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MODULE DEVELOPMENT AND LEARNING KIT SCIENCE WORKSHOP FOR *MADRASAH ALIYAH* (MA) AND *MADRASAH TSANAWIYAH* (MTs) ALIF LAAM MIIM SURABAYA TEACHERS

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ABSTRACT

The problems faced by MA and MTs Alif Laam Miim in facing the merdeka curriculum are teachers' lack of understanding regarding the implementation of the merdeka curriculum, minimal training that teachers have participated in directly in creating teaching modules, and not having an ideal science learning KIT. This makes learning activities run less effectively. The solution offered by Universitas Negeri Malang service team is to hold a workshop on developing learning modules and KITs for teachers at MA and MTs Alif Laam Miim, especially in science subjects (Physics, Chemistry, and Biology). The results of this workshop show an increase in teachers' understanding of how to develop modules and also the availability of learning KITs that are following the merdeka curriculum.

Community Service Paper

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Keywords: Workshops, Teaching Modules, Learning Kits, Merdeka Curriculum.

INTRODUCTION

The government seeks to improve the quality of education by providing comprehensive outreach to educational units regarding curriculum developments. Currently, the merdeka curriculum is being socialized by the ministry of education so that Indonesia's young generation can compete in an increasingly advanced era (Maulida, 2022). Understanding the importance of independent learning can help teachers and students think more independently, creatively, and improve the quality of learning activities that are more enjoyable (Koroh et al., 2022).

The independent education program learns from the merdeka curriculum, one of which is the lesson plan (Sari & Noor, 2022). The merdeka curriculum provides flexibility for teachers to freely create and develop lesson plan formats (Kemenag, 2020). Lesson plan in the merdeka curriculum are known as teaching modules.

Teaching modules are learning plans to achieve predetermined competency standards (Gunawan, 2022; Setiawan et al., 2022). In creating teaching modules, teachers hone their thinking skills to innovate so that teachers' teaching techniques in the classroom are more effective and efficient (Universitas PGRI Adi Buana Surabaya et al., 2022). Therefore, the

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benchmark for implementing the merdeka curriculum is determined by the quality of the teaching modules that have been created (Nasution et al., 2023). Apart from that, the implementation of the merdeka curriculum is also determined by the learning process. Effective learning is learning that helps students to obtain a real and easy to understand (Sulistiyono, 2022). In this case, teachers need learning media to assist the teaching and learning process in clarifying the material presented.

The teaching and learning process in science really needs learning KIT media to illustrate it because a lot of the material is difficult to understand and is abstract (Dewi et al., 2021). Science material is a boring lesson and less interesting for students if the learning process is just discussion and memorizing theory (Widiastuti, 2021). It is not uncommon for students, especially high school/MA level, to think that science is difficult and makes them stressed because they have to memorize theories and formulas (Sulistiyono, 2022). Even though in science, natural phenomena are actually very interesting to study (Auliya & Kosim, 2017). So in implementing learning in the merdeka curriculum, learning KITs are really needed so that the teaching and learning process is more enjoyable.

Based on observations, Alif Laam Miim MA and MTs teachers do not yet have a patent format for creating applied teaching modules. This is because teachers do not really understand the techniques for compiling and developing teaching modules properly. Apart from that, based on the results of interviews with MA and Mts Alif Laam Miim teachers, the availability of learning media is still very lacking, so students find it difficult to understand science material. Reviewing this matter, the community service team considers it necessary to strengthen teacher readiness in implementing the merdeka curriculum through the MA and MTs Alif Laam Miim Surabaya Learning Module and KIT Science Development Workshop.

The problems experienced by MA and MTs Alif Laam Miim Surabaya are teachers' lack of understanding regarding the implementation of the Merdeka curriculum, lack of training that teachers take part in directly in creating learning modules, and the unavailability of ideal science learning KITs. This problem has an impact on the quality of education at MA and MTs Alif Laam Miim. Therefore, the module development and learning kit science workshop for MA and MTs Alif Laam Miim Surabaya teachers is very important to carry out.

The aim of this community service activity is to strengthen the readiness of MA and MTs Alif Laam Miim Surabaya teachers in implementing the merdeka curriculum, especially creating teaching modules and learning KITs. In 2023 service activities will be carried out through workshops. The workshop participants numbered 50 people consisting of 35 MTs teachers and 15 MA teachers Alif Laam Miim and was carried out in two stages, namely a workshop on developing teaching modules and learning KITs; and mentoring stage. The materials provided include the basic principles of implementing an merdeka curriculum and learning tools, the practice of creating teaching modules, and creating science learning KITs.

METHOD OF EXECUTION

The method for implementing the MA and MTs Alif Laam Miim Surabaya science learning module and KIT development workshop is through 2 stages, namely:

Workshop stage for developing teaching modules and science learning KITs

The workshop stage was carried out through material provision which was attended by all teachers from science subjects (Physics, Chemistry and Biology) at both MA and MTs Alif Laam Miim Surabaya levels. In this activity, the material presented is related to merdeka curriculum learning such as learning outcomes, learning objectives, and assessments listed in the teaching module. MA and MTs Alif Laam Miim teachers practice creating 1 teaching module for each subject and will be corrected directly by the service team. Furthermore, teachers will be given learning KIT development materials as well as several prototype examples from the service team. At this stage, the delivery of material is carried out for 4 days.

Mentoring Stage

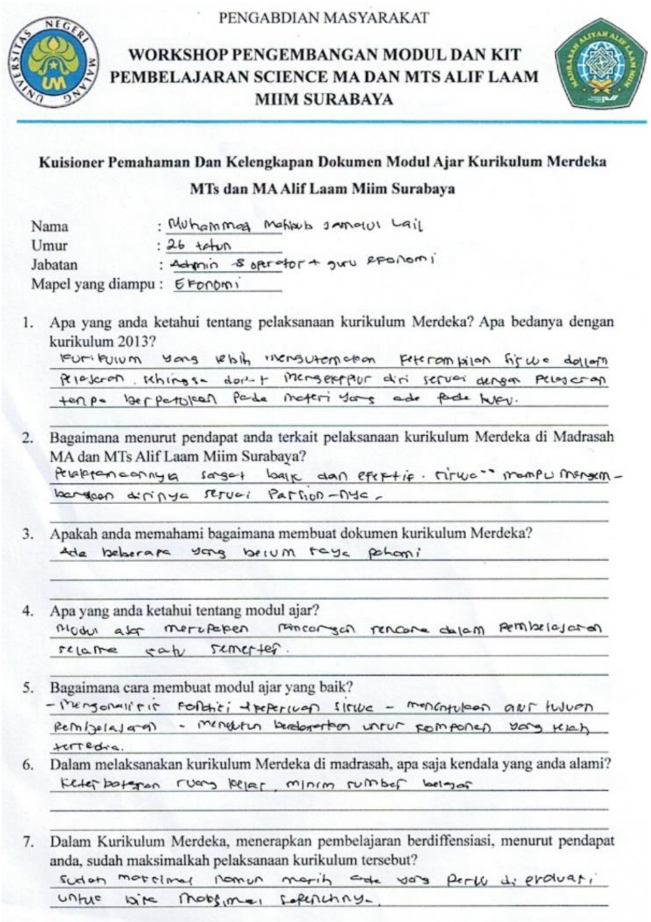
The mentoring stage is carried out intensively by the service team in creating teaching modules and science learning KITs which will be implemented throughout one academic year. Teaching modules that have been created by teachers will be corrected directly by the service team and will be recorded with internal-sourced illustrations (hand drawings and portraits). In this stage, a meeting will be held to discuss the teaching modules and science learning KITs that have been created.

RESULT AND DISCUSSION

Based on the results of observations by MA and MTs Alif Laam Miim, there are still very few teachers who understand the mechanism for creating Merdeka curriculum learning tools from creating Learning Objectives, Learning Objective Flow, and Teaching Modules. The results of interviews with the head of MA and MTs Alif Laam Miim together with the deputy head of curriculum revealed that the learning process in classes that implement this curriculum is still not implemented optimally.

In this case, implementing assessments and also implementing differentiated learning is still difficult. Another problem faced by madrasas is that teachers, especially in science subjects, do not yet have learning media that can attract students' attention. Therefore, the module development and learning kit science workshop for MA and MTs Alif Laam Miim Surabaya teachers is very important to carry out. The hope is this activity can increase the professional competence of teachers in studying interesting and enjoyable learning for students.

The activity began by carrying out a survey regarding the understanding of making teaching modules from MA and MTs Alif Laam Miim Surabaya teachers. The sample of survey results are shown in Figure 1.


PENGABDIAN MASYARAKAT

WORKSHOP PENGEMBANGAN MODUL DAN KIT PEMBELAJARAN SCIENCE MA DAN MTS ALIF LAAM MIIM SURABAYA

Kuisioner Pemahaman Dan Kelengkapan Dokumen Modul Ajar Kurikulum Merdeka

MTs dan MA Alif Laam Miim Surabaya

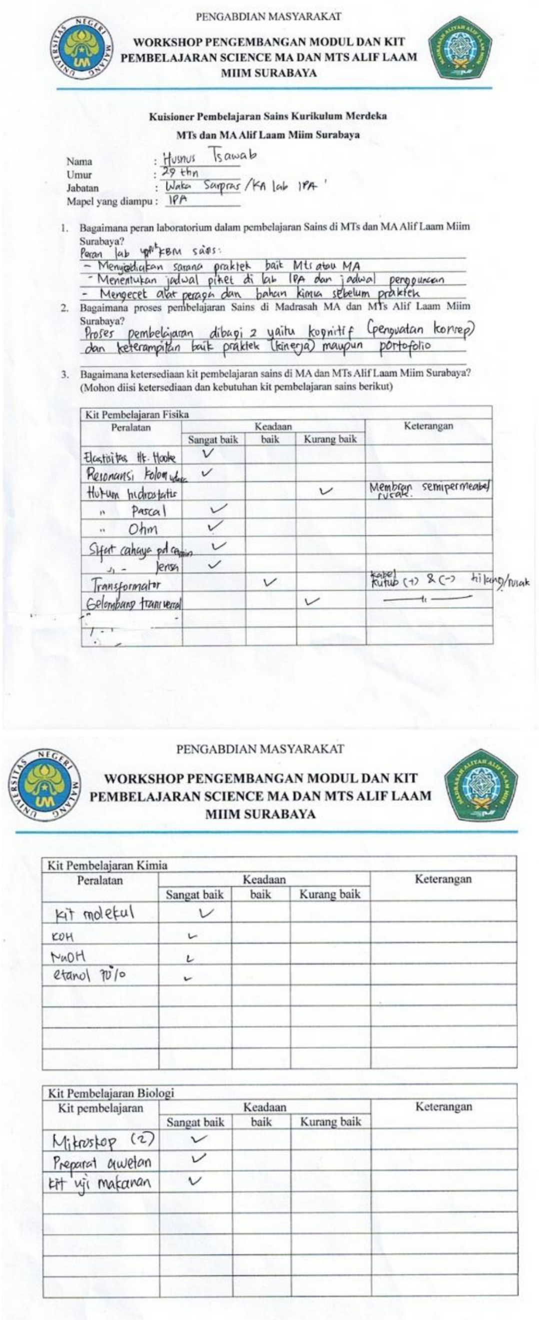
Nama : Muhammad Mahbub Jamalul Lail
Umur : 26 tahun
Jabatan : Admin & operator + guru ekonomi
Mapel yang diampu : Ekonomi

1. Apa yang anda ketahui tentang pelaksanaan kurikulum Merdeka? Apa bedanya dengan kurikulum 2013?
   Kurikulum yang lebih mengutamakan keterampilan siswa dalam pelajaran, sehingga dapat mengeksplor diri sesuai dengan pelajaran tanpa berpatokan pada materi yang ada pada buku.
2. Bagaimana menurut pendapat anda terkait pelaksanaan kurikulum Merdeka di Madrasah MA dan MTs Alif Laam Miim Surabaya?
   Pelaksanaannya sangat baik dan efektif. Siswa" mampu mengembangkan dirinya sesuai passion-nya.
3. Apakah anda memahami bagaimana membuat dokumen kurikulum Merdeka?
   Ada beberapa yang belum saya pahami
4. Apa yang anda ketahui tentang modul ajar?
   Modul ajar merupakan rancangan rencana dalam pembelajaran selama satu semester.
5. Bagaimana cara membuat modul ajar yang baik?
   - Menganalisis kondisi & keperluan siswa - menentukan alur tujuan pembelajaran - menyusun berdasarkan unsur komponen yang telah tersedia.
6. Dalam melaksanakan kurikulum Merdeka di madrasah, apa saja kendala yang anda alami?
   Keterbatasan ruang kelas, minim sumber belajar
7. Dalam Kurikulum Merdeka, menerapkan pembelajaran berdiffensiasi, menurut pendapat anda, sudah maksimalkah pelaksanaan kurikulum tersebut?
   Sudah maksimal namun masih ada yang perlu di evaluasi untuk bisa maksimal sepenuhnya.

Figure 1. Survey results on understanding and completeness of teaching modules

Then, in order to develop science learning at MA and MTs Alif Laam Miim, the team conducted a survey by giving questionnaires to laboratory heads and science teachers. The results

of a survey of science teachers and heads of science laboratories show that science learning kits (Physics, Chemistry, Biology) are inadequate, especially in chemistry and biology subjects. The sample of survey we conducted at MA and MTs Alif Laam Miim is as shown in Figure 2.


PENGABDIAN MASYARAKAT

WORKSHOP PENGEMBANGAN MODUL DAN KIT PEMBELAJARAN SCIENCE MA DAN MTS ALIF LAAM MIIM SURABAYA

Kuisioner Pembelajaran Sains Kurikulum Merdeka

MTs dan MA Alif Laam Miim Surabaya

Nama : Husnus Tsawab
Umur : 29 thn
Jabatan : Waka Sarpras / KA lab IPA
Mapel yang diampu : IPA

1. Bagaimana peran laboratorium dalam pembelajaran Sains di MTs dan MA Alif Laam Miim Surabaya?
Peran lab untuk KBM sains:
- Menyediakan sarana praktek baik MTs atau MA
- Menentukan jadwal piket di lab IPA dan jadwal penggunaan
- Mengecek alat peraga dan bahan kimia sebelum praktek
2. Bagaimana proses pembelajaran Sains di Madrasah MA dan MTs Alif Laam Miim Surabaya?
Proses pembelajaran dibagi 2 yaitu kognitif (penguatan konsep) dan keterampilan baik praktek (kinerja) maupun portofolio
3. Bagaimana ketersediaan kit pembelajaran sains di MA dan MTs Alif Laam Miim Surabaya? (Mohon diisi ketersediaan dan kebutuhan kit pembelajaran sains berikut)

Kit Pembelajaran Fisika				
Peralatan	Keadaan			Keterangan
	Sangat baik	baik	Kurang baik	
Elastisitas Hk. Hooke	✓			
Resonansi kolom udara	✓			
Hukum hidrostatis			✓	Membran semipermeabel rusak.
" Pascal	✓			
" Ohm	✓			
Sifat cahaya pd cermin	✓			
- " - lensa	✓			
Transformator		✓		Kabel kutub (+) & (−) hilang/rusak
Gelombang transversal			✓	—— " ——

PENGABDIAN MASYARAKAT

WORKSHOP PENGEMBANGAN MODUL DAN KIT PEMBELAJARAN SCIENCE MA DAN MTS ALIF LAAM MIIM SURABAYA

Kit Pembelajaran Kimia				
Peralatan	Keadaan			Keterangan
	Sangat baik	baik	Kurang baik	
Kit molekul	✓			
KOH	✓			
NaOH	✓			
etanol 70%	✓			

Kit Pembelajaran Biologi				
Kit pembelajaran	Keadaan			Keterangan
	Sangat baik	baik	Kurang baik	
Mikroskop (2)	✓			
Preparat awetan	✓			
Kit uji makanan	✓			

Figure 2. Survey results of completeness of science learning KITs

After the survey results were obtained and analyzed, the service team conducted a science learning module and KIT development workshop which was carried out at the Alif Laam Miim Islamic Boarding School, Surabaya. The workshop was held for two days on 23-24 September 2023. On the first day, participants were given material regarding the development of teaching modules in accordance with the Merdeka curriculum. This material is about how to develop good and effective modules to make it easier for students to learn independently. Apart from that, when making modules you must also pay attention to the material presented so that it can attract students' interest and motivation to study it. So that the modules used can improve student learning outcomes (Nurrita, 2018). Photos of activities are shown in Figures 3 and 4.

Figure 3. First material regarding module development.

Figure 4. Second material regarding module development.

On the second day, the material presented by the resource persons was regarding the development of science learning KITs. This learning KIT functions as an introduction for students to understand the concepts of material through direct experiments (Dasopang & Jahro, 2020). With the learning KIT, especially in the field of science, students are more active and creative because they can carry out experiments directly (Hardiyanti et al., 2020). This also prevents students from feeling bored with learning in class. The learning KITs provided by the service team are Physics, Chemistry and Biology learning KITs. The service team also provided a simulation of using the learning KIT. Photos of the activities are shown in Figures 5 and 6.

Figure 5. First material regarding science learning KIT.

Figure 6. Second material regarding science learning KIT.

This activity was continued with mentoring which was carried out on 26-27 September 2023 at FMIPA UM. The activity was represented by several teachers to consult on the teaching modules that had been created by the workshop participating teachers to the service team. The service team provided several corrections as improvements to the modules that

had been created. So that the modules created by the teachers can be completed optimally and can be used in the next semester. Photos of mentoring activities are shown in Figure 7.

Figure 7. Module development mentoring activities at FMIPA UM.

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CONCLUSION

The Universitas Negeri Malang service team has successfully conducted a module development and learning kit science workshop for MA and MTs Alif Laam Miim Surabaya teachers. This workshop was held to strengthen the readiness of MA and MTs Alif Laam Miim Surabaya teachers in implementing the merdeka curriculum. With this workshop activity, it is hoped that teachers will be better prepared to face the merdeka curriculum, and students will also be able to learn well so that they can improve learning outcomes.

Author's declaration

Authors' contributions and responsibilities

The authors made substantial contributions to the conception and design of the study. The authors took responsibility for data analysis, interpretation and discussion of results. The authors read and approved the final manuscript.

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Availability of data and materials

All data are available from the authors.

Competing interests

The authors declare no competing interest.

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