and understanding effectively to solve problems in various contexts of everyday life. Salvia et al. (2022) state that numeracy literacy is understanding how to use mathematical symbols and numbers to solve everyday problems. Khakima et al. (2021) confirm that numeracy literacy is the ability and knowledge to solve problems in everyday life using various symbols and numbers, analyzing them in various ways, and interpreting the results of the analysis to make predictions and solve problems. From these various definitions, it can be described that numeracy literacy is part of mathematics, which contains practical abilities that can be used in everyday life. To measure numeracy literacy skills using the Minimum Competency Assessment (AKM).

The AKM policy is one of the new policies made by the Ministry of Education and Culture. It defines the essential competencies that students must have to solve everyday problems, especially those related to learning according to their level. The Ministry of Education and Culture in 2020 stated that the issuance of the AKM policy must have a reason. The issuance of this policy is intended to improve the human thinking system in solving everyday problems according to the predetermined levels to form humans who think critically in solving problems. In addition, the statement that the issuance of the AKM policy aims to improve the way students think about problems related to learning.

However, Indonesian students do not understand numeracy, mathematics, symbols, and processing. According to the 2019 PISA study conducted in 2019, Indonesia received a score of

379 in mathematics, even though the global average score was 489 in the 2019 Curriculum Report. The results show that students in Indonesia do not use numeracy in questions, which hinders their ability to think critically and creatively while learning. A study conducted by the OECD (2020) shows that numeracy learning in elementary schools in Indonesia has not achieved the expected education targets. This data is reinforced by the results of the 2022 test, where students in Indonesia were ranked 69 out of 81 countries. Therefore, to ensure that students master numeracy and can solve problems well, the AKM policy above must be implemented as a component of numeracy literacy learning.

Regarding the implementation of AKM in schools, Aisah et al. (2021) stated that the successful socialization of the AKM policy by the Ministry of Education and Culture shows that all parties, including parents of students, accept this policy. Implementing this policy will be successful if it starts with communication involving all parties and is carried out carefully and with full planning. This community service aims to equip/improve teachers' skills in compiling AKM questions. In this PkM activity, the process of compiling AKM questions is packaged with lesson study activities. PkM, with a lesson study strategy, hopes to provide more value in evaluating and reflecting on each PkM implementation process. Thus, the teacher's ability to compile AKM questions is of higher quality, so it is hoped that it will positively impact students' numeracy literacy skills in the future.

Method

In this PkM activity, the target participants who will be targeted in this mentoring activity are 20 from several schools that are members of KKG Gugus 8, Lowokwaru District. From the 20 participants, it is expected that there will be at least 50 AKM questions that the participants can compile. The approach used in this PkM is to adapt the lesson study approach. Sucilestari and Arizona (2019) stated that the lesson study approach is usually implemented in learning to improve the quality of learning and student learning outcomes through in-depth reflection activities. However, this approach can be adapted to community service activities. It is hoped that mentoring activities can be more easily monitored with this approach. Mentoring activities will be conducted face-to-face or in different places and times, as well as virtual meetings. This is done so that the products produced have a quality that can be accounted for and implemented in the classroom.

Lesson study is a method that is carried out collaboratively where participants work together to carry out activities starting from planning, observing, analyzing, and developing lessons. The main objective of this lesson study activity is to improve the quality of activities and results of activities through in-depth reflection on the practices that have been carried out. Putra (2010) explained that lesson study consists of three stages of activity, namely plan, do, and see. Planning is the activity of designing and planning. Do is the activity of involving all components in following all processes. See is an activity that aims to see the shortcomings and advantages of previously carried out activities. The following is the form of lesson study activities in this PkM activity which is presented in Figure 1.

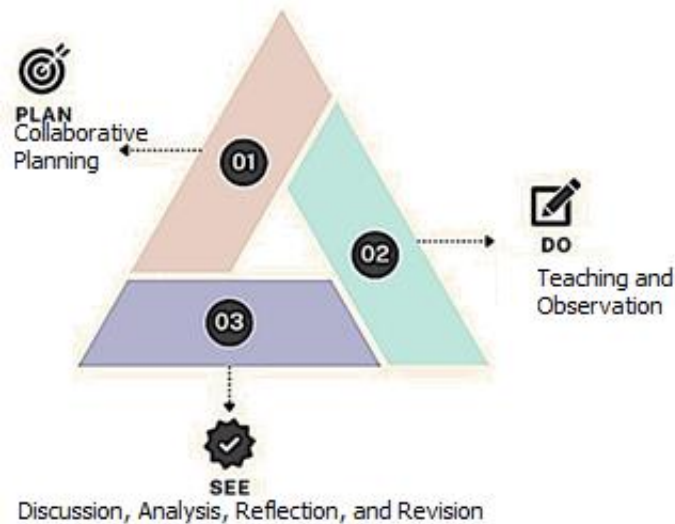


Figure 1. Lesson study flow in PKM activities

The general steps in the lesson study activities carried out in this PKM activity are explained in detail as follows:

1. Collaborative Planning (PLAN)

The team works together to plan collaboratively with teachers by carrying out activities in the form of in-depth discussions and reflection activities that involve the active role of participants in various aspects of the PKM activity

2. Teaching and Observation (DO)

One of the team members implements the planned activities. This ensures that the activities are effective, relevant, and positively impact PKM activity participants.

3. Discussion, Analysis, Reflection, and Revision (SEE)

After the second activity is completed, the team gathers to discuss the activities that have been carried out. Based on the discussion and analysis, the team revised the activity plan to improve the quality of learning.

Results and Discussion

This program begins with collaborative planning, which is comprised of several activities. The collaborative planning stage in lesson study involves in-depth discussion and reflection on various aspects of the activities to be carried out. The main goal is to ensure that the planned activities will run effectively to achieve their goals.

The event was also attended by three speakers, administrators, and members of KKG, including the chairman and members of the KKG Gugus 8 management of Lowokwaru District, Malang City, who came from SDN Tunjungsekar 1. Also present in this initial coordination activity were teachers from KKG Gugus 3, 6, 7, and 8. In this activity, an agreement was made regarding the activities to be carried out, including the time of implementation of the activities. [Figure 2](#) illustrates the stages of collaborative planning.

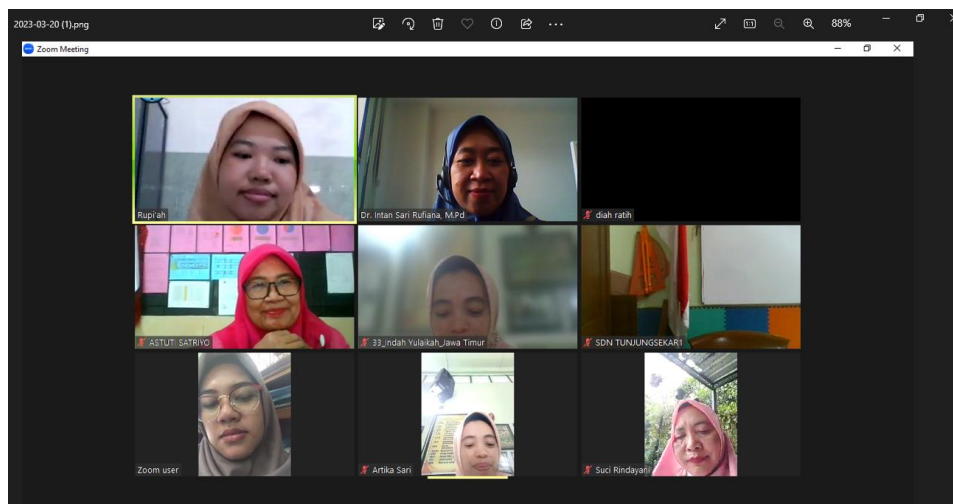


Figure 2. Collaborative Planning Stages

The second stage is teaching and observation. In this community service activity, the team adapted that the teaching and observation activities, if adjusted to the community service theme, are training and observation activities. This stage is essential in the lesson study approach. At this stage, one of the community service teams conducts training activities while other team members observe the interaction between the team and participants and collect relevant data. The purpose of this activity stage is to gain a better understanding of how the training activities take place and how the participants respond. The following photo illustrates the teaching and observation stage activities (See [Figure 3](#)).

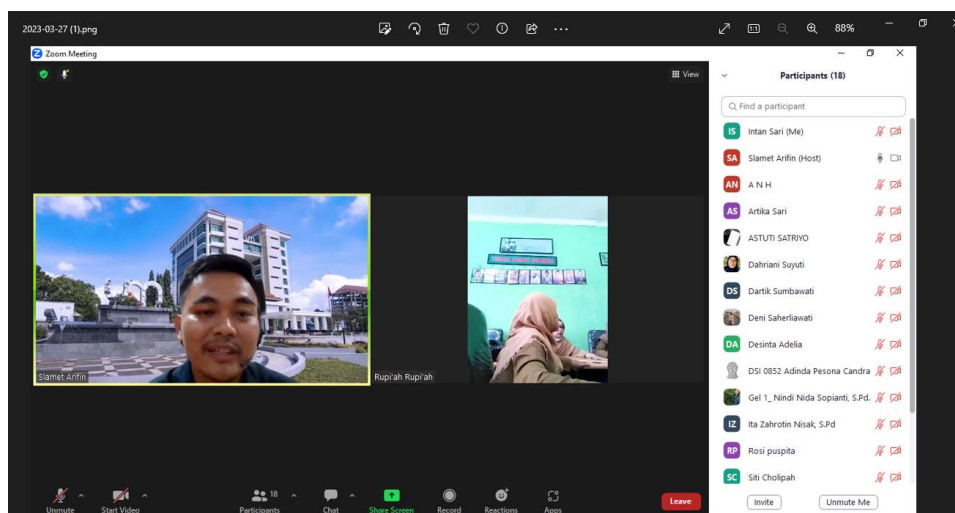


Figure 3. Stages of teaching and observation

The third stage is the discussion and analysis stage. This stage is carried out after the training and observation activities. After the training, the community service team gathers to discuss the training experience. They share the results of the observations that have been carried out, then analyze the effectiveness of the community service strategy that has been implemented and identify areas that need to be improved. At this stage, the team observed some participants who were inactive in the training activities. This can be seen from several

participants turning off their cameras during the training. When asked, the majority of participants did not answer immediately. The following describes the condition of inactive training participants presented in Figure 4.

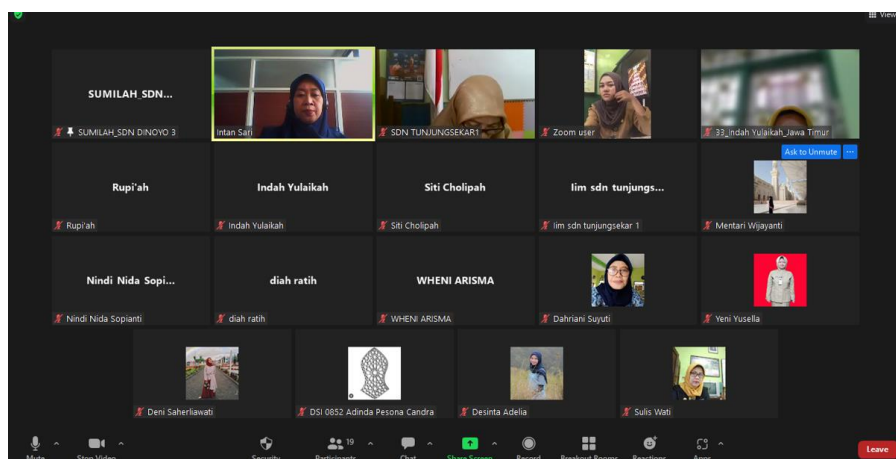


Figure 4. Some Conditions of Training Participants

Some information that the team managed to dig up from the results of discussions and analysis with the team included that some teachers were inactive because they were still working at school. Some training participants were still conditioned to the learning situation in the classroom. The fourth stage is the reflection and revision stage. Based on the discussion and analysis, the teacher team revised the training plan, changed the training strategy, or added new elements to improve learning. From the discussion and analysis stages, it was found that some teachers who were inactive during the training activities were still at school and teachers who were still at school when the training activities were carried out. From these results, the team then conducted a reflection to plan the training activities that would be carried out the next day. The team agreed that the next activities would be carried out on working days and outside working hours. The following activities can also be done offline based on an agreement between the training participant teams. From the reflection and revision stages, it was also planned that the following training activities could be implemented using interactive communication and media. For example, training participants can answer responses via chat on the online meeting application, using interactive media such as the digital online whiteboard application.

The fifth stage is the iteration and development stage. The lesson study process can be repeated, where the team can continue to develop activities through repeated iterations. Each iteration brings further improvements to teaching practices. At this stage, training activities are carried out repeatedly with different materials. The last stage is the dissemination of results stage. The team plans to implement the training results in other KKGs at this stage. The following describes the discussion, analysis, reflection, and revision activities as material for implementing the training results presented in Figure 5.

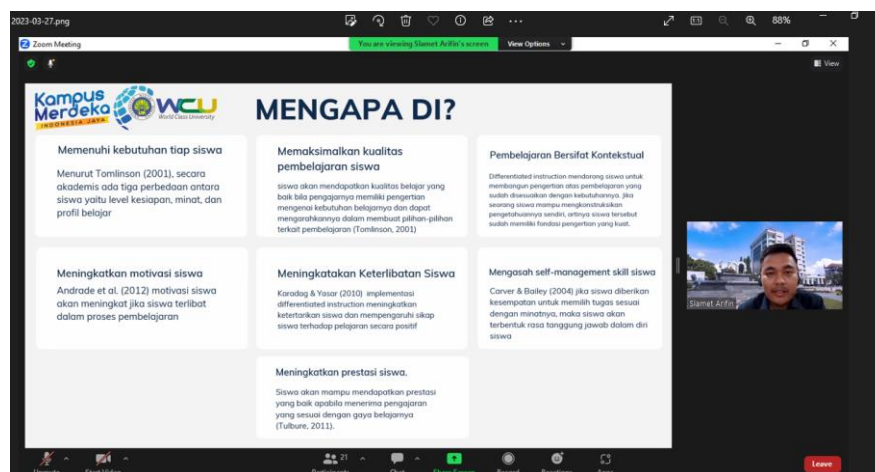


Figure 5. Stages of Discussion, Analysis, Reflection, and Revision

In the PkM activity, how to compile AKM questions was discussed. First, participants must understand the purpose of AKM. AKM replaces the National Examination (UN), which aims to hone students' problem-solving skills using numeracy techniques. Wijaya et al. (2021) emphasized that as part of the government's efforts to respond to the global need for literacy and numeracy, AKM is an assessment program that replaces the UN (National Examination). Context is vital to compiling problem-solving questions. The real-life context that students encounter in their daily lives. So, from this goal, AKM questions can be compiled.

The material explained in this training activity is related to preparing AKM questions. Several things must be done when teachers prepare AKM questions. For example, if they are going to prepare AKM questions, participants must understand what AKM means. The 2020 Ministry of Education and Culture explains that AKM is a fundamental competency assessment all students need to develop their capacity and participate positively in society. The key word is basic competence, from this we can conclude that if the AKM questions are not questions that fall into the complex category, such as questions in the Olympiad questions or national exam questions. AKM questions must be basic and applicable. This is because AKM is designed to produce information that triggers improvements in the quality of teaching and learning.

The next stage is for participants to know the framework of the questions. Some things must be considered when compiling the AKM question framework: the level, content, cognitive level, context, and form of the questions. Purwati et al. (2021) stated that the AKM question levels by the Central Government (Pusmenjar Kemdikbud RI) consist of Level 1 (grades 1, 2), Level 2 (grades 3, 4), Level 3 (grades 5, 6), Level 4 (grades 7, 8), Level 5 (grades 9, 10), Level 6 (grades 11, 12). According to the Ministry of Education and Culture in 2020, numeracy material consists of four categories: numbers, geometry and measurement, algebra, data, and uncertainty. All numbers, including whole, whole, fractional, and decimal, have representation, sequence properties, and operations. Measurement and geometry include identifying flat shapes and using volume and surface area in everyday life. It also relates to students' understanding of measuring volume, discharge, length, mean, time, and area using standard units. Understanding, interpreting, and presenting data and opportunities are part of data and

uncertainty. Algebra consists of ratios and proportions, equations and inequalities, and relations and functions, including number patterns.

The cognitive level indicates the level of thinking process required to solve problems. The cognitive level of AKM numeracy consists of understanding, application, and reasoning. Understanding relates to students' ability to understand mathematical facts, procedures, and tools. The application refers to students' ability to use mathematical concepts to solve unusual problems. Reasoning relates to students' ability to use mathematical concepts in real situations. Context is the aspect of life or situation used in content. The numerical context of AKM can be personal, socio-cultural, and scientific. The socio-cultural context is related to individual interests, culture, and societal problems. The socio-cultural context is related to the interests of individuals. Scientific includes problems, efforts, and scientific facts. Ali & Ni'mah (2023) stated that in AKM Numeracy, context is used to understand the role of mathematics in everyday life.

The types of questions usually used in AKM questions are PG, Complex PG, Matching, Short Answers, and Essays. The author can do several stages to create questions, including the following: One other thing to consider when compiling AKM questions is creating a story setting. The story setting is usually taken from everyday life stories for personal contexts, and for scientific and socio-cultural contexts, the author can use articles or news as a setting. AKM questions are usually not too long, unlike the 2013 Curriculum National Exam questions. The next step is to add stimuli. Writers should consider the domain and level when selecting stimuli. Stimuli can be in the form of illustrations, infographics, tables, or graphs. The third step is to compose questions. As with composing other questions, the next step is determining the cognitive level and form of the questions. The cognitive level of AKM questions includes questions of understanding, application, and reasoning. Application questions are related to decisions that will be made when solving real-world problems. Questions at the reasoning level are related to understanding the basic concepts involved. This cognitive level also influences the form of the questions. The levels of understanding and application usually use questions in the form of multiple choice, complex multiple choice, matching, or short answers. Questions at the reasoning level are usually in the form of essay questions.

The fourth stage is to recheck the questions. Rechecking AKM questions is done to avoid errors in compiling. Checking can be done by ensuring the questions' content, context, and stimulus. In addition, it is also important to ensure that the cognitive level is appropriate. The last stage is a trial of questions. From student responses, the method of making the following question can be improved. Furthermore, this PkM activity provides benefits for training participants. This is shown by the fact that 35% of participants were very satisfied with the PkM activity of this AKM question preparation training. 55% stated that participants were satisfied with the PkM activity, while 10% were quite satisfied. This means that the PkM activity of AKM question preparation training provides positive activities for participants. However, 10% of participants stated that they were quite satisfied. This is likely because the PkM activity was carried out when several participants did other activities, such as learning in class. Burhanuddin et al. (2023) confirmed that this lesson study has a function as a development of the teaching profession through continuous and collaborative learning assessments based on the principles

of collaborative and collaborative learning. More clearly, the results of participant responses to the ongoing AKM question preparation training with lesson study are presented in Figure 6.



Figure 6. Responses of AKM Question Preparation Training Participants

To ensure that the material provided to training participants is delivered well, the following presents the results of training participants' responses to the training material in compiling AKM questions in Figure 7.

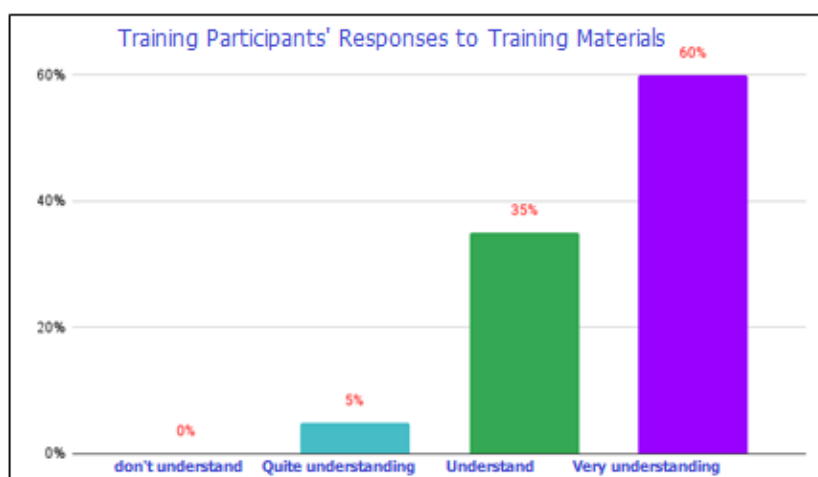


Figure 7. Training Participants' Responses to Training Materials

Figure 7 shows that 60% of participants understood the AKM question-making training material provided. In addition, 35% of participants said they understood the training material, and 5% responded that they understood quite well. Thus, it can be seen that although some participants carried out activities elsewhere during the training, it turned out that the participants had great responsibility. This shows that the participants were professional in carrying out training activities by fully understanding the material that had been presented. Zulaeha et al. (2021) stated that the participants' responsible and creative attitudes in training are the keys to the success of the training. In addition, Figure 8 presents the participants' responses to the participants' willingness to implement the results of the PkM activities after the PkM activities were completed. Hidayat et al. (2023) added that evaluating the success of PkM must consider not only technical knowledge and skills but also the social and environmental effects produced.



Figure 8. Response of Participants' Willingness to Implement the Results of Community Service Activities

Figure 8 shows that 12 participants are willing to implement the results of the PkM activities, five said they were very willing, and 3 gave their arguments; namely, they were pretty willing to implement the results of the PkM activities. This shows the participants' good response to continuing the results of the PkM activities to classroom learning related to AKM. This is reinforced by the opinion of Danial & Sanusi (2020), who stated that nothing can be achieved if we have the motivation and determination to achieve it.

Conclusion

The results of the community service show that the training that was carried out succeeded in improving the quality of teachers' compiling AKM question instruments and then implementing them in learning. This can be seen from the training participants' responses, stating that 35% of participants gave very satisfied responses, 55% were satisfied, and the rest were quite satisfied. Meanwhile, the results of the participant's responses to the understanding of the PkM material showed that 60% understood very well, 35% understood, and the rest understood quite well. In addition, regarding the follow-up to this PkM activity, 12 participants stated that they were willing to implement the results of the PkM activity, five people were very willing, and the rest were quite willing. The learning model training activity, according to the analysis of the AKM results and the preparation of learning devices, needs to be planned further so that the understanding of the independent curriculum can be more comprehensive.

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