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Teacher assistance to strengthen STEM learning based on lesson study at MTs Muhammadiyah 1 Malang

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ABSTRACT

STEM learning aims to prepare students to prepare themselves for a career based on the skills needed in the 21st century, but this is still not a concern for teachers so assistance is needed for science and mathematics teachers. This assistance is intended to strengthen teachers' understanding, skills, and attitudes towards STEM. The steps taken in this mentoring activity include (1) initiation of contacts and reports of initiation results, (2) discussions, (3) program planning and implementation, and (4) program evaluation. The results of the implementation of the mentoring steps, namely (1) an agreement was obtained that a comprehensive understanding of STEM concepts was needed, skills were needed to develop learning tools and implement STEM learning and a strong appreciation in STEM learning was needed; (2) agreed on the need for assistance in the form of strengthening STEM understanding, training in preparing lesson plans and STEM learning practices and strengthening attitudes towards STEM as a choice of learning approach that is in line with the demands of the 21st century; (3) The results of discussions related to program plans and implementation are the formulation of STEM training plans and their implementation involving teachers in the fields of Science and Mathematics; and (4) The results of discussions related to evaluation stated that the results of mentoring were evaluated in a process through observing STEM learning practices using the open-class and reflection method, while product evaluation was through learning plan portfolios and learning videos. The conclusion of this mentoring activity is the implementation of the stages of STEM learning assistance which includes initiation, discussion, plans and implementation of actions and evaluation. The mentoring process has strengthened the understanding, skills, and appreciation of science and mathematics teachers for STEM learning.

Kata kunci
Keterampilan
Lesson Study
Pembelajaran STEM
Pengetahuan
Sikap

Pendampingan guru untuk menguatkan pembelajaran STEM berbasis lesson study di MTs Muhammadiyah 1 Malang. Pembelajaran STEM bertujuan mempersiapkan siswa menyiapkan dirinya untuk bisa berkarir berdasarkan skill yang dibutuhkan di abad ke-21, namun hal ini masih belum menjadi perhatian guru sehingga diperlukan pendampingan kepada guru IPA dan Matematika. Pendampingan ini ditujukan untuk menguatkan pemahaman, keterampilan, dan sikap guru terhadap STEM. Langkah yang dilakukan dalam kegiatan pendampingan ini meliputi (1) inisiasi kontak dan laporan hasil inisiasi, (2) diskusi, (3) perencanaan dan pelaksanaan program, dan (4) evaluasi program. Hasil implementasi atas langkah-langkah pendampingan, yaitu (1) diperoleh kesepakatan bahwa diperlukan pemahaman yang komprehensif terkait konsep STEM, diperlukan keterampilan menyusun perangkat pembelajaran dan implementasi pembelajaran STEM serta diperlukan apresiasi yang kuat dalam pembelajaran STEM; (2) menyepakati perlunya bantuan berupa penguatan pemahaman STEM, pelatihan penyusunan RPP dan praktek pembelajaran STEM serta penguatan sikap terhadap STEM sebagai pilihan pendekatan pembelajaran yang sesuai dengan tuntutan abad ke-21; (3) Hasil diskusi terkait rencana dan pelaksanaan program adalah tersusunnya rencana pelatihan STEM dan implementasinya yang melibatkan guru dalam bidang studi IPA dan Matematika; dan (4) Hasil diskusi terkait evaluasi menyatakan bahwa hasil pendampingan dievaluasi secara proses melalui observasi praktek pembelajaran STEM dengan metode buka kelas dan refleksi sedangkan evaluasi produk melalui portofolio learning plan dan Vidio Pembelajaran. Kesimpulan dari kegiatan pendampingan ini adalah terimplementasikannya tahapan pendampingan pembelajaran STEM yang meliputi inisiasi, diskusi, rencana dan pelaksanaan aksi serta evaluasi. Proses pendampingan tersebut telah menguatkan pemahaman, keterampilan, dan apresiasi guru IPA dan Matematika terhadap pembelajaran STEM.

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INTRODUCTION

Education in Indonesia is encouraged to prepare for the golden generation of 2045 (Amran et al., 2020; Listyaningsih et al., 2021; Rokhman et al., 2014; Shaturaev, 2021) and achieve the Sustainable Development Goals in the education sector (Arifin et al., 2017; Malik, 2018; Sihaloho et al., 2017). The expected golden generation is currently being prepared as Pancasila Students who have the characteristics of critical thinking, creative thinking, collaborative skills, and communicative. To realize such a Pancasila Student profile, qualified teachers are needed, one of which is in implementing modern learning (Lestari et al., 2022; Rotty et al., 2022). Modern learning that is very hotly discussed at the moment is science, technology, engineering, and mathematics (STEM). STEM learning, which is believed to be able to answer the challenges of a world that is volatile, uncertainty, complexity, and ambiguity (VUCA) (Alexander & Fry, 2016; Rodrigues & Simoes, 2021).

STEM combines four disciplines in harmony to complement and form the basis of a Project-Based Learning model (PjBL). STEM is an integrated learning approach that encourages students to think more broadly about real-world problems. The purpose of STEM-based learning is none other than to support students to prepare themselves for careers based on the skills needed in the 21st century (English, 2016; Kelley & Knowles, 2016). The approach from these four aspects is a harmonious match between problems that occur in the real world. This approach is able to create a cohesive learning system and active learning because all four aspects are needed simultaneously to solve problems. The solutions given show that students are able to unify abstract concepts from every aspect (Sulistyaningsih & Purnomo, 2021; Yakuti et al., 2021).

In STEM learning, aspects of skills and knowledge are used simultaneously by students. Differences from aspects of STEM will require a connecting line that makes all aspects can be used simultaneously in learning. Students being able to relate all aspects of STEM is a good indicator that there is a metacognitive understanding developed by the participants so that they can assemble the four interdisciplinary aspects of STEM. Each aspect of STEM has special characteristics that differentiate between the four aspects. Each of these aspects helps students solve problems much more comprehensively when integrated (Falentina et al., 2018). As for the four characteristics, namely: (1) science which represents knowledge about the laws and concepts that apply in nature; (2) technology is a skill or a system used in managing society, organization, knowledge or designing and using an artificial tool that can facilitate work; (3) Engineering is the knowledge to operate or design a procedure to solve a problem; and (4) mathematics is a science that links quantities, numbers and space which only requires logical arguments without or accompanied by empirical evidence. To apply STEAM learning, we can adopt a series of processes used by engineers in creating a product or technology. This process is also known as the engineering design process (EDP). These steps include: (1) Finding problems and solutions, (2) Designing products, (3) Developing products, (4) Making and testing products (Priyani & Nawawi, 2020).

Specifically, in the Indonesian context, community service or mentoring activities to strengthen teacher skills in implementing STEM learning have been carried out. Community service or elementary school teacher assistance has been carried out in developing STEM learning in Bandung-West Java (Sukmana & Nurhayati, 2019) and Karimunjawa-Central Java (Arifudin et al., 2022). Especially for middle school teachers, assistance in the development of STEM learning has also been carried out (Nugraheni et al., 2022; Setiawan et al., 2020). Meanwhile, assistance for the development of STEM learning specifically for early childhood education teachers to several university lecturers has also been carried out (Nasir et al., 2022). Based on the literature search, there have been no reports of STEM learning development assistance activities in the City of Malang-East Java, especially those focused on MTs Muhammadiyah 1 Malang.

MTs Muhammadiyah 1 Malang is a junior high school that provides education according to the current curriculum. This school has the right response regarding 21st century learning which includes their interest in organizing STEM literacy and learning activities. The results of communication with teachers and principals indicate that schools have a need to strengthen STEM learning so that it can support the careers of their students in the future. The need for strengthening STEM learning is expected to be fulfilled through collaboration with universities that have experience in developing STEM learning. Meeting with several lecturers who already have a reputation in STEM learning from the University of Muhammadiyah Malang (UMM) campus made the hopes of MTs Muhammadiyah 1 Malang even closer to reality. We agree that STEM-based learning assistance implementation activities can also be integrated with lesson study.

STEM can be integrated with lesson study (Aykan & Yıldırım, 2022; Kandaga et al., 2021; D. Wati et al., 2020). Lesson study has three cyclic steps, namely open plan, open lesson, and reflection. The main characteristic of lesson study is openness in conveying lesson plans, implementing and reflecting. Learning tools that have been prepared by the teacher need to get an open joint scrutiny so that all forms of deficiencies that are found can be anticipated in advance. Togetherness and openness in learning planning will certainly bring a lot of accuracy, thoroughness and completeness of insight. The same goes for the open class step or open lesson. This step is one of the steps to expose learning to an interested learning community. Learning communities are expected to autonomously act as observers or observers of learning. So, an observer is not a recorder of deficiencies that occur in teaching played by a model teacher, but learns how students learn. The third step is reflection which is an effort to review the learning process that has been carried out. This step is important to reveal the processes that occur in learning, including aspects of strengths and weaknesses in achieving learning objectives and the factors that cause them (Hindun et al., 2019, 2018; Miharja et al., 2020;

Nurwidodo et al., 2018). Reflection invites notes from the observations found by the observers. The results of reflection provide benefits for tutors and observers to reinforce good practices that occur in STEM learning. Therefore, this mentoring or service activity is aimed at strengthening teachers' understanding, skills, and attitudes towards STEM.

METHOD

This activity was carried out at MTs Muhammadiyah 1 Malang for 8 months (June 2022-January 2023). The method in this service uses the Community Development Methode (CDM) which consists of 4 stages, namely Stage 1. Initiation; Stage 2. Discussion, Stage 3. Action Plan and Implementation, and Stage 4. Evaluation (Campfens, 2019). At the initiation stage, the service team conducted a Focus Group Discussion (FGD) to obtain information on the needs of science teachers and Mathematics teachers at MTs Muhammadiyah 1 Malang to strengthen STEM learning. The results of the FGD included the nature of STEM, DTEM content and processes, an assessment of the need for STEM learning, reasons why there should be STEM, the relationship between STEM and 21st century learning, how to structure STEM learning, how to implement STEM learning, and how to conduct an assessment in STEM learning. The results of the FGD will then become input (entry point) to start the program.

In the discussion stage, the service team discusses whether the requirements are needed to be able to carry out STEM learning properly and correctly, how to fulfill these requirements, when to fulfill them and how to evaluate that the fulfillment of the requirements is sufficient. Furthermore, at the planning and action implementation stages, a strategy is formulated to carry out actions to strengthen STEM learning. Based on the results of the initiation and discussion, three action plans were agreed upon, firstly strengthening understanding of STEM concepts and processes, secondly assisting in the preparation of STEM learning tools and thirdly opening classes for the implementation of STEM learning and its reflections. This action plan is the implementation of a pattern of teacher professional development known as Lesson Study. During the evaluation and reflection stages, all components and stages of the program receive an assessment in the form of responses from teachers, school management and students. Evaluation is also carried out on the products produced (learning tools and videos).

RESULTS AND DISCUSSION

The performance results from the initiation stage which is an analysis of the need to strengthen STEM learning shows that there is an urgent need for Science and Mathematics teachers to strengthen STEM learning at MTs Muhammadiyah 1 Malang. This indication of an urgent need is reflected in the results of identifying understanding, skills and attitudes towards STEM that are still not in line with expectations.

FGDs have been carried out with science and mathematics teachers focused on 10 aspects, namely (1) understanding of STEM as content and STEM as a process; (2) The position of the problem in STEM; (3) His understanding of process design engineering (EDP); (4) The educative meaning contained in STEM; (5) The reasons for the importance of STEM learning; (6) STEM learning principles; (7) How to design STEM learning; (8) Utilization of PBL and PjBL learning models in STEM learning; (9) Obstacles encountered in STEM learning, and (10) How to overcome the obstacles encountered. FGD conclusions as presented in Table 1. Documentation of this activity as presented in Figure 1.

Table 1. Program Initiation Results

No	Aspects of Initiation	Initiation Report
1	STEM content	Just an acronym: science, technology, engineering, and mathematics
2	The status of the problem in STEM	Problem is formulated after content integration
3	STEM process (engineering process design/EDP)	Not much is known and tends to be ignored
4	The educational meaning	Unknown
5	contained in STEM	Less known
6	The reasons for the importance of STEM learning	Unknown, Conventional, Lecture
7	STEM learning principles	Conventional
8	How to design STEM learning	Conventional
9	Utilization of PBL and PjBL learning models in STEM learning	Limited knowledge, skills and appreciation of STEM
10	Obstacles encountered in STEM learning,	Not yet known

Figure 1. Focus group discussion activities

The FGD report shows that all science and mathematics teachers at MTs Muhammadiyah 1 Malang have never received STEM learning training. If they are familiar with STEM, this is obtained through reading independently from the news or from research journals. The teachers stated that their knowledge of STEM was still limited to the acronyms, namely science, technology, engineering and mathematics. As for the essence of the acronym, moreover, the educational benefits of each of these contents are not yet known in depth.

STEM learning has been perceived as important learning for students in schools. This opinion applies to all science and mathematics teachers at MTs Muhammadiyah Tlogomas. All teachers stated that STEM was important even though they could not state the reasons why STEM was important to be taught. The link between STEM and the need to meet the demands of 21st century skills which include STEM literacy, 4C (critical thinking, creative thinking, collaborative and communicative skills), future career development of students, responses to VUCA, have not been considered as reasons for the importance of STEM learning. Learning principles which include students active learning, discovery, inquiry, collaborative, problem-based learning and project-based learning have not been perceived as STEM learning principles. Therefore, conventional learning such as lectures or discussions or assignments for teachers has been accepted as true STEM learning, simple understanding, and this is still not correct which needs to be reviewed and redirected to the right conception. Therefore, some teachers experience difficulties when getting the task of designing this STEM learning tool. Designing STEM learning is the same as designing non-STEM learning, so there is no visible integration between content in STEM and STEM processes. The use of PBL and PjBL learning models has been known as a model that is commonly used in STEM learning. However, teachers at MTs Muhammadiyah 1 still encounter various obstacles in designing correct PBL and PjBL steps.

The obstacles in STEM learning according to the teachers lie in the difficulties in designing STEM learning tools, implementing STEM material integration, and compiling the STEM learning process according to EDP. This obstacle stems from his limited knowledge of STEM, skills in developing STEM learning designs and his very minimal experience in STEM learning. According to teachers, how to overcome the problems encountered in STEM learning is the need to increase understanding of STEM, increase skills in designing STEM learning and increase appreciation of STEM learning. Increasing understanding, skills and appreciation of STEM should be done through education or training or courses about STEM so that all things related to STEM can be understood holistically, experienced practically and optimally appreciated.

To increase teachers' perceptions of the STEM approach and its implementation, it is hoped that there will be more intensive training and outreach so that teachers understand the STEM approach (Romadlon, 2020). STEM training for teachers in preparing and managing the learning process in class to educate students needs to be done. Through STEM training, teachers can understand, integrate, and apply the STEM approach in integrative thematic learning and the ability to prepare lesson plans is also better and of better quality (Wicaksono et al., 2022).

The results of the implementation of the 2nd stage activities, namely the discussion of how to meet the requirements to be able to carry out STEM learning properly and correctly show several teacher statements (Figure 2). The teacher states the need for deepening steps towards STEM concept material and processes, preparing STEM learning tools by implementing the Project Based Learning (PjBL) model, carrying out STEM learning openly (open lesson), followed by reflection, and implementing evaluation of STEM learning, both in relation to assessment as learning, assessment for learning and assessment of learning.

Figure 2. Documentation of discussion activities regarding STEM

Professional teachers, both the opinion of education experts and according to the government can be characterized that a professional teacher must at least fulfill his/her co-professional competence as a teacher. One of them is competence in planning, implementing, and evaluating the learning process. Teacher Competency Standards are a statement regarding the required criteria, set out in the form of mastery of a set of abilities which include knowledge, attitudes, values and skills for an educational staff so that they deserve to be called competent. STEM involves four components of content knowledge, process, context and attitude as three dimensions of competence, so STEM also involves cross cutting concepts, core ideas of four disciplines, scientific and engineering practice as contexts to support competence in STEM (Romadlon, 2020). Teachers play an important role in drafting ideas for teacher professionalism development programs, especially STEM. The program meets teachers' needs in terms of content and pedagogical knowledge to implement STEM-based learning in the classroom (I. K. Wati et al., 2021).

The results of the implementation of the 3rd stage activities, namely the preparation of an action plan and the implementation (implementation) of the action, the lecturer and teacher agreed on material deepening activities which were carried out through socialization and equalization of perceptions. This is related to the basic STEM concept material, STEM processes, the preparation of STEM learning tools, the PjBL model in STEM, the preparation of STEM teaching materials, the preparation of STEM-based student worksheets, the preparation of STEM Media, and the preparation of evaluation tools in STEM learning. After the material deepening activities, it was agreed that next the teachers need to follow up by compiling STEM learning tools and carrying out STEM learning practices in an open (open class) followed by reflection and making learning videos.

The teacher's understanding must really be implemented in the form of STEM practice. The application of learning is a process or method carried out by educators to students who are aware of making changes in behavior that are carried out by practice and the application of scientific concepts which are carried out repeatedly to bring out the expected skills. The application of learning is a process or method that is carried out by educators to students who are aware in order to make changes in behavior carried out by practice and the application of scientific concepts which are carried out repeatedly to bring out the expected skills (Anjarsari, 2019).

The results of the deepening of the material show that science and mathematics teachers experience changes in their understanding of the basic concepts of STEM, STEM processes and other things compared to before the deepening. This is as shown in Table 2.

Table 2. Results of Deepening STEM Materials

No	Aspects of Initiation	After STEM depart
1	STEM content	Each component has a deep educative meaning
2	The status of the problem in STEM	formation of children's personality (KAP)
3	STEM process (engineering process design/EDP)	Problems can be exported before integration
4	The educational meaning	Content, the role of problems is very important as an entry point in STEM learning
5	contained in STEM	Understood as an engineering process and a major part of STEM
6	The reasons for the importance of STEM learning	Recognized and appreciated
7	STEM learning principles	Reasons for the demand for 21st century life skills, 21st century literacy
8	How to design STEM learning	SAL, Inquiry-Decovery, Problem-Based, Project-Based, Collaborative
9	Utilization of PBL and PjBL learning models in STEM learning	Instructional Analysis, Crosscutting, designs using the recommended model for STEM
10	Obstacles encountered in STEM learning,	The PBL, PjBL and 5E Cycle models are used as steps in STEM learning

From Table 2 it can be seen that there have been positive changes towards increasing understanding of STEM learning. STEM content consisting of Science, Technology, Engineering and Mathematics has been understood as "having an educational meaning in the formation of a child's personality". The position of the problem in STEM is understood as a start so that it can be explored at the beginning before integrating content, the role of the problem is very important as an entry point in STEM learning. Teachers already understand how to design STEM learning, namely by conducting instructional analysis, cross cutting between content and implementing recommended learning models for STEM, such as PjBL.

Based on the results of the deepening of the material shown by the teacher's understanding of STEM in Table 2, it can be continued with the next activity, namely the preparation of STEM learning tools and the implementation of STEM learning. A review of STEM learning tools compiled by science teachers found several facts. The facts found include, (a) The content of the learning plan consists of basic competencies, objectives, learning steps, tools and materials, and student worksheets; (b) The chosen learning model is PjBL-STEM; (c) Syntax: Reflection, Research, Discover, Applicationn, Communication; (d) Student worksheets consist of Reflection, tools and materials, instructions for designing purification equipment, and communicating (presentation), and (e) Not equipped with teaching and evaluation materials. A review of STEM learning tools compiled by Mathematics teachers found several facts. The facts found include: (a) The content of the learning plan consists of basic competencies, objectives, learning steps, tools and materials, and student worksheets, (b). The learning model chosen by PjBL-STEM, (c). Syntax: Reflection, Research, Discover, Application, and Communication, (d). The student worksheet consists of Reflection, tools and materials, instructions for designing purification equipment, communicated (presented), and (e) Not equipped with teaching and evaluation materials.

The suggestions made based on these findings are: (a) The content of the STEM quartet is not yet apparent, (b) This water purification is an engineering (solution to the problem of clean water needs), then what are the aspects of science, technology, and mathematics? (c). Are teaching materials not needed (quartet integration, or separation/stay alone)? (d). Is there no need for evaluation information, at least in the form of a grid? (e) How is the Research and Discover mechanism planned for water purification and biopore production? (f). Student worksheets only guide student work at the Reflection stage, then are asked to carry out activities to design equipment and communicate results. What about the research and discovery steps? Just skip it? Is it not necessary to prepare a student worksheet? If needed, what is the student worksheet like? (g) The characteristics of STEM apart from the quartet content and the EDP process are the learning that implements a collaborative model, how is this collaborative learning designed? (h) Does learning in a group setting (physically) represent collaborative? What if there is no learning process in the group, meaning that the group does not interact and learn from each other, and (i). Is it not necessary to work in a group setting so that work productivity and responsibility for group work are formed?

Based on the results of observations in STEM learning, follow-up is needed to prepare them to become innovative teachers in implementing STEM. These recommendations relate to efforts to increase understanding, skills, and attitudes towards STEM learning. The service team has taken the right policy in managing the learning program by integrating STEM learning. The step of setting a period for compiling a 3rd learning tool that is fully STEM-based is a strategic step that deserves appreciation. This step begins with socialization and STEM learning workshops which are attended by all science and mathematics teachers at MTs Muhammadiyah 1 Malang. Specifically, lecturers and teachers receive STEM learning enrichment at a later time with the aim of being able to provide complete guidance to students, starting from the

preparation of STEM learning plans, learning designs (using issues as STEM entry points), teaching materials, media, learning models, up to the evaluation.

In developing STEM literacy, the role of the teacher is very important. Teacher behavior that is influenced by individual, social, environmental, and policies has an impact on teacher decisions about the pedagogical approach to be adopted in learning. The teacher's perception of a lesson is an important component of content and pedagogical knowledge. Teachers who have negative perceptions and attitudes towards STEM tend to avoid STEM-oriented learning. To develop STEM literacy there are four aspects that must be considered by the curriculum and teachers. First, the STEM field cannot be viewed as a separate field of study. STEM must be seen as a meta-discipline which is the integration of fields of study into one unified whole. Second, content and pedagogy must be mixed. Attitudes, views, self-confidence and motivation of students must be considered. Fourth, students must be fully involved in STEM-oriented learning effectively and efficiently (Afifah & Qomaria, 2018).

Several efforts can be made to become a solution so that the STEM-based learning process can run. one of the related studies revealed that efforts that could be made include the authorities in the field of education need to build awareness for teachers about the importance of STEM, provide training so that teachers have the expertise to teach STEM-based learning and also provide adequate facilities so that the learning process takes place as expected. Teachers must also be assisted by preparing training to develop professionalism, pedagogical abilities and the ability to understand the curriculum so that they are really ready to implement STEM) because so far teachers have also been seen doubting whether they are able or not to apply STEM in learning. Furthermore, to overcome problems related to facilities and costs, teachers are expected to be able to modify STEM learning so that it can be applied according to existing conditions. The enthusiasm of teachers to develop STEM-based learning can also be seen from the development of learning media that has been running to date, including STEM-based student books, STEM-based student worksheets, and STEM-based modules (Diana & Turmudi, 2021).

This community service activity in the form of teacher assistance related to STEM learning supports efforts to achieve the SDGs in the field of education. The development of scientific literacy is related to the application of STEM (Aswirna et al., 2022). Implementation of STEM in the classroom by teachers can encourage students to learn and gain knowledge on their own through self-study. They can share information, experiences with friends in groups and others. Then they can help and solve problems for learning together. In addition, students can create their innovations for the SDGs until they gain full competition. They get motivation and inspiration to learn with STEM Project. They will be able to see the value in themselves and in others (Kanjanapan et al., 2021).

CONCLUSION

Strengthening teachers in STEM learning shows significant changes, between before and after the service program. Exciting changes have occurred in various important aspects of STEM learning, and in various domains (cognitive, affective and psychomotor). There are at least 10 aspects that have experienced positive changes as a sign of strengthening Science and Mathematics teachers in welcoming and developing STEM learning. The ten aspects are: (1) Understanding of STEM as content and STEM as a process, (2) Position of problems in STEM, (3) They understanding of process design engineering (EDP), (4) The educational meaning contained in STEM, (5) The reasons for the importance of STEM learning, (6) The principles of STEM learning, (7) How to design STEM learning, (8) Utilization of the PjBL learning model in STEM learning, (9) Obstacles encountered in STEM learning, and (10) How to overcome the obstacles encountered. On the basis of the good experience gained in overseeing STEM learning for PPG students, it is recommended that the policy of making STEM an integral part in preparing professional teachers can be expanded, not only in Science and Mathematics, but also in other fields of study. This is necessary so that the spread of STEM can be immediately expanded to all schools at various levels.

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Ar-Rohmah English week: Expanding English for Young Learners program in an Indonesian Islamic primary school

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ABSTRACT

English is an elective subject at Indonesian primary schools and every school is allowed to offer English for providing young learners (YLs) opportunity to practice English for communication in global society. Moreover, English is introduced earlier in primary education as an extra-curricular activity as well as a locally-tailored school subject. This community service program aims at facilitating the sixth graders with extended activities to support the English for Young Learners (EYL) program that they have attended for six years and preparing them with initial experience before enrolling in English a compulsory subject class in lower secondary education. Ar-Rohmah English Week was conducted for 60 minutes within four working days with activities to enhance the YLs' English listening, speaking, reading, and writing. Four activities were selected based on the learners' needs within meaningful activities such as Virtual Tour to the USA, Reading Theater, Students' Activities Journaling which infuses Islamic content, and Act Out and Presentation. All of those activities were also designed by addressing the United Nations Sustainable Development Goals 2030 (UN SDGs 2030) number 4 on quality education. With their English proficiency, all students are expected to be able to compete in mastering various knowledge in facing global challenges in the future.

Kata kunci
Bahasa Inggris anak usia dini
Pekan Bahasa Inggris
Pendidikan berkualitas
SD Islam

Ar-Rohmah English week: Progam pendalaman Bahasa Inggris usia dini pada sekolah dasar berbasis Islam di Indonesia. Sebagai mata pelajaran tambahan pada jenjang Sekolah Dasar (SD) di Indonesia, Bahasa Inggris dapat diajarkan pada siswa SD dengan tujuan memberikan kesempatan kepada mereka untuk berlatih menggunakan bahasa Inggris untuk komunikasi dalam masyarakat global. Bahasa Inggris dapat diperkenalkan lebih awal sebagai kegiatan ekstra kurikuler ataupun mata pelajaran berbasis sekolah. Program pengabdian masyarakat ini bertujuan untuk memfasilitasi siswa kelas enam dengan program pembelajaran bahasa Inggris tambahan untuk mendukung program English for YLs (EYL) yang telah mereka ikuti selama enam tahun. Selain itu, program ini juga bertujuan untuk mempersiapkan siswa dengan pengalaman awal sebelum mengikuti pembelajaran Bahasa Inggris yang menjadi mata pelajaran wajib di Sekolah Menengah Pertama (SMP). Bertajuk Ar-Rohmah English Week program ini dilaksanakan selama empat hari, masing-masing selama selama 60 menit dengan berbagai kegiatan untuk meningkatkan keterampilan menyimak, berbicara, membaca, dan menulis dalam bahasa Inggris. Seluruh kegiatan yang dilaksanakan tersebut diseleksi berdasarkan kebutuhan seperti, Virtual Tour to the USA, Reading Theatre, Student's Activities Journaling, dan Act Out and Presentation. Seluruh kegiatan tersebut juga didesain untuk mendorong United Nations Sustainable Development Goals 2030 (UN SDGs 2030) urutan ke 4 tentang pendidikan yang berkualitas. Dengan kemampuan berbahasa Inggris tersebut, seluruh siswa diharapkan dapat bersaing untuk menguasai berbagai ilmu pengetahuan dalam menghadapi tantangan global di masa depan.

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INTRODUCTION

Introduction to an international language like English is urgent for YLs in primary schools in Indonesia because of its status of English as a foreign language. Since English is no longer a compulsory subject for Primary School students, the school gets autonomy in designing the teaching and learning activities (Setyaningrum et al., 2020; Sulistiyo et al., 2019). This fact should be supported by English teachers' ability to design enjoyable and meaningful lessons aiming at providing YLs with learning experiences that will help them prepare to enroll in English as a compulsory subject class at the lower secondary level. Related to enhancing teachers' ability in teaching, Zein (2015) suggests the Indonesian EYL teachers' field-based professional development in ways that teacher educators are paired with in-service teachers to adjust real-life classroom context. His suggestion is in line with a community services program endorsed by the Faculty of Teacher Training and Education, Universitas Muhammadiyah Malang, Indonesia entitled *Program Penugasan Dosen ke Sekolah* (PPDS). This program is a simultaneous program that is linked to Teachers' Professional Development (TPD) and school inquiry for providing teaching models which support the learners' needs. Furthermore, this program also aims at improving the quality of education in Indonesia in the area of English learning. Thus, this effort is supporting one of the Sustainable Development Goals (SDGs) no.4 on quality of education (United Nations. Department of Economics and Social Affairs, 2020).

This paper aims at exploring how PPDS was carried out to meet the school partner's intention of conducting both TPD and learners' English enhancement. SD Alam Ar-Rohmah, an Islamic primary school located in Malang, East-Java province, which is reported as a school applying the national curriculum for the primary school level and considered English as an elective subject accepted this program for some reasons. Due to time constraints, English is offered to grade 4. Moreover, English lesson has not been connected to regular thematic lesson suggested by the curriculum. In addition, the teachers still based their teaching on commercially published textbooks. All of the aforementioned facts encouraged the school to provide grade sixth students with experience using English contextually by the providing the extended EYL program before graduation. Hence, Ar-Rohmah English Week was designed to facilitate the learners with an extensive program of English learning.

English can be delivered in various ways according to the time allocated for each meeting (Johnstone, 2019). When it is offered to the YLs during 1–1.25 hours per week, it is considered a modest time of learning. Within a modest time, the learners get limited exposure to English because only a teacher who dominantly uses English in the class. This requires teacher creativity in using, stories, songs, drama, as well as physical activities in the class. To provide more exposure, the teacher can initiate an international conference with YLs from other counties. English can be learned with the other aspects of the curriculum within 20%-30% of the total curriculum time. The YLs spend their time learning English simultaneously when they learn subjects like mathematics, sciences, history, or geography as English is the medium of instruction. This situation is commonly found in Content and Language Integrated Learning (CLIL) (Coyle et al., 2010) which has proven to influence the YLs' English vocabulary, foster scientific knowledge and increase their motivation in learning other subjects using English (Agustín Llach, 2017; Huang, 2020). Moreover, when English is taught in essential time, 50% - 90% of the total curriculum, Johnstone (2019) suggests an early total immersion is applied.

In the case of Indonesia, English is allocated in a modest time, thus, various supported activities should be carried out. Rixon (2019) suggests child-friendly activities for EYL by integrating topics and task-based learning. It is also suggested to practice thematic learning for students in Indonesian primary schools because students can achieve language skills and abilities to communicate in various discourses (Mujahidah et al., 2022; J. Shin & Crandall, 2014). Likewise, an attempt of integrating local culture which is the Islamic value in Islamic primary school context is what Farah et al., (2021) have been supported. In addition, if the EYL activities still need to be extended, virtual conferences with international YLs can be conducted by exchanging students' performances to show real-life contexts to develop intercultural awareness (Abidasari & Setyaningrum, 2020; Johnstone, 2019; Setyaningrum et al., 2022). Considering the aforementioned suggestions, the most viable program to carry out during the Ar-Rohmah English Week should be contextualized to the existing situation, providing new knowledge about interculturality, infusing Islamic values in English learning, serving the students with opportunities to practice using English in communication.

METHOD

Ar-Rohmah English Week was conducted in 60 minutes for four days and taught by four different lecturers and EYL enthusiasts from English Language Education Department, Universitas Muhammadiyah Malang. All learners got the opportunity to listen to stories in English, discuss the content and meaning of the stories, play roles, write summaries or short messages, and display one type of art that can be collaborated with learning English. No less important and interesting, the YLs are also assigned to present their work in the future using appropriate work clothes and utilizing media that they make or prepare themselves. All activities aims to train students to be more confident and fully aware that English is an international language and expose meaningful activities in EYL to school English teachers. The Ar-Rohmah English Week activities are as follows.

Virtual Tour to the USA

Virtual Tour to the USA was led by Mr. Badhar from the University of Arizona. He introduced students to shopping in supermarket in the USA. He started his trip to the supermarket from his apartment. On his way to the supermarket, he introduced how to cross the street, get in to the bus, pay bus ticket, and press the button to stop the bus. On his way to the supermarket, he was asking the students what they can see from the bus window. This activity provided the students' similar experience of traveling in the USA. Figure 1 displays a virtual conference with Mr. Badhar.

Figure 1. Mr. Badhar as a Tour Leader

Arriving at the supermarket, the YLs were familiarized with the situation in one of the well-known supermarkets in the USA, Fry's Food Stores. Figure 2 is showing what inside the supermarket.

Figure 2. in Fry's Supermarket

Mr. Badhar took the YLs to different isles to get the things listed on the shopping list. While listening to Mr. Badhar's explanation, the learners were reading the shopping list and labels on the shelves. Simultaneously, all learners activated their multiple intelligences such as linguistic, kinesthetic, interpersonal, intrapersonal, and mathematic. A group dynamic was carried out to discuss what the YLs had learned from the virtual tour. As the last activity, the YLs completed a worksheet about shopping and transportation in America.

Reading Theatre

Reading Theatre is a combination of reading and drama activities. Reading theatre participants should participate in both activities, reading the drama script and then acting based on the script. As the YLs from this school have limited experience in role-playing or playing drama, they were instructed to watch a virtual drama "The Tale of Wendit" before reading the drama's script, then acting as the drama characters. Figure 3 shows the situation when all YLs were watching the virtual drama.

Figure 3. All students watching a virtual drama "The Tale of Wendit"

If the learners are reluctant to read the script, the teacher can help reading the script. Reading Aloud can be an alternative if that particular situation only permits it. During group-dynamic as shown in Figure 4, students-teacher interactions started by grouping the students and assigning them to play the characters.

Figure 4. The students were reading "The Tale of Wendit" and were playing the drama

From figure 4, it can be explained how the teacher helped the YLs choose a specific character in "The Tale of Wendit" which consist of Narrator 1, Narrator 2, Son, Father, Villager 1, Wise man, Villager 2, Villager 3, Villager 4, Divine Voice, Monkey 1, Monkey 2, Monkey 3, Monkey 4 before rehearsal.

Student's Activities Journaling

Daily Activities are common theme in EYL. This theme was selected for Ar-Rohmah English Week and managed to a different point of view. As all YLs had been taught with vocabulary related to Daily Activities, Islamic value was integrated into the teaching and learning process. PPT about Allah's creations such as trees, animals, and stars were displayed and discussed. Some extended vocabulary like "creator, blessing, merciful, thanks, and pray" were presented in the crossword puzzle which scaffold the YLs understanding when they watched Omar and Hana video "I eat, I say Alhamdulillah". Figure 5 explains the setting.

Figure 5. Students doing a crossword puzzle of Islamic Values

Conducted in an Islamic primary school, the Ar-Rahmah English Week was also designed for YLs to sharpen their cognitive activity that can be related to Islamic values. Before writing activities in their journals, all YLs were assigned to list the everyday blessing of Allah and then selected which activities they like orally.

Figure 6. Co-teacher were guiding the students to make a Photovoice about

the daily activities they like or dislike

Figure 6 presents how the YLs create the photovoice of the photos that they had taken from their home. From that photos, they could express their feeling about daily activities and always be grateful to all blessings. In their photovoice all learners described each photo by considering the prompt of SHOWeD: (1) What do you See here? (2) What is really Happening here? (3) How does this relate to Our lives? (4) Why does this situation, concern, and strength exist? (5) What can we Do about it?

Act Out and Presentation

As the last activities of Ar-Rohmah English Week, acting out and presentation was attracting the YLs to tell about their dream job. They were assigned to bring specific uniforms or equipment for some specific jobs. As follow-up activity, they can present what job they had selected and what they have to do for doing the specific job. Some students mentioned modern jobs which exist in this recent digital era. Content creators, youtubers, chefs, share traders, online sellers, and couriers were the examples (Figure 7).

Figure 7. Students discussing "Dream Jobs" and acting like someone working on the job

Figure 7 exhibits a group dynamic when the teacher and all learners discussed the dream jobs that they had selected. The discussion ran smoothly because the YLs had already prepared their presentation from home. While choosing uniform or equipment, all YLs had activated multiple intelligences such as kinesthetic, mathematic, interpersonal, and spatial.

RESULTS AND DISCUSSION

As Ar-Rohmah English Week is found benefited to the school, teachers, and students. The headmaster appreciated the program because the lecturers provided program design, ways to orchestrate the lesson, as well to provocative learning atmosphere for the students. The following is his explanation.

> "I am happy that the presence of the English Language Education Department, FKIP-UMM team in this school has provided a new atmosphere in teaching English. It is fresh to our context that Islamic values can be integrated in English learning. Our students looked excited and enthusiastic in the learning process designed for these four days and the English teachers are excited to practice similar activities in their English classes. I hope to continue this program for providing grade 6 students experience to use English contextually and to accelerate our English teachers' professional development. I would like to extend the collaboration with the university in the future." (Interview, School Headmaster)

From the interview, the school headmaster realized the importance of Ar-Rohmah English Week for the sake of TPD and students' English enhancement. Not only by sitting in a room listening to the resource speakers about how to enhance the teachers' professionalism, teachers need to work together with teacher educators (Zein, 2015). If the learning

atmosphere supports the learning, the school headmaster believed that all YLs would get real-life experience as well as the foundation for their future education. English learning atmosphere is also related to the fact that YLs need an encouragement of using the language because we cannot postpone their growth to be bilingual (Sulistiyo et al., 2019; Zein, 2019). Interestingly, the integration of Islamic value that is contextual to Islamic school is not well accommodated in English learning. Thus, it is suggested that Islamic content can be a cultural aspect that is explored in English teaching as it is appropriate for students' daily experiences and contextual to their Muslim identity (Farah, 2020; Farah & Sukarma, 2020).

Additionally, the English teachers benefited from the Ar-Rohmah English Week as the learning activities could be applied to their teaching. One of the teachers' statements is as follows.

> "The lecturers gave me fresh ideas. I am interested in conducting English learning activities that encourage my students to learn English. I could see how my students were actively participating in all learning sessions, especially the Virtual Tour to the USA. I also appreciate the PPDS team which invited a speaker from America because both my students and I could sharpen our intercultural awareness." (Interview, an English Teacher)

The teacher's statement related to the idea of inviting a speaker from America and taking YLs on a virtual tour for learning transportation and shopping in America shows his interest in strengthening the student's intercultural awareness while learning English as a Foreign Language. This intercultural awareness is feasible to allow YLs' acceptance of other cultures without neglecting their own culture. When the learners could find similarities and differences between cultures and evaluate the cultural practices, Baker (2011) identifies it as the highest level of intercultural awareness. In the case of a virtual trip to the USA, the YLs had learned how to use public transportation, name various landscapes on the way to the supermarket, shop with a shopping list, as well use banknotes in dollars, without any intention of underestimating Indonesian as well as American culture. Baker (2015) explains that ICA focuses on the INTER or TRANS cultural dimension where there is no clear language-culture-nation correlation, particularly in global uses of English. This also entails a shift away from cross-cultural comparisons, in which cultures are treated as discrete entities that can be compared to one another.

One significant finding related to Ar-Rohmah English Week was from one female student. She approved that English Week is meaningful and she enjoyed its activities. She explains that,

> "I am happy to join Ar-Rohmah English Week. My favorite session is playing drama as a villager. Not only me, but my friends also actively play their respective roles." (Interview, a female student)

As stated previously in the introduction that the EYL activities in the school are only commercial textbook-based activities and playing drama is evidenced to encourage the YLs to practice English for communication (Johnstone, 2019; Mujahidah et al., 2022; Shin, 2014). Reading the script, memorizing the words in English, and acting based on the character of the drama made the YLs activate their multiple intelligences like linguistics, kinesthetic, intrapersonal, and interpersonal intelligence According to Faidah et al. (2019), multiple intelligences are urgent for teaching YLs English.

CONCLUSION

Based on the explanations from the school headmaster, English teacher, and student, it can be confirmed that teaching English to YLs requires teachers' knowledge and ability in linguistics and pedagogical aspects. YLs enjoy learning English if they can learn new knowledge while from its learning content. This PPDS has been evidenced to be a proportional program that simultaneously provides new knowledge for teachers in teaching EYL and new experience of learning English for the students. The extensive language learning designed as Ar-Rohmah English Week evidenced beneficially and the quality of EYL teaching should be enhanced by referring to its activities. When YLs follow continue to reach English proficiency, they are potential to get their success in the future. When the teachers of EYL put their efforts into upgrading their knowledge for EYL teaching betterment, they contribute to quality education. All of them are in line with UN SDGs number 4 about quality education to ensure inclusive and equitable education and to promote lifelong learning opportunities for all.

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The drafting of village regulations concerning the management of agricultural water resources

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ABSTRACT

The government is authorized to carry out agricultural water management in the village. This agricultural water management aims to ensure that water needs are well fulfilled and sustainable for the welfare of village communities. In this case, the Yosowilangun Lor Village Government, Yosowilangun District, Lumajang Regency, seeks to maintain sustainable agricultural water governance through the authority of the Village Government by establishing Village Regulation Number 7 of 2021 concerning Sustainable Agricultural Water Governance. However, based on the analysis of the situation, there are still problems regarding the implementation of Village Regulation 7 of 2021 concerning Sustainable Agricultural Water Governance, especially regarding the institutional structure and culture of the community in carrying out agricultural water governance in the country. Therefore, in order to strengthen the institutional structure. Moreover, the culture of the community in carrying out agricultural water governance in the village, steps are needed to strengthen the institutional management of agricultural water in the village.

Kata kunci
Desa
Pemerintahan
Peraturan
Sumber air pertanian

Penyusunan peraturan desa tentang pengelolaan sumber daya air pertanian. Pemerintah berwenang untuk melakukan pengelolaan air pertanian di desa. Pengelolaan air pertanian ini bertujuan agar kebutuhan air terpenuhi dengan baik dan berkelanjutan untuk kesejahteraan masyarakat desa. Dalam hal ini Pemerintah Desa Yosowilangun Lor Kecamatan Yoswilangun Kabupaten Lumajang berupaya menjaga tata kelola air pertanian berkelanjutan melalui kewenangan Pemerintah Desa dengan menetapkan Peraturan Desa Nomor 7 Tahun 2021 tentang Tata Kelola Air Pertanian Berkelanjutan. Namun berdasarkan analisis situasi, masih terdapat permasalahan dalam implementasi Peraturan Desa 7 Tahun 2021 tentang Tata Kelola Air Pertanian Berkelanjutan, terutama terkait struktur kelembagaan dan budaya masyarakat dalam melaksanakan tata kelola air pertanian di wilayah tersebut. Oleh karena itu, pengabdian masyarakat ini bertujuan untuk memperkuat struktur kelembagaan di desa. Apalagi faktor kebiasaan masyarakat dalam melakukan tata kelola air pertanian di desa, diperlukan langkah penguatan kelembagaan pengelolaan air pertanian di desa tersebut.

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INTRODUCTION

Indonesia has a variety of uniqueness and is rich in natural resources (Al-Fatih, 2021a; Darwance et al., 2021; Susetyorini, 2019). Since the era of regional autonomy was enacted, the richness of these resources and uniqueness has become the authority and suitable for the regions to manage and utilize them (Ismail, 2020). One of the uniqueness and

resources is located in the village (Erdianti & Al-Fatih, 2019). The village is one of the cornerstones of government organizations in achieving the success of government affairs from the Central Government. Article 1 number 1 of Law Number 6 of 2014 concerning Villages states that:

"Villages are villages and customary villages or what is referred to by other names, from now on referred to as Villages, are legal community units that have territorial boundaries that are authorized to regulate and manage government affairs, the interests of local communities based on community initiatives, rights of origin, and traditional rights that are recognized and respected in the government system of the Unitary State of the Republic of Indonesia."

Through this article, the village has the authority to: a) make Village Regulations; b) manage its Natural Resources independently; c) managing village funds, and several other authorities which are further regulated through laws and regulations (Herdiana, 2019). Meanwhile, what is meant by village government is the implementation of government affairs and the interests of the local community in the government system of the Unitary State of the Republic of Indonesia (Kokotiasa, 2021). The village government as the organizer of Government is carried out by the Village Head, whom village officials assist as an element of village government organizers (Suprapti & Kisni, 2020). In the implementation of the Government, the village head has the authority to make village regulations consisting of village regulations, joint village head regulations, and village head regulations (Wuisang, 2018). In particular, Article 1 number 7 of Law Number 6 of 2014 concerning Villages states that Village Regulations are laws and regulations set by the Village Head after being discussed and agreed upon with the Village Consultative Body (BPD) (Arliman, 2018).

Village Regulations set by the Village Head after being discussed and agreed upon with BPD are legal and policy frameworks in implementing village government and village development (Lailam, 2018). The determination of village regulations elaborates on the various authorities that the village has, referring to the provisions of higher laws and regulations (Darusman et al., 2021). As a legal product, village regulations must not conflict with higher regulations and must not harm the public interest (Aditya & Winata, 2018). On the other hand, as a political product, village regulations are processed democratically and participatory (Lailam, 2018). That is, the preparation process involves the participation of village communities (Wiryani & Ismail, 2016). In this case, the village community has the right to propose or provide input to the Village Head and BPD in preparing village regulations (Sapitri & Saputra, 2020).

The dynamics of village authority develop following the community's needs and the legal developments that occur (Putri, 2018). One of them is about water management which is the authority of the village to ensure that water needs are well fulfilled and sustainable for the welfare of the village community (Chandranegara, 2016). The promulgation of Law Number 17 of 2019 concerning Water Resources (in the future referred to as the Water Resources Law) gives authority to villages to assist the Government in water resource management (Wulandari & Ilyas, 2019). It encourages initiatives and participation of village communities in managing water resources in their areas. Article 17 of the Water Resources Law states that:

"The village government, or what is called by another name, has duties including:

1. *Assist the Central Government and Local Government in managing Water Resources in village areas based on the principle of general expediency and by taking into account the interests of other villages;*
2. *Encourage initiatives and participation of village communities in the Management of Water Resources in their regions;*
3. *Participate in maintaining the effectiveness, efficiency, quality, and order of the Implementation of Source Management. Water Power; and*
4. *Assist the Regency/City Government in meeting villagers' minimum daily basic water needs."*

So, based on thqt regulation, the Village Government is mandated to be able to manage its water resources independently, especially to maintain agriculture and sustainable water management. This mandate is in line with the community service carried out by servants in Yosowilangun Lor Village, Lumajang Regency. The Water Resources regulation gives villages the authority to ensure that water needs are well met and sustainable for the welfare of village communities (Al-Fatih, 2021b). Therefore, the village government's role is critical in maintaining sustainable agricultural water governance (Wulandari & Ilyas, 2019). Governance is beneficial to the needs of the community and the economy of the community and can also maintain its fertility and authenticity. One of them occurred in Yosowilangun Lor Village, Yosowilangun District, Lumajang Regency, which seeks to maintain sustainable agricultural water governance through the authority of the Village Government by establishing Village Regulation Number 7 of 2021 concerning Sustainable Agricultural Water Governance (after this referred to as Perdes No. 7 of 2021).

Through Village Regulation No. 7 of 2021, it is hoped that it will be able to ensure the certainty of sustainable agricultural water management that meets the standards of effective and efficient service standards, support food security programs through the provision of agricultural production and farming in carrying out their profession safely and comfortably, as well as being a foundation in carrying out rights and obligations and coordination for Village Governments, Farmer Groups, farmers and the Association of Water Management Farmers (HIPPA) in agricultural governance for the sake of maintaining sustainable water sources.

Village Regulation No. 7 of 2021 is a form of Yosowilagun Lor's commitment to accommodating the community's interests, especially in maintaining sustainable water governance. This is in line with Lawrence M. Friedman's opinion

regarding the legal system, which consists of three components, namely substance, structure, and culture (Friedman, 1977; Luhukay & Jaelani, 2019; Trijono, 2020). Village Regulation No. 7 of 2021 is a component of the substance formed by the Village Government in maintaining and supporting agricultural sustainability in the context of farmer welfare (Zakie, 2017). However, based on the analysis of the situation, there are still problems regarding the implementation of Village Regulation No. 7 of 2021, especially regarding the institutional structure and culture of the community in carrying out agricultural water governance in the country. Therefore, in order to strengthen the institutional structure. Moreover, a culture of the community in carrying out agricultural water governance in the village, steps are needed to strengthen the institutional management of agricultural water in Yosowilangun Lor Village, Lumajang.

This community service in Yosowilangun Lor Village, Lumajang Regency aims to maintain environmental sustainability, especially in terms of sustainable agricultural water management. This is also in line with the goals of the SDGs, in the field of environment and energy. This is because water is a source of energy, which simultaneously can play a role in protecting the environment. Thus, this dedication has a dual effect in achieving the SDGs goals, namely protecting the environment and utilizing new, renewable energy, namely water.

METHOD

The implementation of this community service is carried out to the target audience with interests related to agricultural water management (Al-Fatih & Siboy, 2021), namely: Village Government (Village Government and Village Consultative Body), Village Farmer Groups; Village Farmers, HIPP, and Yosowilangun Lor Village Community, Lumajang. The implementation of midwifery is carried out through several stages, namely: 1) Observation and request for willingness to cooperate with partners; 2) Formulation of Solution Steps; 3) Socialization; 4) Focus Group Discussion (FGD) (Ayu, 2021).

RESULTS AND DISCUSSION

Following the plan, community service activities entitled "The Drafting of Village Regulations Concerning the Management of Agricultural Water Resources in Yosowilangun Lor Village, Lumajang Regency" were carried out with the following details of activities:

Observation and Request for Willingness to Cooperate with Partners

This observation activity and request for willingness to cooperate with partners were carried out in April 2022 to coordinate the implementation of service activities to the community. This coordination process is followed up by the willingness of cooperate by partners as a place for the implementation of service activities. Meanwhile, observation activities aim to identify the needs and obstacles faced in the village's agricultural water management process.

Based on the results of observations, it was found that after the ratification of Village Regulation Number 7 of 2021 concerning Sustainable Water Governance, it turned out that its implementation was still not optimal in terms of socialization of village regulations and did not understand the parties in terms of implementing agricultural water governance in the village. Thus, assistance and socialization are needed to strengthen agricultural water governance institutions so that Village Regulation 7 of 2021 concerning Sustainable Water Governance can be adequately implemented. So, through the opportunity of a mini FGD with residents and administrators of Yosowilangun Lor Village, it was agreed to assist in making the Perdes at the Yosowilangun Lor Village hall, Lumajang, as shown in the Figure 1.

Figure 1. Discussion Perdes No. 7 of 2021 in Yosowilangun Lor

Discussions with the community are needed for Perdes No 7 of 2017 in Yosowilangun Lor Village to run and be implemented optimally. Figure 1 above shows the efforts of the servants in providing education as well as discussing the implementation of the village regulations.

Formulation of solutions and steps

After getting an overview of the needs and constraints, as well as the willingness of partners, then the service team formulated solutions and steps to solve the needs and obstacles faced in establishing and strengthening agricultural water governance institutions. In this case, the service team refers to the norms contained in Village Regulation Number 7 of 2021 concerning Sustainable Water Governance to formulate steps and solutions to existing problems, namely the implementation of regulations. For this reason, a process of identifying the roles and duties of each party in the implementation process of Agricultural Water Governance in the Village is carried out, including identifying sanctions for violators of village regulations.

Socialization

After there was a formulation of solutions and steps to solve the needs and obstacles, the team carried out socialization of the results of the formulation that had been formulated previously to representatives of related parties, namely the Village Government (Village Government and Village Consultative Body), Village Farmer Groups, Village Farmers, HIPP, and Village Communities. After receiving the aspirations and suggestions from the residents accompanied by the village administrators, socialization of the Perdes on water management was delivered at the Yosowilangon Lor Village Hall, Lumajang Regency as shown in the Figure 2.

Figure 2. Socialization in Yosowilangun Lor Village

In the socialization such as mentioned on figure 2 above, the service team said that in implementing village regulations, the organizers of sustainable agricultural water governance are the village government, HIPPA, farmer groups, and village communities. Therefore, to implement the regulations, the village government needs to prepare an agricultural water governance plan, coordinate the implementation of HIPPA tasks, encourage community participation and provide irrigation canal facilities and infrastructure. Thus, the village government needs to start the implementation process because it is the *village's agricultural water management pioneer*. However, of course, this process needs to be supported by HIPPA because it acts as a manager of tertiary and quarter irrigation network infrastructure, including those entitled to receive dues/*begasak* periodically as agricultural water management costs.

Begasak is the remaining funds obtained from the sale of crops during the harvest season, deducting operational costs, for example, to buy fertilizer and so on. *Begasak* is divided equally, according to the contribution of each farmer group and individual. It is also for the sake of farmer groups and village communities who periodically and sustainably need to coordinate with the village government and HIPPA to provide information and input on problems in the management, utilization, and maintenance of agricultural water governance that arise, including problems in the distribution of agricultural water.

Evaluation

After completing the socialization activities, the evaluation stage is then carried out. Finally, the team discussed with relevant parties to see the advantages and disadvantages of the results of the service and accommodate ideas and suggestions for implementing the next service. The last stage is evaluation by providing a call center so that if there are problems with the implementation of the Perdes, the people of Yosowilangon Lor village can directly contact the service team to find a solution. Documentation of the joint photo at the end of the dedication stage can be seen in Figure 3.

Figure 3. Photo Gathering with Yosowilangun Lor Village Society's

In terms of the process, evaluation is carried out by the team related to the stages of service, whether it is following the previously set activity plan. In this process, the service team also asked for input from the village government and participants regarding the service activities that had been carried out. From the results of the input and discussion, several findings were obtained in accordance with the theory and results of the service and previous research that have been published, including: (1) Social development by Suwari Akhmaddian in Banjaran District, Majalengka Regency (Akhmaddhian, 2020). Suwari found that Village Regulations Quality, related to the knowledge and skills of the village apparatus in making regulations are very necessary so that in making a regulation it is always beneficial for the village community. (2) Social development by Heri Kurniawansyah et, al in Batu Dulang Village, SUmbawa Regency (Kurniawansyah et al., 2021). Heri and friends found that Village Regulation could improve skill and welfare of village societies. (3) Social development by Diana Mahmuda and Wawan Budi Darmawan in Cileles Village, Sumedang Regency (Mahmuda et al., 2022). Diana and Budi found that political will from the village government will lead village regulations best to implemented. (4) Research by Johannis E. Kaawoan (Kaawoan, 2020) found that to produce a Village Regulation, it is necessary to carry out a village deliberation process, the problem is that deliberation at the village level is often a mere formality, decisions have been taken unilaterally by the village government. The process of making village regulations is not participatory as is the principle of village community development, so that the results of these regulations do not run well or do not receive full support from the community.

So based on the theory and findings from previous service and research, it is very possible to measure the success of the service that has been carried out by the service team in the village of Yosowilangun Lor, namely the Perdes for water governance will be successfully implemented if the Perdes maker has competence in making Perdes, there is political will in implementing it and supported by its implementation by all elements of the village community. If this is fulfilled, then a Perdes can have an extraordinary impact on the village and the welfare of its people.

CONCLUSION

This community service activity received a good response from the participants. Those who were present in the socialization of strengthening the institutional management of village agricultural water felt that they had benefited and appreciated the material provided by the service team. In addition, in the future, it is necessary to strengthen the awareness and compliance of village communities with Village Regulation Number 7 of 2021 concerning Sustainable Water Governance so that when awareness of the importance of sustainable water governance for agricultural land and compliance with Village Regulation Number 7 of 2021 concerning Sustainable Water Governance is formed, the purpose of establishing Village Regulation Number 7 of 2021 concerning Sustainable Water Governance can be achieved.

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Research assistance and publication of class action research results for junior high school teachers

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ABSTRACT

Teacher competence in carrying out Classroom Action Research (CAR) and presenting CAR results in the form of scientific work is a demand as well as a need in improving the quality of learning and teacher professionalism. The Chairperson of the MGMP IPA Malang city said that teachers' abilities and skills in conducting research still needed to be improved, especially for CAR research. The purpose of community service activities is to assist, direct, and collaborate with teachers in classroom action research activities and publish the results. The activities were carried out from June to December 2022. The mentoring activities were carried out in 3 Junior High Schools in Malang represented by one science teacher. Assistance is carried out online and offline. Assistance methods by means of lectures, brainstorming, discussions. The results of the mentoring activities resulted in 3 proposals and a CAR final report with different topics and CAR articles. Teachers have shown an increase in the ability to compile, apply and report CAR and scientific publications in the form of articles after the pre and post tests were carried out.

Kata kunci

Artikel penelitian
Guru sains
Pendampingan penelitian
Penelitian Tindakan Kelas (PTK)
Publikasi ilmiah

Pendampingan penelitian dan publikasi hasil penelitian tindakan kelas bagi guru SMP. Kompetensi guru dalam melaksanakan Penelitian Tindakan Kelas (PTK) dan menyajikan hasil PTK dalam bentuk karya ilmiah merupakan tuntutan sekaligus kebutuhan dalam peningkatan kualitas pembelajaran dan profesionalisme guru. Ketua MGMP IPA kota Malang menyampaikan bahwa kemampuan dan keterampilan guru dalam melakukan penelitian masih perlu ditingkatkan terutama untuk penelitian PTK. Tujuan kegiatan pengabdian kepada masyarakat adalah membantu, mengarahkan, dan berkolaborasi dengan guru dalam kegiatan penelitian tindakan kelas dan mempublikasikan hasilnya. Kegiatan dilaksanakan pada bulan Juni hingga Desember 2022. Kegiatan pendampingan dilakukan di 3 SMP di Malang yang diwakili oleh satu orang guru IPA. Pendampingan dilakukan secara online dan offline. Metode pendampingan dengan cara ceramah, brainstorming, diskusi. Hasil kegiatan pendampingan menghasilkan 3 proposal dan laporan akhir PTK dengan topik dan artikel PTK yang berbeda. Guru telah menunjukkan peningkatan kemampuan menyusun, menerapkan dan melaporkan PTK dan publikasi ilmiah berupa artikel setelah dilakukan pre dan post test.

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INTRODUCTION

Education is one of the main components in development and improving the quality of human resources. Education is the foundation on which quality growth is built. Quality education is a compilation of the 17 Sustainable Development Goals (Rulandari, 2021). One of the objectives of the Sustainable Development Goal (SDGs) program is included in

Indonesia as an effort to improve quality in the education sector (Safitri, Yunianti, & Rostika, 2022). According to Valiandes & Neophytou (2018) that one of the determinants of the success of the quality of education in schools is the professionalism of a teacher. Research result Teemant, Wink, & Tyra (2011) teacher professional development can improve teaching quality and student achievement.

Professional teachers are teachers who besides being able to teach well also have the ability to solve learning problems of students in class The teacher is one of the dominant elements of the educational process, so that the quality of education is largely determined by the quality of educators in carrying out their roles and duties (Putri & Imaniyati, 2017). Teachers are required not only to master the material but also to lead to skills in using active learning strategies. Educators are highly demanded to have social competence, pedagogic competence, personal competence and professional competence (Humaida, Aula Sa'adah, Huriyah, & Hasanatun Nida, 2020).

The teacher has a fairly large role in the action in the classroom, is it interesting and effective or not a learning process, the teacher is not only required to be able to liven up the classroom atmosphere but also be able to make learning a process in improving the personality of students (Fitria, Kristiawan, & Rahmat, 2022). Improving the quality of learning that is most appropriate is an improvement made in a real context by the perpetrators themselves in their daily practice, namely by the teacher. This effort can be done through systematic and documented activities on an ongoing basis, namely through action research (Wardani, Karsiwan, Purwasih, Lisdiana, & Hammer, 2019). In line with this Haryati et al. (2022) said that action research is research that is directly related to the main tasks and functions that have a direct impact on improving the quality of learning

Teacher competence in carrying out Classroom Action Research (CAR) is a demand as well as a need in improving the quality of learning and professionalism (Kaleka, Doa, Ilyas, Astro, & Ika, 2022). The ability to prepare CAR is one of the skills that must be possessed by professional teachers because this ability is needed by teachers to improve the quality of learning (Handoyo, 2020). CAR is one of the studies that raises actual problems that are carried out by teachers as an effort to improve and enhance learning practices in the classroom. CAR really supports programs to improve the quality of learning in schools, to improve the quality of education (Pambudi, 2018).

Through CAR teachers can innovate based on problems that arise in learning (Azizah, 2021). According to Afandi (2014) that teachers can develop innovations in learning such as using methods, media strategies to improve teacher professional competence. In line with this Fitria et al. (2022) said that before carrying out CAR the teacher needs to do an analysis of class conditions, to find out the problems in the class in order to get solutions that are appropriate to these problems. Teachers are expected to be able to obtain valuable findings that can be used to improve the quality of learning in class and help students achieve optimal learning outcomes, so that it can lead to quality improvement (Karinov, 2022).

Apart from academic research activities, the development of teacher professionalism is closely related to the activities of writing research results and publishing research results. Through this activity, teachers can obtain credit points that can be used to arrange promotions or for certification matters (Mawardi, Kristin, Anugraheni, & Rahayu, 2019; Pambudi, 2018). Teacher scientific publications can be published in the form of research reports (Rusdarti, Slamet, & Prajanti, 2019). Publication of research results is oriented towards developing teacher professionalism because published works are those that lead to the profession and improve the learning process (Haerazi, Irawan, Rahman, Jupri, & Warta, 2020; Lestari, Faozanudin, & Puspita, 2018). This is in line with Mawardi et al. (2019) that one of the efforts to develop teacher professionalism in a sustainable profession is publication activities. Apart from being a requirement for career development, writing is also a means for self-development of a teacher. Publication of research results is written based on experience and in accordance with the main tasks and functions of the teacher and can be published in the form of a scientific research report (Marwa & Dinata, 2020). Writing scientific papers to publishing results is a very important activity for a professional teacher (Yulhendri et al., 2018).

The results of field observations carried out by the community service team in December 2021 show that not a few Junior High School teachers in Malang City consciously find it difficult to solve classical problems in the form of CAR and publish research results. Teachers have limited time in carrying out CAR in class to limited time in preparing proposals to reports on CAR results. Teachers in the field feel that proposals, reports and CAR articles have a quite confusing format. Teachers are also not familiar with the instruments for collecting CAR data. Research result Setiawan et al. (2017) shows that the teacher's obstacle in implementing CAR lies in the teacher's lack of experience in writing CAR reports and the results of CAR reports. Limited knowledge or understanding of teachers regarding CAR is related to practical activities in the field (Fitria et al., 2022)

An activity is needed that is able to assist and accommodate teachers which includes facilities for finding CAR problems, writing proposals, implementing CAR, writing CAR reports, to writing CAR results articles (Burhanuddin et al., 2021). Through activities like this, teachers can feel the immediate benefits of being guided from drafting proposals to reporting classroom action research (Mahayanti & Utami, 2017). In general, teacher empowerment related to CAR is carried out when teachers receive special training. The form of mentoring collaboration is proposed as an effort of full and consistent involvement between the two parties (Zulfiani et al., 2016). Research result Kaleka, Nasar, Daud, Ika, & Harso (2020) CAR mentoring and training activities for teachers have had quite a positive impact. Implementation of education and training programs, as an effort to support the SDGs program (Amalia & Wilis, 2021).

The orientation of the mentoring program in this research is assisting teachers to prepare CAR proposals, implementing CAR proposals, processing CAR results in the form of reports to publication of results. In addition to mentoring, the mentoring program is also provided with comprehensive material for teachers regarding CAR and CAR publications. This aims to equip and review the theory and practice of CAR implementation up to the preparation of CAR results. Assistance activities are carried out online and offline. The methods used in mentoring are lectures and discussions. Offline activities are carried out with visits to partner schools, joint discussions in online grubs to private discussions about the obstacles experienced by teachers in implementation. Service lecturers fully accompany and provide direction in every step of implementing CAR as well as motivating teachers to carry out CAR and produce scientific work. Service teachers and lecturers have the opportunity to discuss, reflect, and determine the steps for future activities.

Research activities and publication of research results is one of the developments in teacher professionalism. This relates to the teacher solving problems in class with appropriate solutions. It is important for teachers to carry out CAR and make scientific CAR reports. The fact is that teachers experience difficulties in carrying out CAR and writing CAR results due to limited knowledge about the steps for implementing CAR. A CAR mentoring activity is needed that fits the needs of teachers, actively involves teachers in planning, reporting the results of CAR implementation to publication of CAR results. Based on the description given, the purpose of this service activity is to assist, direct, and collaborate with teachers in classroom action research activities and publish research results.

METHOD

The approach method that will be used in solving problems with partners or schools is training and assistance in the preparation of CAR proposals, CAR research and publication of CAR articles and dissemination of best practices with school principals and teachers. Activity assistance starts from planning to the end of the activity allocated within one year. Partners for mentoring activities are schools that are part of the MGMP IPA SMP Malang City group. Assistance was carried out in 3 schools namely Junior High School 2 Muhammadiyah , Bani Hasyim Islamic Junior High School, and Sabilillah Islamic Junior High School in Malang City. These three schools are Islamic-based private schools. The teachers participating in the mentoring are science teachers who are actively teaching in the 2021/2022 Odd Semester and carrying out learning completely offline. The teacher teaches in class VII, VIII or IX. In addition, teachers who participate are teachers who have the desire and are willing to do CAR and are willing to write their research which is prepared to be submitted in a journal. The determination of one school and one teacher is for the effectiveness and efficiency of achieving the goal of mentoring, namely the realization of writing articles on CAR results so that it is expected that teachers can do CAR well. In addition, even though it is hoped that one teacher from one teacher can have a minimal positive impact on the school where the teacher teaches, because there are 3 teachers and 3 schools it will have a minimal impact on the teachers in the three schools. The activities of this problem solving approach and partner participation in program implementation are described as follows (Table 1).

1. Socialization of the Nature of CAR and Scientific Work
   Activity 1 conveys the activities of the future activities regarding the implementation of the service some time in the future. Servants and teachers also conduct outreach about CAR and scientific work. Activities are carried out online using the lecture method, question and answer, brainstorming about CAR and scientific writing. Teachers can make direct observations in each school to find out the problems faced by students in learning and continue to formulate solutions to these problems. In this activity the accompanying lecturer assists the teacher in determining solutions to problems faced by students online and offline.
2. Assistance in the preparation of CAR proposals
   Activity 2 continued with mentoring activities for teachers in preparing proposals and implementing CAR. The servant provides a simple template for preparing CAR proposals, followed by the teacher by compiling CAR proposals. Mentoring activities are carried out online and offline to assist teachers in preparing CAR proposals.
3. Implementation of CAR in each partner school
   Activity 3 teachers carry out CAR activities in each school in accordance with the proposals that have been prepared by the teacher. In this activity the servant also monitors the implementation of CAR by monitoring teachers carried out both online and offline.
4. Assistance in preparing reports and articles on CAR results
   Activity 4 after the CAR implementation activities are finished the teacher prepares a report on the results of the CAR accompanied by a servant. Activities are carried out both online and offline. The teacher prepares a report based on the template provided by the servant and then continues with discussion activities both online and offline. In addition to CAR reports, teachers also compile CAR reports into scientific articles. The servant provides article templates according to the intended OJS.
5. Publication of scientific papers resulting from CAR research
   Activity 5 after completing the preparation of CAR reports and articles, teachers and volunteers submit articles to OJS aimed at activity 4.

Table 1. Service and Assistance Schedule

No	Date	Schedule
1	27 August- 1 September 2022	Dissemination of the nature of CAR and scientific work
2	10 September – 10 October 2022	Assistance in the preparation of CAR proposals
3	15 October- 10 November 2022	Implementation of CAR in each school
4	20 November- 20 December 2022	Assistance in the preparation of CAR reports and scientific articles
5	21-31 December 2022	Publication process

RESULTS AND DISCUSSION

Classroom action research assistance and publication activities are carried out in several stages. The first stage was the socialization of the nature of CAR and scientific work, the second was assisting in the preparation of CAR proposals, the third was the implementation of CAR in each school, the fourth was assisting in the preparation of CAR reports and articles, the fifth was assisting in the publication process. At every stage the lecturer fully accompanies teachers from partner schools, mentoring is carried out offline and online. Prior to the training and mentoring activities, the lecturer gave a questionnaire to find out how far the teacher's knowledge was about CAR and the publication of CAR results. After the implementation of the training and mentoring the lecturer gives a questionnaire to monitor teacher progress regarding CAR and the publication of CAR results.

Implementation of Training and Publication of Classroom Action Research

Results Socialization of the Nature of CAR and Scientific Work

Coordination and outreach activities were carried out on Saturday, 27 August 2022 at 13.00-18.00 online via the Google Meet platform. The activity involved science teachers from three different schools as partners and mentoring subjects and a team of lecturers from Biology Education, FKIP, University of Muhammadiyah Malang. In its implementation, the moderator was Endrik Nurrohman, S.Pd., M.Pd. The speaker is Dr. Yuni Pantiwati, MM, M.Pd and Samsun Hadi, MS. The theme and goal is socialization and the nature of CAR and scientific work to partner teachers. The participants involved were Andri Rudiyanto, S.Pd as a science teacher from Bani Hasyim Islamic Junior High School, Singosari sub-district, Malang city, Sari Wijayanti, S.Pd as a science teacher from Sabilillah Islamic Junior High School in Malang, Saiful Rachman, S.Pd as a teacher from Junior High School 2 Muhammadiyah Malang. In this activity, brainstorming was also carried out about the nature of research, especially CAR with lecture methods, questions and answers, brainstorming about CAR (Figure 1.).

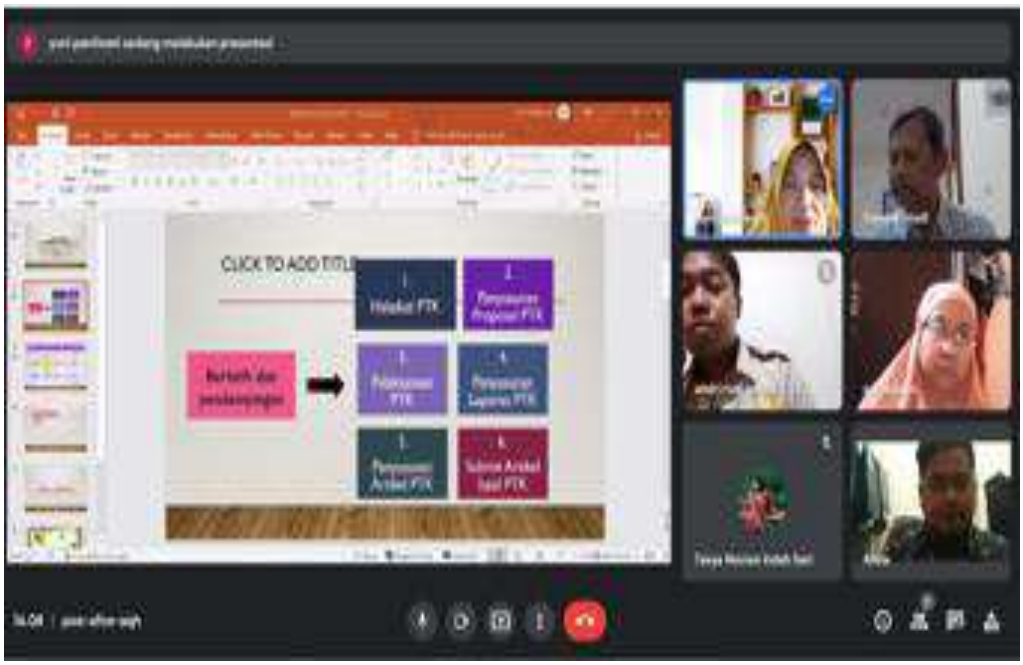

Figure 1. CAR socialization, coordination and brainstorming with teachers

The activity was continued with a survey to identify the prior knowledge and experience of teachers regarding classroom action research and scientific publications of partner teachers, the activities were carried out asynchronously using the Google form with the survey results showing that 70% of science teachers in Malang City at 3 schools indicated

that the teacher had not have conducted CAR research and teachers have never published CAR research results. These results are in line with research Nasirun, Indrawati, & Suprapti (2021) that some teachers still experience problems in implementing CAR. In addition, the lack of insight, technical ability to submit, and teacher motivation in producing publications of scientific research results is an obstacle for teachers in publishing activities (Ghozi et al., 2021).

The survey results show that there are several teacher obstacles in carrying out CAR research. Most of the teachers said that the main obstacles to carrying out CAR were limited time, school infrastructure to support research and discussion partners to carry out research. Apart from the limitations in carrying out CAR research, the science teacher also said that there were difficulties in writing research results in the form of papers or articles. The teacher said that the difficulty in writing research articles lies in research results, time to write articles is limited by the teaching load at school, research instruments, research results are not appropriate and lack of practice in writing research articles. This is in line with research Ginting et al. (2019) that one of the causes of teachers' difficulties in carrying out CAR research is the low understanding of teachers in preparing CAR and teachers think that writing CAR is very difficult and takes a long time. Teachers have difficulty finding writing topics, writing and rules according to scientific journal formats, submission systems or publications in the open journal system (Wiryotinoyo, 2021).

Even though teachers experience difficulties in carrying out CAR, in fact most of the 70% Science Teachers are able to distinguish CAR research from Non-CAR research. The survey results showed that 70% of science teachers in 3 schools were able to describe the characteristics of CAR research and know the general components of scientific article writing. This includes the title, abstract, keywords, introduction, method, results and discussion to conclusion. These results are in line with research that theoretically teachers have knowledge of CAR, but are not yet familiar with the application of learning (Darsono et al., 2021).

The mentoring activity was continued with discussions with teachers as well as recording the results of direct observations at schools which were carried out on September 7, 2022. This activity was aimed at further coordination and observations made by teachers in schools and their respective classes. The results of the discussion each teacher conveyed were different, including (a) Saiful Rachman, S.Pd as a teacher from Junior High School Muhammdiyah 2 Malang City, the findings from observations in class were that the students' ability to analyze was lacking. (b) Sari Wijayanti, S.Pd as a science teacher from the Sabilillah Islamic Junior High School in Malang, classically the results of observations in class were the students' low literacy and 4C abilities. (c) Andri Rudiyanto, S.Pd as a science teacher from Bani Hasyim Islamic Junior High School, the findings during class observations were students' interest in reading and literacy. The class to be used is grade 9 students (Figure 2).

Figure 2. Observation activity to one school

Based on the results of discussions and observations with the three teachers, it shows that teachers need assistance in focusing on issues that will be raised as CAR topics. The problem to be studied is still general so it still needs to be reviewed both the source of the problem and how to solve the problem. According to Spradley in Tegor et al (2020) there are four alternatives for setting the focus in the form of research focus problem formulation, namely setting focus on problems suggested by informants, setting focus based on certain domains, setting focus that has finding value for science and technology development, setting focus based on problems related to existing theories and determine the focus based on problems related to existing theories.

Practicing and Assisting in Preparing CAR Proposals

Assistance activities for teachers after each teacher finds problems from the results of observations in class are continued with the preparation of proposals. Some of the topics discussed related to the content of CAR proposals include identifying problems, formulating problems, writing objectives, writing benefits, writing systematic literature reviews, making research conceptual frameworks, determining research types, making research designs, analyzing research data, discussing findings. -findings.

The result of the assistance is the realization of proposals prepared by each teacher; each teacher has a research topic with different goals. Two of them, namely the teacher at the Bani Hasyim Islamic Junior High School made a CAR proposal with the title "implementation of meaningful learning (NGL and games) to increase conceptual understanding and scientific literacy skills on reproductive system material for class 9 Bani Hasyim Islamic Middle School", and a teacher from the Bani Hasyim Islamic Junior High School. Junior High School Muhammadiyah 2 Malang City made a CAR proposal with the title of implementing scafolding in Project Based Learning (PBL) to improve analytical skills and Pancasila Student Profiles, while at Sabilillah Islamic Junior High School with the title Implementation of Learning Achievement-Based Assessment Strategies in Cooperative Learning to Improve Thinking Ability. The results of the teacher's proposal are presented in Figure 3.

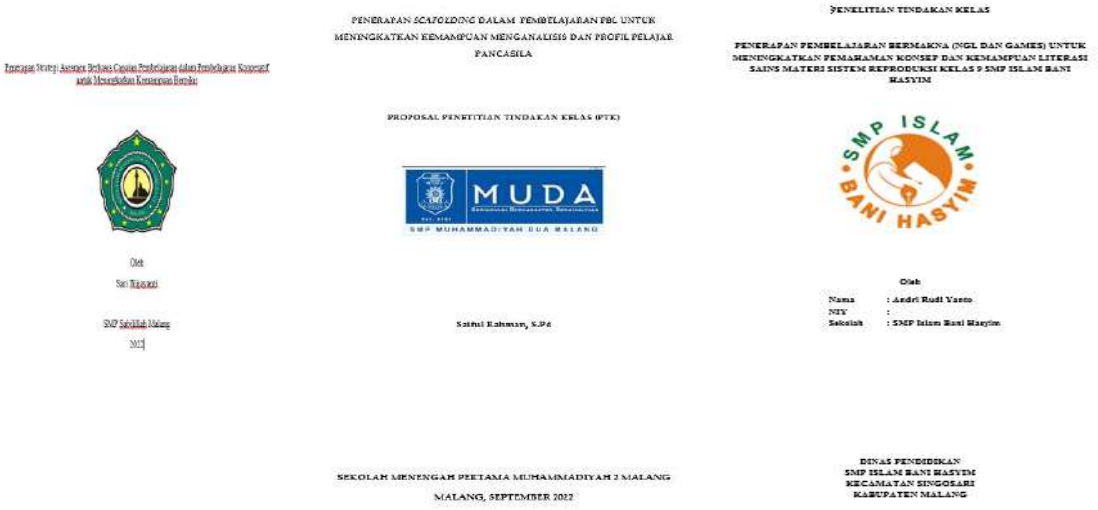

Figure 3. Sample CAR proposal made by teacher

Assistance in writing CAR proposals is also important because this can make teachers know where the weaknesses of their proposals lie. Through mentoring activities, it will provide opportunities for teachers to submit CAR research plans and the service team can provide input for improvement (Burhanuddin et al., 2021; Chandra et al., 2022). This is in line with the opinion that the strategic role of mentoring activities can explore more about teachers' difficulties in preparing CAR proposals or scientific research papers (Widana et al., 2019).

In writing proposals, teachers still have difficulty, especially making research backgrounds. Teachers need to be accompanied by how to describe what is the background for conducting research according to the topic of the problems found in each class at the respective teacher's school. The background of the problem is an explanation of why the problem is important to study, so that the background of the problem explains in full the research topic, research problem, and why the research was carried out (Zaluchu, 2020). After being given direction and assistance, the teacher can write down the background of the problem properly.

Implementation of CAR in Each Partner School

After the mentoring activities for the preparation of CAR proposals, the teacher carried out research according to the CAR proposal in each teacher's school. The results of the assistance to Teacher 1 were that the teacher had compiled and implemented CAR with meaningful learning topics to increase conceptual understanding and scientific literacy skills in reproductive system materials, with the research subjects being 38 students in class 9 Bani Hasyim Islamic Middle School in the 2022/2023 Academic Year (Figure 4). Data collection methods: observation, interviews, questionnaires (student responses). The research instrument was a test for understanding concepts and a test for scientific literacy skills. The research data were analyzed descriptively.

The results of the assistance to Teacher 2 were that the teacher had carried out CAR activities with the topic "Implementation of Scaffolding in PBL Learning to improve analytical skills and Pancasila Student Profiles". CAR is carried out collaboratively between the researcher as the executor of the action and two observers as observers and

documentation. The first observer was a class VII science teacher and the second observer was a research colleague. Data collection methods: observation, interviews, questionnaires (student responses). The research instrument was a concept understanding test and a scientific literacy ability test. The data were analyzed descriptively.

Finally, the results of mentoring for teacher 3 entitled Application of Learning Outcomes-Based Assessment Strategies in Cooperative Learning to Improve Thinking Ability on Light and Optics material in class IX C. CAR was carried out until cycle 1 but the results were not optimal. Obstacles in the field outside of teacher teaching hours and related to institutional activities make CAR not run well.

Figure 4. Implementation of CAR by the teacher

Preparation of CAR Results Reports and Articles

The assistance was continued with the activity of making a CAR research report for each teacher, so that the CAR research results and research articles were realized (Figures 5 and Figure 6). According to Siswoyo and Hotimah (2021) training and mentoring activities can improve literacy culture and skills in writing a scientific paper for teachers. Writing skills can be developed by practicing analysis and synthesis of phenomena that occur in their field (Gunawan et al., 2018).

Figure 5. Teachers activity Compile CAR final teport

This assistance aims to help direct teachers in compiling a CAR report which can then be used as a research article. Especially in the initial mentoring survey, most of the teachers said that one of the obstacles in writing research reports and articles apart from materials for writing teachers also experienced difficulties in compiling report contents which seemed difficult for teachers. The research article is an article that is produced from a research report in a short form, but describes the entire report. In general, articles in research journals consist of titles, author names, abstracts,

keywords, introduction, methods, research results, discussion, discussion, conclusions, suggestions and lists of references. Research reports need to be rearranged so that the style of the journal article is appropriate (Widana et al., 2019).

Figure 6. Assistance in writing scientific articles CAR results

In making reports on the results of CAR, the two teachers still need assistance, especially in how to organize data, considering that the data obtained is quite a lot, so it is necessary to direct the data needed in reporting CAR results. Teachers also still need to be reminded and directed regarding the ethics of writing scientific papers/reports. In writing scientific work or research there are several components that need to be considered, all of which relate to rights, obligations and responsibilities, and are rules that must be followed by writers. The number of these components may vary according to developments in the world of writing and copyright protection. Among the ethical components of writing scientific papers, there are three components that writers of scientific papers and research reports really need to know, namely honesty, objectivity, and citation (Elvandia, 2017).

Publication of Scientific Papers of CAR Research Results

Training and mentoring teachers in writing research articles according to the topic of proposals for each group of trainees, the output is that scientific articles produced by research for each group are ready to be submitted for National Seminar activities or submitted to OJS accredited journals. In this activity, mentoring activities were also carried out on how to submit articles to the Sinta 4 journal. Outwardly, the participant's skills in submitting research results in the form of articles to OJS, starting from registration to the stages of articles being accepted and obtaining an LoA and publication. Each teacher chooses a different OJS, namely the Lombok Jurnal of Science (LJS) and Jurnal Sains Riset (JSR).

The results of management and identification in the form of CAR data are very important to be communicated and shared with fellow teachers or colleagues with the aim of being able to add insight and experience to each other in the context of managing and solving problems in the classroom. Identification results can be shared through publication in scientific forums in the form of writing or scientific articles. The importance of scientific publications for middle-level teachers aside from for the interests and administrative needs of work as educators, can also be used as a means of sharing in an effort to increase professionalism as educators, improve pedagogical skills, and other things related to teachers are also very closely related to students and colleagues. fellow teachers. In line with this deliver Emaliana (2020) that conceptually, scientific articles are an essential part of the development of the teaching profession.

Teacher Responses to Training and Publication of Classroom Action Research Results

Teacher Responses about the Experience of Carrying Out Classroom Action Research

The survey results regarding teacher responses to experience in carrying out CAR showed that the majority of science teachers in junior high schools in Malang City had never conducted CAR research, namely 70% and 30% of teachers had carried out CAR research (Figure 7). CAR assistance with teachers begins with re-submitting material about CAR. Next, the teacher identifies problems in each class and continues the stage of solving these problems with CAR research. This is in line with opinion Dewi et al. (2019) that CAR is research that teachers can do in order to improve the learning process to achieve certain goals. A professional teacher is a teacher who besides being able to teach well also has the ability to solve problems or learning difficulties of students in class. Problem solving or student difficulties are carried out by carrying out CAR (Wiradimadja, Kurniawan, & Sukamto, 2019).

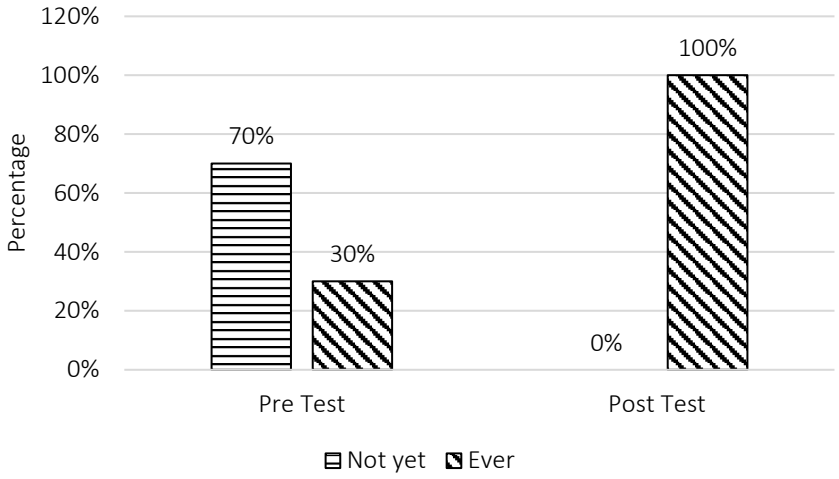

Figure 7. Teacher Pre-Test and Post-Test Results in Implementing CAR

Teacher's Response About Publication of CAR Results

In addition to carrying out CAR research, teachers also have professional expertise in writing a scientific work, one of which is scientific work resulting from CAR research (Wiradimadja et al., 2019). The results showed that science teachers in 3 schools in Malang had never published research results prior to the research activity (Figure 8). One of the objectives of this assistance is that apart from carrying out CAR, teachers will be assisted to publish CAR. So that the results of the study show that after the training all teachers can carry out the publication of the results of their CAR research. Research result Handayani & Dewi (2019) shows that the publication of scientific papers by teachers is a continuous professional development activity. In addition, the publication of scientific work by teachers can be used to be able to rise to the next level.

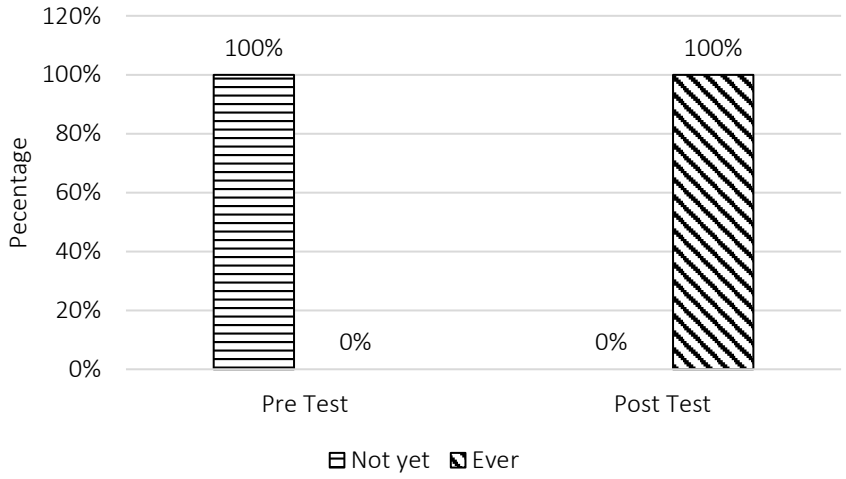

Figure 8. Teacher pre-test and post-test results in implementing CAR publications

Teacher's Response About the Difficulty of Researching CAR

The results showed that science teachers in 3 schools in Malang City considered CAR research difficult. These difficulties include limited time, limitations in writing research results in the form of papers or articles to the preparation of CAR proposals. Research thing Setiawan et al. (2017) shows that the teacher's obstacle in implementing CAR lies in the lack of experience of teachers in writing CAR reports and the results of CAR reports. The output of this mentoring activity is the hope that teachers will no longer think that CAR is difficult, including preparing CAR reports and proposals. Proposals and results of CAR reports can be started from a simple form in mentoring, so that it doesn't become as difficult as stated at the beginning. The results of the research in Figure 9 after mentoring show that science teachers in 3 schools in Malang City do not think that CAR is difficult, after carrying out mentoring activities and getting involved in carrying out research including proposal preparation activities, research to CAR reports. Training activities can improve literacy culture and skills in writing a scientific paper for teachers (Siswoyo & Hotimah, 2021).

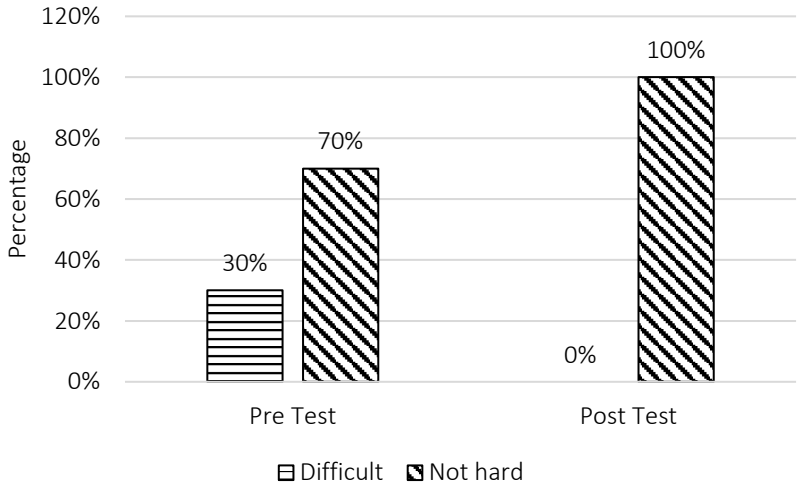

Figure 9. Results of Teacher's Pre-Test and Post-Test on Difficulties in Implementing CAR

CAR Research Understanding Teachers' Responses with Non-CAR

The results showed that 30% of science teachers in 3 Malang city schools were able to differentiate CAR research and 70% of non-CAR research (Figure 10). An understanding of CAR research is one of the assets in carrying out CAR. This mentoring activity not only accompanies teachers in carrying out CAR activities but also provides delivery of basic concept material regarding CAR research before carrying out CAR. The results after mentoring showed that 100% of science teachers in 3 Malang City schools could differentiate CAR research from non-CAR research, as well as things that had to be prepared regarding CAR. This is in line with research Kaleka et al. (2020) that the implementation of CAR assistance is able to assist teachers in carrying out CAR including CAR implementation techniques, research proposals and presenting research results in the form of reports.

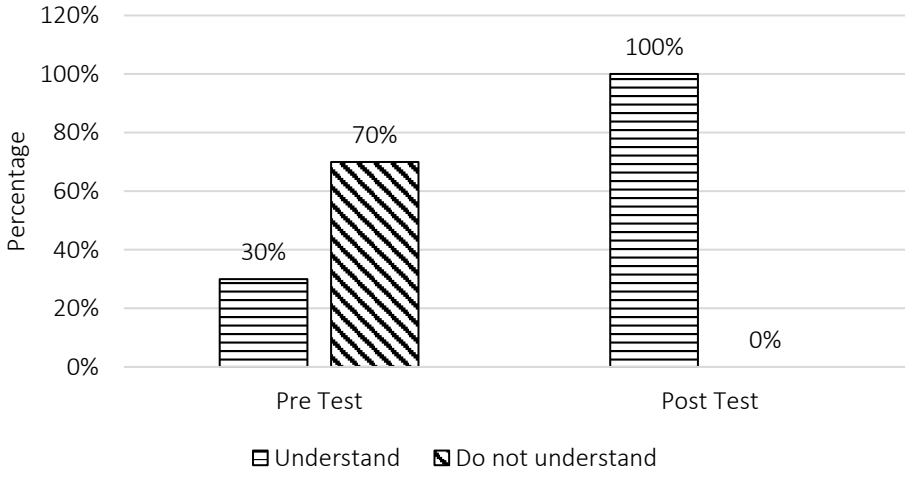

Figure 10. Pre-test and post-test results of teachers understanding of CAR

The results of the research which describe that CAR facilitation activities and publication of CAR results show positive results. Through mentoring activities teachers can prepare CAR proposals, implement proposals, compile CAR reports and publish CAR results in the form of scientific articles. This is in line with research Zainuddin et al. (2019) that mentoring activities have a positive influence on teachers in partner schools in the framework of CAR training. CAR training is important and necessary to train teachers in conducting research as one of the solutions to overcoming problems that exist in classrooms where they teach (Fitria et al., 2022). According to Afandi (2014) with CAR strongly supports programs to improve the quality of learning in schools, which leads to improving the quality of education. Efforts to improve the quality of education are one of the objectives of the SDGs program in Indonesia (Safitri et al., 2022).

CONCLUSION

The implementation of community service activities in the context of training and mentoring research and publication of CAR was carried out for science teachers in 3 schools in Malang City with 5 stages, namely socialization of the nature

of CAR and scientific work, assistance in preparing CAR proposals, implementation of each school's CAR, assistance in preparing CAR reports and articles and assistance in the publication process. The output of this mentoring activity was that teachers at 3 schools produced CAR research proposals to implement CAR in each school. The results of the CAR research for each teacher in mentoring produced outputs in the form of CAR reports and publication of research results in Sinta 4 nationally accredited journals. The research results show that CAR mentoring and training along with publications provide quite satisfactory results with the preparation of CAR proposals to the final report. In the future, mentoring and training activities can be carried out for teachers in other schools who are still unfamiliar with CAR research until publication. Moreover, this is one of the demands of a teacher.

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The implementation of projects for strengthening the profile of Pancasila students in the implementation of the independent learning curriculum

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trengthening project

ABSTRACT

The independent curriculum begins to take effect in the 2022/2023 school year which requires a project to strengthen the profile of Pancasila students which is allocated around 25% of the total lesson hours per year. The partners for this community service activity are SMP Muhammadiyah 2 Batu City teachers, where they do not yet understand, design, document, report, and evaluate and follow up on projects. This service activity aims to assist the implementation of a project to strengthen the profile of Pancasila students in implementing the independent learning curriculum at SMP Muhammadiyah 2 Batu City. The method of implementing this service consists of 2 major activities, namely training and mentoring. The activities carried out as a solution for partners are: (1) Understanding of projects to strengthen Pancasila student profiles, (2) Designing implementation of projects to strengthen Pancasila student profiles, both in content and in terms of implementation time, (3) Implementing projects to strengthen Pancasila student profiles, and (4) Evaluate and follow up the project. All stages were carried out well, so it can be concluded that this service activity was able to increase teacher competence in implementing projects to strengthen Pancasila student profiles, which consisted of understanding, designing, documenting, reporting, and evaluating and following up on projects.

Kata kunci

Kurikulum merdeka
Projek penguatan profil pelajar Pancasila
Sekolah Muhammadiyah

Pelaksanaan projek penguatan profil pelajar pancasila dalam implementasi kurikulum merdeka belajar. Kurikulum merdeka mulai berlaku pada tahun ajaran 2022/2023 yang menuntut adanya projek penguatan profil pelajar Pancasila yang dialokasikan sekitar 25% dari total jam pelajaran per tahun. Mitra kegiatan pengabdian masyarakat ini adalah para guru SMP Muhammadiyah 2 Kota Batu, dimana mereka belum memahami, merancang, mendokumentasikan, melaporkan, dan melakukan evaluasi dan tindak lanjut projek. Kegiatan pengabdian ini bertujuan untuk melakukan pendampingan pelaksanaan projek penguatan profil pelajar pancasila dalam implementasi kurikulum merdeka belajar di SMP Muhammadiyah 2 Kota Batu. Metode pelaksanaan pengabdian ini terdiri dari 2 kegiatan besar, yaitu pelatihan dan pendampingan. Kegiatan yang dilakukan sebgaia solusi bagi mitra adalah: (1) Pemahaman projek penguatan profil pelajar Pancasila, (2) Merancang Pelaksanaan projek penguatan profil pelajar Pancasila, baik secara muatan maupun secara waktu pelaksanaan, (3) Mengimplentasikan Pelaksanaan projek penguatan profil pelajar Pancasila, dan (4) Melakukan evaluasi dan tindak lanjut projek. Semua tahapan terlaksana dengan baik, sehingga dapat disimpulkan bahwa kegiatan pengabdian ini mampu meningkatkan kompetensi guru dalam pelaksanaan projek penguatan profil pelajar pancasila, yang terdiri atas adanya pemahaman, merancang, mendokumentasikan, melaporkan, dan melakukan evaluasi dan tindak lanjut projek.

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INTRODUCTION

The independent curriculum (Kurikulum Merdeka) will take effect in the 2022/2023 academic year (Mubarak, 2022). In the Decree of the Minister of Education, Culture, Research and Technology Number 56/2022 it is stated that the junior high school curriculum structure is divided into two, namely (1) intracurricular learning; and (b) the project to strengthen the Pancasila student profile is allocated around 25% of the total teaching hours per year (Kepmendikbudristek, 2022). Projects to strengthen the achievement of Pancasila student profiles are developed based on certain themes set by the government. The project is not directed to achieve certain learning achievement targets, so it is not tied to subject content (Satria et al., 2022).

Decree of the Minister of Education, Culture, Research and Technology Number 56/2022 explains that the project to strengthen the profile of Pancasila students is a project-based co-curricular activity designed to strengthen efforts to achieve competence and character in accordance with the profile of Pancasila students which is prepared based on Graduate Competency Standards. The implementation of the project to strengthen the Pancasila student profile is carried out flexibly, in terms of content, activities, and implementation time. The Pancasila student profile consists of six dimensions, namely (1) faith, piety to God Almighty, and noble character, (2) independence, (3) mutual cooperation, (4) global diversity, (5) critical reasoning, and (6) creative (Kepmendikbudristek, 2022).

This change in the structure of the curriculum tends to create panic among schools in general. The results of interviews with the Principal of SMP Muhammadiyah 2 Kota Batu show that the school really needs assistance in implementing the independent curriculum, because the school has registered as an independent curriculum implementer but has not yet been established. According to the Decree of the Minister of Education, Culture, Research and Technology Number 56/2022, schools implementing the independent curriculum are carried out with a procedure in which the school registers and declares the chosen options for implementing the Independent Curriculum. It was further explained that schools that decide to try implementing it, they will be asked to fill out an application form and a short survey. So, the process is registration and data collection, not selection. This procedure has been carried out by the school, but there has been no decision whether or not to become an independent curriculum implementer. This encourages schools to independently implement the independent curriculum with the assistance of the Community Service Team from the Universitas Muhammadiyah Malang. This does not violate government regulations, because government policies provide guidance that the willingness of school principals and teachers to understand and adapt the curriculum in their respective contexts is the key to success. Thus, the Merdeka Curriculum can be implemented in all schools, not limited to schools that have good facilities and in urban areas.

Teachers do not yet understand how to implement the project to strengthen the Pancasila profile, even though it is clearly regulated in the Decree of the Minister of Education, Culture, Research and Technology Number 56/2022. In its implementation, assistance is still needed, because there are certain policies in implementing this project and they are not exactly the same as the project-based learning model in general. Projects to strengthen Pancasila student profiles are learning activities that can take the form of studies, research, discussions, social services, physical and mental strengthening methods or project-based learning to internalize the character of Pancasila student profiles. Meanwhile, Project Based Learning (PjBL) is a learning activity in the form of making goods or services that are used as a vehicle for mastering competence.

SMP Muhammadiyah 2 Kota Batu is a school that has become a place of dedication in recent years. From some of this assistance, the school is actually ready for the implementation of the independent curriculum, especially for the implementation of the Pancasila student profile project. This is because in principle the Pancasila student profile project is an improvement in student character, which has six dimensions, namely: (1) faith, fear of God Almighty, and noble character, (2) independent, (3) mutual cooperation, (4) global dialogue, (5) critical reasoning, and (6) creative. The Pancasila student profile serves as the main reference that directs education policies, including references for educators in building the character and competence of students. Assistance that has been carried out related to Strengthening Character Education (Penguatan Pendidikan Karakter/PPK) (Chamisijatin, Permana, et al., 2022; Chamisijatin & Zaenab, 2022; Zaenab et al., 2020). PPK is an educational movement under the responsibility of the education unit to strengthen the character of students through the harmonization of exercise of the heart, exercise of taste, thought and exercise. The importance of character education is shown and strengthened in the profile of Pancasila students by making it a character direction to be aimed at in Indonesian education. This will support the Merdeka curriculum, namely the curriculum must be accompanied by a good assessment or assessment system as the National Assessment. The results of the assistance that can be used as provisions in the implementation of the independent curriculum, especially the Project to strengthen the Pancasila student profile are: (1) Application of several learning models in intra-curricular activities, (2) Preparation of Minimum Competency Assessment (Asesmen Kompetensi Minimum/AKM) instruments. Regarding AKM, assistance has also been carried out at SMP Muhammadiyah 2 Kota Batu (Chamisijatin, Pantiwati, et al., 2022).

SMP Muhammadiyah 2 Kota Batu has registered as an independent curriculum implementer but has not yet been established, so that the school will independently implement the independent curriculum. In this independent curriculum, schools do not understand the project to strengthen the Pancasila student profile. In detail, the partner's problems are: (1) Not understanding the project to strengthen the Pancasila student profile, (2) Not being able to design

the implementation of the project to strengthen the Pancasila student profile, both in content and in terms of implementation, (3) Not yet mastering the implementation of the project to strengthen the Pancasila student profile, (4) Have not been able to evaluate and follow up on the project. Therefore, the purpose of this community service is to assist in the implementation of a project to strengthen the profile of Pancasila students in implementing the independent learning curriculum at Muhammadiyah 2 Middle School, Batu City.

This service activity supports efforts to achieve the Sustainable Development Goals (SDGs). Of the 17 SDGs goals, one of them includes science education, namely the 13th goal of SDGs namely regarding the handling of climate change which is a great hope for recovering the world's climate from its bad effects, disobedience to environmental ethics and understanding of sustainability which has major influence on global climate problems. Learning that discusses SDGs requires education to develop communities with knowledge, abilities and skills (Mispi et al., 2022). The implementation of an independent learning curriculum can be an effort in realizing a fair and equitable education in the SDGs. Viewed from the aspect of the SDGs goals, through independent learning, the limitations of education in various regions and the standard education system can be penetrated. As the name implies, this curriculum creates freedom or independence for everyone involved in the education system, including parents, educators, and especially students (Andriani, 2022).

METHOD

Partners, location, and time

The partners for this community service activity are the teachers of SMP Muhammadiyah 2 Kota Batu, East Java. SMP Muhammadiyah 2 Kota Batu which is located at Jalan Bukit Berbunga No. 144 Sidomulyo, Batu District, Batu City. The distance between the location (SMP Muhammadiyah 2 Kota Batu) and the Universitas Muhammadiyah Malang Campus is 19.6 Km. The location map can be seen in Figure 1. This community service activity will be carried out in July-October 2022.

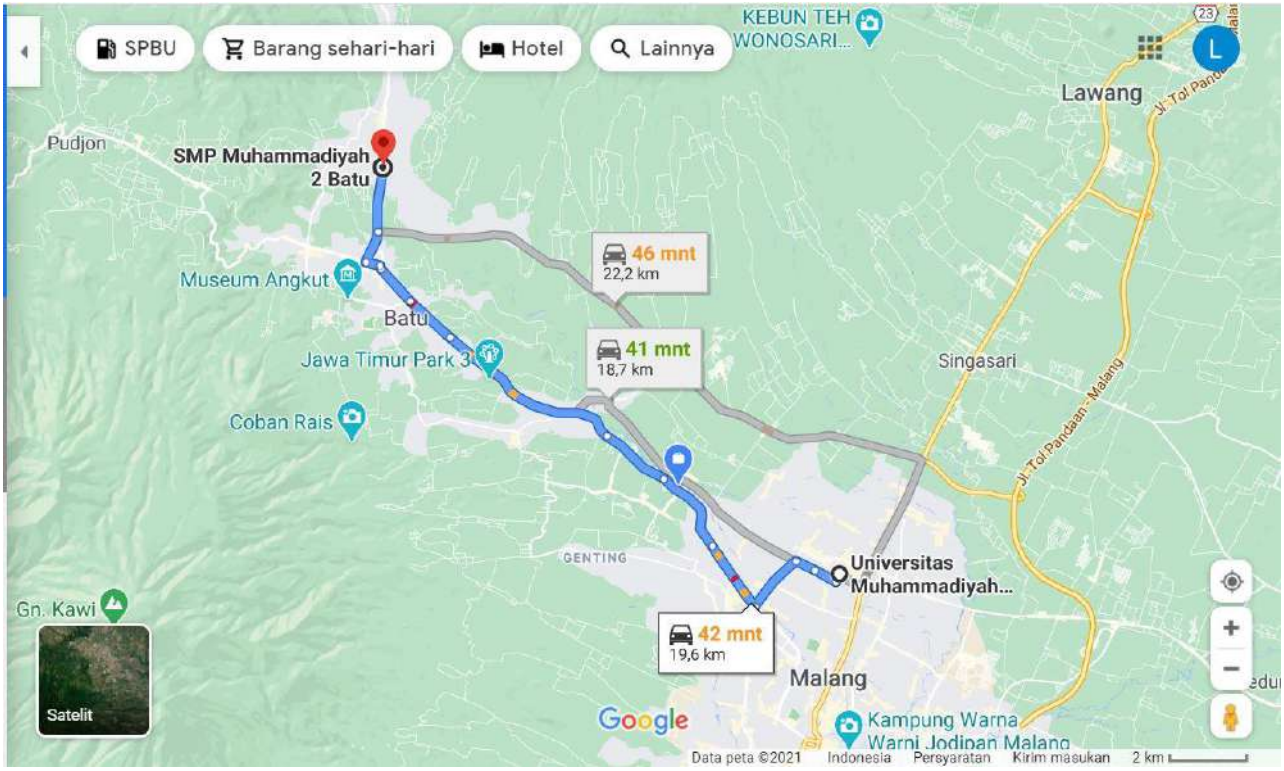

Figure 1. Location Map of SMP Muhammadiyah 02 Batu City

Techniques for implementing community service

The technique of implementing this service consists of 2 major activities, namely (1) Training and (2) Assistance, with details as in Table 1.

Table 1. Activity Plan and Participation of Partners in Assistance

No	Problems	Method	Indicators in activity	Participation of partners in activities
1.	Do not understand the project to strengthen the profile of Pancasila students	Training	All teachers understand the project to strengthen the Pancasila student profile	Teachers and principals
2.	Haven't been able to design the implementation of a project to strengthen the profile of Pancasila students, both in terms of content and in terms of implementation time.	Training	All teachers understand the implementation plan of the project to strengthen the Pancasila student profile	All teachers and principals
		Accompaniment	All teachers designed the implementation of a project to strengthen the Pancasila student profile	
3	Have not mastered the implementation of the project to strengthen the profile of Pancasila students.	Training	The teacher understands the implementation of the project to strengthen the Pancasila student profile	All teachers and principals
		Accompaniment	The teacher implements the implementation of the project to strengthen the Pancasila student profile.	
4	Not yet able to evaluate and follow up the project	Training	Teachers understand project evaluation and follow-up	All teachers and principals
		Accompaniment	The teacher evaluates and follows up on the project	

Program Success Indicators

The indicator of the success of this program is that all participants (teachers) master the concept or material being taught and are able to implement it in practice. This refers to various references to community service activities that have been carried out by various community service teams before (Husamah et al., 2022; Miharja et al., 2020; Permana & Fatmawati, 2020; Roziqin et al., 2020).

RESULTS AND DISCUSSION

The Community Service Activity regarding the Implementation of the Project to Strengthen Pancasila Student Profiles in the Implementation of the Independent Curriculum at SMP Muhammadiyah 2 Batu City, has been well implemented, which includes training and mentoring activities. The activities that have been carried out are as presented in Table 2.

Table 2. Service activities carried out and the results obtained

No.	Date	Activity	Results
1.	10 June 2022	Preliminary Analysis	Information was obtained that SMP Muhammadiyah 2 Batu City had registered as an independent curriculum implementer but had not yet been established. Teachers do not understand how to carry out the project to strengthen the profile of Pancasila students.
2.	13 July 2022	Training: Training on the Strengthening Pancasila Student Profile Project, attended by 12 teachers, principals, 2 students, took place at SMP Muhammadiyah 2 Batu City. Speakers: Prof. Dr. Rr Eko Susetyorini, M.Si (training	Starting with the pretest, the results of the pretest showed: 2 people really understood, 2 people understood enough, 2 people didn't understand and 6 people didn't know. After the training no post tests were held, but teachers were asked to directly develop lesson plans for the Pancasila Student Profile Strengthening Project. Generate a deal: 1. Implementing the Independent curriculum in grade 7 even though it has not been set by the government.

No.	Date	Activity	Results
		teacher), Dra. Lise Chamisijatin, M.Pd, Dr. Yuni Pantiwati, M.Pd., and Dra. Siti Zaenab, M.Kes.	2. Project Modules for Strengthening Pancasila Student Profiles, 1 module for odd semesters, and 2 modules for even semesters. 3. Modifying existing modules, adapted to school conditions.
3.	September 2022	Issuance of the Letter of Assignment for the Project Team to Strengthen Pancasila Student Profiles	The new Pancasila Student Profile Strengthening Project team's Assignment Letter was signed on September 7, 2022
4.	July-September 2022	Planning Assistance: Preparation of the Pancasila Student Profile Strengthening Project Module	Title of the Project Module for Strengthening Pancasila Student Profiles: Utilization of organic (eco-enzyme) and inorganic waste into pots
5.	9 September 2022	Planning assistance Finalization	Online module consultation
6.	29 September-8 October	Implementation and assessment assistance	Materials, doing student worksheets, Presentations, making products, and Celebrations (exhibitions)

Pancasila Student Profile Strengthening Project Training

Prior to the training, an initial analysis was carried out at the school which was held on June 10, 2022. The results of the initial analysis obtained information that SMP Muhammadiyah 2 Batu City had registered as an independent curriculum implementer but had not been designated as an independent curriculum implementing school. The school decided to implement an independent curriculum. According to the Decree of the Minister of Education, Culture, Research and Technology Number 56/2022, Implementation of the Independent Curriculum consists of 3 options, namely (1) Independent learning, applying several parts and principles of the independent curriculum, without changing the Education unit curriculum that is being implemented, (2) Independent changes, implementing an independent curriculum using teaching tools provided by the government, and (3) Independent sharing, implementing an independent curriculum by developing their own teaching tools (Kepmendikbudristek, 2022). From this implementation, SMP Muhammadiyah 2 Kota Batu, implemented the 1st option, namely independent learning, but the teachers did not understand how to carry out the project to strengthen the Pancasila profile.

The Curriculum Training for the Strengthening Pancasila Student Profile Project, attended by 12 teachers, 1 school principal, and 3 students, took place at SMP Muhammadiyah 2 Batu City. The training will be held on July 13, 2022 offline with due observance of health protocols.

The activity begins with a pretest, the results of the pretest show: 2 people really understand, 2 people understand enough, 2 people don't understand and 6 people don't know. After the training no post tests were held, but teachers were asked to directly develop lesson plans for the Pancasila Student Profile Strengthening Project.

This training activity resulted in an agreement: (a) Carry out the Merdeka curriculum in grade 7 even though it has not been set by the government; (b) The Pancasila Student Profile Strengthening Project Module is made 1 module for odd semester, and 2 modules for even semester; and (c) Modifying existing modules, adapted to school conditions. Documentation of the Pancasila Student Profile Strengthening Project training activities on July 13, 2022 as presented in Figure 2.

Assistance in Project Planning for Strengthening Pancasila Student Profiles

Project planning follows the flow of project preparation in the guidelines for the Strengthening Pancasila Student Profile Project, namely: designing project time allocation and dimensions of Pancasila student profiles, forming a project facilitation team, identifying the stages of readiness of the Education unit, selecting a general theme, determining positive themes, and designing project modules. It has been agreed that the project title for grade 1 in odd semester is "Utilization of organic (eco-enzyme) and inorganic waste into pots". The agreement is based on the results of identifying the readiness stages of the Education unit, namely: (1) Schools already have and are implementing project-based learning, (2) The concept of project-based learning has been understood by some educators, and (3) Schools can involve parties outside the school to assist in project activities. This project module is in Phase D with the theme of a sustainable lifestyle, the topic is my trash, my responsibility. The targeted sub-elements are: (1) Understanding the Connectedness of Earth's Ecosystems, (2) Protecting the Surrounding Natural Environment, (3) Cooperation, (4) Social Coordination, (5) Asking questions, (6) Identifying, clarifying, and processing information and ideas. The total time designed is 120 hours of lessons.

Some teachers who teach in grade 7 are starting to modify existing modules. Consultations are conducted online from July to September. After completing the module, it occurred to me to make an Assignment Letter for the Project Planning

Team to Strengthen the Pancasila Student Profile. Finally, the decree was issued after the module was worked on by the teacher, published in September 2022. From the Assignment Letter it is known that the composition of the project facilitation team is as follows: (a) Responsible Person: Zaenal Abidin, S.S., M.Pd. (Principal); (b) Chairman: Sudarmanto, S.Si. (Teacher); (c) Deputy Chairperson: Sri Wulan Romdaniyah, S.Pd., M.Pd (Teacher); (d) Secretary: Dina Rosanti, S.Si. (Teacher); (e) Member 1: Yaziydul Muttaqin, S.Pd (Waka Curriculum), and (f) Member 2: Sihabuddaril Muttaqin, S.Si. (Head of administration)

Speaker 1: Dra. Lise Chamisijatin, M.Pd.

Speaker 2: Prof Dr. Rr Eko Susetyorini

Participants enthusiastically participated in the activity

Coordination of community service teams and teachers

Figure 2. Documentation of training activities on 13 July 2022.

Assistance for module development is carried out online and module finalization is carried out offline with due observance of health protocols. Finalization of the module, carried out at SMP Muhammadiyah 02 Batu. This activity was carried out on September 9, 2022, attended by the Project Planning Team for Strengthening Pancasila Student Profiles at SMP Muhammadiyah 2 Batu City and several teachers who were not part of the learning team. This mentoring is carried out in the following steps: (1) The principal conveys the main things that the team has done in working on the module, (2) One of the teachers (team) conveys the module plan that is being worked on, (3) Other team members provide additional clarifications module work that has been made, (4) servants provide input on the work (module) that has been made. The results of the clarification that need to be strengthened are the assessment sheets that have not been made, and the scheduling arrangements. Documentation of offline mentoring activities can be seen in Figure 3.

Assistance in module finalization resulted in several documents that are ready to be implemented, including: the Pancasila Student Profile Strengthening Project module, assessment design and implementation schedule. The resulting module meets the principle criteria for project implementation, namely: (1) Holistic, (2) Contextual, (3) Student-centered, (4) Explorative. Holistic means looking at something as a whole and as a whole, not partial or separated. The topic chosen has fulfilled this because it can include several subjects in project completion. Contextual principles relate to efforts to base learning activities on real experiences encountered in everyday life (Lotulung et al., 2018; Suryawati & Osman, 2018; Wijaya et al., 2015).

Used goods or organic waste used are well known to students in their environment. For eco-enzyme materials, there are lots of leftover fruits and vegetables in the student environment and pots used for used diapers. This principle encourages educators and participants. Student-centered principles relate to learning schemes that encourage students to become learning subjects who actively manage their learning processes independently. The explorative principle is related to the spirit to open wide spaces for the process of inquiry and self-development. Students are given the opportunity to try to make eco enzymes and pots from unused items.


One of the teachers presentation planning


Job clarification


Job clarification


Strengthening planning


Ready to receive input


Ready to fix the module

Figure 3. Assistance for module finalization

The schedule of activities is planned/scheduled from September 29 to October 10, 2022. The details of the activities are as follows. (1) September 29, 2022 submission of material on pollution/waste waste, working on worksheets and presentations, (2) September 30, 2022, continuing to work on worksheets and presentations, (3) October 3, 2022, submission of materials on organic waste utilization, continued with Making Flower Pots from diapers with the Batu City Environment Service, (4) October 4, 2022, submission of material for utilizing organic waste continued with making eco-enzymes, (5) October 5, 2022 in the form of product finishing activities, (6) Date October 6, 2022 in the form of finishing preparation for the exhibition, (7) October 7, 2022 in the form of Exhibition Simulation activities, and (8) October 10, 2022 in the form of celebration/exhibition activities.

The project module is equipped with components that form the basis of the preparation process and are needed for the completeness of the implementation of learning. This project module has the following components. Phases, themes, topics, time, Pancasila Student Profile Dimensions, Targeted Sub-elements, Diagnostic Assessment, Learning Stages, Relationship Dimensions, Elements, and Student Profile Sub-Elements. Completed with a Timeline for the Project to Strengthen Pancasila Student Profiles, an Assessment Project for Developing Pancasila Student Profiles and a Summative Assessment Rubric for the Project to Strengthen Pancasila Student Profiles (Sustainable Lifestyle). The module components that are made will be better if they are equipped with student worksheets, educator and student reading materials, glossaries, and bibliography.

Assistance in the Implementation of the Pancasila Student Profile Strengthening Project

Assistance in the implementation of the Pancasila Student Profile Strengthening Project, starting from providing materials, product completion, and exhibitions. The implementation of material delivery is carried out by teachers who are involved in the team according to the plan. This assistance can be reported as shown in Figure 4, Figure 5, Figure 6, and Figure 7.

Figure 4. Submission of material

Figure 5. Production of Pots

Figure 6. Production of Eco-Enzymes

Figure 7. Exhibition/Celebration

The implementation of the Project to Strengthen Pancasila Student Profiles at SMP Muhammadiyah 2 Kota Batu is as follows. Viewed from Project Management, the teacher has started the project by getting students involved in learning activities since the beginning of the project, starting with starting questions and authentic problems. In addition, the teacher has also optimized the project by helping students to be involved optimally throughout the project activities by: (1) Encouraging student learning involvement, (2) Providing space and opportunities for development, and (3) Cultivating positive work values.

Implementation in ending the project with optimal activities, the teacher has accompanied students in planning, practicing the ability to communicate with the general public, being a supporter behind the scenes. But the teacher has not done follow-up reflection. Implementation in optimizing partner involvement, the team has tried to involve other people or the community, namely in making flower pots from diapers with the Batu City Environmental Service. Temporary parents are asked to help with financing and attend celebrations or exhibitions. At the time of the exhibition, besides their parents, they were Mr. Sugeng Prayogi, superintendent of SMP Kota Batu, Drs. Miftahul Huda, head of the Muhammadiyah Bumiaji Branch, and head of the school committee, Ibu Yayak, S.Pd. This activity is in line with the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda (HLPEP) which proposes 12 goals with 54 post-2015 development targets. As for one of the proposed goals is “Achieve universal access to water and sanitation” and the target is “Recycle or treat all waste before it is released”(Sutopo et al., 2014).

The implementation of documenting and reporting project results has not gone well, meaning that data has been collected, but has not been processed into student portfolios and teacher journals. The implementation of the Project Evaluation and Follow-up has not gone well, meaning that the evaluation has been carried out, the data is available but has not been processed into student report cards. So, this semester the students have not received the report cards for the Pancasila Student Profile Strengthening Project, bearing in mind that SMP Muhammadiyah 2 Kota Batu has not yet been registered as an independent curriculum implementer.

Follow-up and Project Sustainability are only carried out with servants which will be held on November 24 2022 at SMP Muhammadiyah 2 Batu City. The results of this follow-up are continuing to learn how to make report cards for the Pancasila Student Profile Strengthening Project and preparing reports.

The SDGs are a framework that is used globally in order to see a reference for how quality education must be prepared, one of which is through an independent curriculum (Mispi et al., 2022), implemented in the form of a module. The module developed by the teachers is related to eco-enzymes. This is also in line with efforts to achieve the SDGs. The principle of the process for making eco-enzymes is actually similar to the process for making compost, but water is added as a growth medium so that the final product is a liquid which is preferred because it is easier to use. The specialty of this eco enzyme is that it does not require large areas of land for the fermentation process such as composting, and this product does not even require a composter tub with certain specifications. Used bottles of mineral water or other used products that are no longer used can be reused as fermentation tanks. It also supports the concept of reuse in saving the environment. Eco-enzyme has many benefits such as being used as a plant growth factor, a mixture of floor cleaning detergents, pesticide residue cleaners, scale cleaners and lowering the temperature of car radiators (Septiani et al., 2021). Eco-enzymes also support the agricultural sector, namely producing food for the community. The goals of human development as agreed in the 2nd and 3rd SDGs are eliminating hunger and quality of health (Akhsan et al., 2021).

CONCLUSION

Based on a series of community service activities through assistance in the Implementation of the Project to Strengthen Pancasila Student Profiles in the Implementation of the Independent Curriculum at SMP Muhammadiyah 2 Batu City, it can be concluded as follows. (1) Schools have been able to design the Implementation of the Pancasila Student Profile Strengthening Project, with the production of 1 P5 class 7 module in odd semesters by modifying existing modules. The title of the module is "Utilization of organic (eco-enzyme) and inorganic waste into pots". The module has met the criteria for a good module, namely having components of Phase, theme, topic, time, Pancasila Student Profile Dimensions, Targeted Sub-elements, Diagnostic Assessment, Learning Stages, Relationship Dimensions, Elements, and Student Profile Sub-Elements. Completed with a Timeline for the Project to Strengthen Pancasila Student Profiles, an Assessment Project for Developing Pancasila Student Profiles and a Summative Assessment Rubric for the Project to Strengthen Pancasila Student Profiles (Sustainable Lifestyle). (2) Schools have been able to implement the project to strengthen the Pancasila student profile in Project Management, both in activities starting the project, during project activities and activities ending the project with optimal activities, but the teacher has not reflected on follow-up. (3) Implementation of Project Evaluation and Follow-up, has not gone well, meaning that the evaluation has been carried out, the data already exists but has not been processed into student report cards. Therefore, it is recommended that the follow-up project be completed. This activity also needs to continue to be carried out by schools, even if it needs to be disseminated or disseminated to other schools in Batu City and Malang City.

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Increasing the professionalism of Muhammadiyah high school teachers through assistance in writing and publishing scientific articles

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ABSTRACT

Education policy especially for teachers continues to develop. The teacher's policy to be productive in writing scientific articles is one of the important policies that need attention. The purpose of this service is to provide an understanding of scientific articles and improve the ability of teachers to write scientific articles at SMA Muhammadiyah 1 Sumenep. The method used is the classical and individual methods. The classical approach is carried out in the socialization of writing scientific articles related to the writing procedures and benefits of scientific articles. An individual approach is applied when assisting in writing scientific articles from the stages of making backgrounds, methods, discussions, conclusions, abstracts, and writing citations using Mendeley, as well as the process of submitting national proceedings. The results of this mentoring activity found that there were 15 teachers who took part in the socialization activity, but in the writing assistance there were only 9 teachers, and there were 5 scientific articles that were successfully published in national proceedings. The conclusion obtained in this activity is that all teachers at SMA Muhammadiyah 1 Sumenep have understood the benefits and procedures for writing scientific articles, and most teachers are motivated to actively write and publish the results of their scientific writing.

Kata kunci

Artikel Ilmiah
Guru Muhammadiyah
Publikasi
Penulisan
Profesionalitas guru

Meningkatkan profesionalisme guru SMA Muhammadiyah melalui pendampingan penulisan dan penerbitan artikel ilmiah. Kebijakan pendidikan khususnya bagi guru terus berkembang. Kebijakan guru untuk produktif menulis artikel ilmiah merupakan salah satu kebijakan penting yang perlu mendapat perhatian. Tujuan pengabdian ini adalah untuk memberikan pemahaman tentang artikel ilmiah dan meningkatkan kemampuan guru dalam menulis artikel ilmiah di SMA Muhammadiyah 1 Sumenep. Metode yang digunakan adalah metode klasikal dan individual. Pendekatan klasik dilakukan dalam sosialisasi penulisan artikel ilmiah yang berkaitan dengan tata cara penulisan dan manfaat artikel ilmiah. Pendekatan individual diterapkan saat pendampingan penulisan artikel ilmiah mulai dari tahapan pembuatan latar belakang, metode, pembahasan, kesimpulan, abstrak, dan penulisan sitasi menggunakan Mendeley, serta proses penyerahan prosiding nasional. Hasil dari kegiatan pendampingan ini ditemukan bahwa terdapat 15 guru yang mengikuti kegiatan sosialisasi, namun pada pendampingan penulisan hanya terdapat 9 guru, dan terdapat 5 artikel ilmiah yang berhasil dipublikasikan dalam prosiding nasional. Kesimpulan yang diperoleh dalam kegiatan ini adalah semua guru di SMA Muhammadiyah 1 Sumenep telah memahami manfaat dan tata cara penulisan artikel ilmiah, dan sebagian besar guru termotivasi untuk aktif menulis dan mempublikasikan hasil karya tulis ilmiahnya.

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INTRODUCTION

Improving the management of education continues to be carried out in a comprehensive and democratic manner so that education in Indonesia can compete with other countries (Fadhli, 2017) . The development of policies in the world of education, especially for teachers, continues to develop dynamically. The demands of teacher professionalism are taken into account not only from teacher activities in classroom learning but also other supporting matters (Faiqoh, 2019) . One of them is the activity of publishing scientific articles in scientific magazines/journals contained in PERMENPAN-RB Number 16 of 2009 concerning Functional Positions of Teachers and Their Credit Scores (Ibda, 2017) . This happens to create quality educators.

Teachers as the forefront of education certainly have many problems they face, but on the other hand teachers also have data to be able to answer these problems. The teacher's lack of understanding about the publication of scientific articles also affects the application of innovations in schools (Hendrik & Martahayu, 2018) . This is because scientific articles are a renewable communication medium for research results that can be trusted and are always up to date or in this case can be applied in the present. Research articles conducted by teachers in class can help other teachers to find solutions to problems that arise in class (Souto-Manning & Bean-Folkes, 2011) . This will certainly support teachers to create learning that helps students to achieve knowledge, skills, and attitudes that are in accordance with learning objectives.

Interestingly, conducting research will be a challenge for teachers (Gray, 2013). This is because every classroom is different. The complexity that is formed in each class can provide strong reasons for teachers to be able to reflect on the learning activities that occur (Nurdyansyah & Fahyuni, 2016) . One way to do this is to conduct research in their own class. Conducting research can also pave the way for better teacher practice and can guide continuous professional development for them (Albergaria-Almeida, 2010; Dailey & Robinson, 2017; Gray, 2013; Yin & Buck, 2019) . Professional teachers must have four competencies that have been determined in law no. 14 of 2005 in article 10 paragraph 1, includes pedagogic competence, personal competence, social competence and professional competence. Professional competence is related to mastery of learning material broadly and in depth by teachers so that students can achieve the expected competencies. One of the ways to achieve this professional competence is through research-based learning (Sajidan, 2010) . Therefore research for teachers is an important thing to do as an effort to improve the quality of their learning and professionalism (Fitria et al., 2019) . Today's teachers are demanded to be more professional, more reliable, and more competent (Mugara, 2011) . This is the demand of modern society. So, conducting research for a teacher is a means to improve the ability of teachers in developing their profession. The efforts to increase teacher professionalism are closely related to increasing teacher literacy. Increasing literacy is also one of the international agendas towards a literacy society in accordance with the Sustainable Development Goals (SDGs) by UNESCO. The UNESCO clearly states that the 4th goal of SDGs is related to Quality of Education which must be achieved by 2030 “ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy” (UNESCO, 2016).

Moreover, the results of the service team's interview with the Principal of SMA Muhamamdiyah 1 Sumenep stated that in general teachers were not interested in conducting research and writing articles let alone publishing the results of their research. Therefore, this service aims to increase teachers' understanding of scientific writing, writing procedures, and publishing scientific papers. In the future, it is hoped that the results of this service can become a guideline in service with the same goal so that the quality of teachers in Indonesia can be even better in terms of the number of scientific publications.

METHOD

The method used is the classical and individual methods (Gunawan et al., 2018) . The classical approach is carried out in the socialization of writing scientific articles related to the procedures for writing and the benefits of scientific articles. An individual approach is applied when assisting in writing scientific articles starting from the stages of making backgrounds, methods, discussions, conclusions, abstracts, and writing citations using Mendeley, as well as the process of submitting national proceedings. The target in this activity is a total of 15 teachers at SMA Muhammadiyah 1 Sumenep to participate in socialization activities on writing and the benefits of having scientific articles, and at least half of the total teachers succeed in publishing their scientific work in national proceedings. The activities carried out by the team consist of:

Socialization of the program

This socialization activity was carried out on August 10, 2022. At this stage a schedule was also agreed upon for the implementation of writing and publication assistance, as well as the division of tasks for each party. The parties involved include the service team, the principal as school policy regulator, and the teacher as a supporter of program implementation. The division of tasks referred to as follows:

a. The duties of the servant include being a facilitator in providing refreshment materials related to research and providing training to make publication of teacher's scientific works and accompanying the scientific work publication process.
b. The principal's job is to organize and provide policies for the successful implementation of the program, namely by giving assignment letters to teachers who are motivated to write and publish.
c. The teacher's task is to implement and support service activities, namely as an object of service so that they have knowledge and at the same time have works that have been published nationally.

Seminar about research and publication

The activity of providing material on research design in class for teachers was carried out on October 4, 2022, by presenting Mr. Husamah, M.Pd as a lecturer with the highest Sinta Score at UMM. This activity is expected to be attended by all teachers at SMA Muhammadiyah 1 Sumenep. The material provided is related to various kinds of research that teachers might be able to do. The delivery of material is also expected to provide motivation for teachers to return to actively conducting research.

Assistance in the publication of teacher scientific work

Writing assistance activities and submitting scientific publications were carried out virtually on October 28 through a zoom meeting. This activity includes assistance in writing background, methods, results, discussion, conclusions, abstracts and citation methods using Mendeley. Activities produce drafts of scientific articles that are good and worthy of publication. Follow-up activities carried out in the form of assistance in submitting to the National Proceedings.

RESULTS AND DISCUSSION

The implementation of government policies that review the publication of scientific articles in scientific magazines/journals by teachers in schools is still not fully implemented. Publication activities are the estuary of research activities, while teachers are generally not much involved in research development in their schools. This is also the case at SMA Muhammadiyah 1 Sumenep, where teachers tend to be passive in carrying out independent research activities. In general, teachers more often accompany their students' simple research activities, but these activities are only limited to research and are not continued as outputs for scientific publications. According to Wahid (2021) teachers who understand the importance of scientific publications will be active in conducting research, writing, and publishing the results of these writings in journals/proceedings. Scientific articles are also a benchmark for the professionalism of a teacher apart from in terms of learning (Rahyasih et al., 2020) .

Teacher's understanding of scientific articles

Measurement of teachers' understanding of scientific articles was measured from the results of a survey that was carried out after the implementation of the community service program. The survey results regarding teacher knowledge related to writing scientific articles can be seen in Figure 1 and Figure 2. Increasing teacher understanding of scientific articles is inseparable from socialization and mentoring activities, this is in line with Prastya, (2016) ; Raharjo, (2020) ; Roziqin et al., (2020) which states that intensive mentoring will increase teacher knowledge and understanding which will ultimately increase teacher motivation.

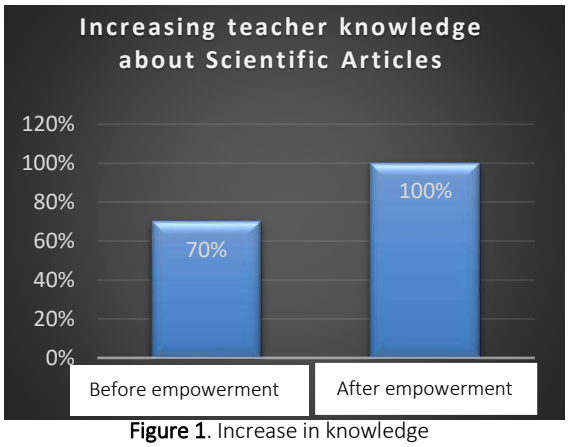

Figure 1. Increase in knowledge

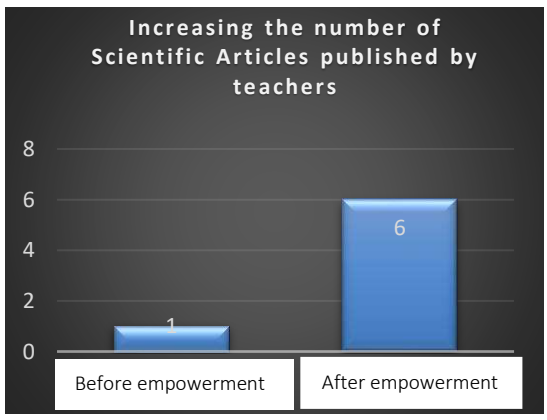

Figure 2. Increase in the number of articles

Assistance in writing and publishing teacher scientific articles

The result of this activity was the motivation of some teachers to participate in mentoring activities for writing scientific articles. Teachers who participate in mentoring activities are directed to collect the results of student research that has been carried out, then the team helps provide directions related to writing rules (the team acts as a reviewer) (Figure 3). The follow-up activity is to motivate teachers who have participated in writing assistance to attend the National Seminar whose output is publication in the National Proceedings. There were five titles presented in the scientific activities of the National Seminar, and the five articles were declared fit for publication (Figure 4). The five published scientific article titles of SMA Muhammadiyah 1 Sumenep teachers can be seen in Table 1.

Figure 3. Sosialitation of the scientifict article workshop

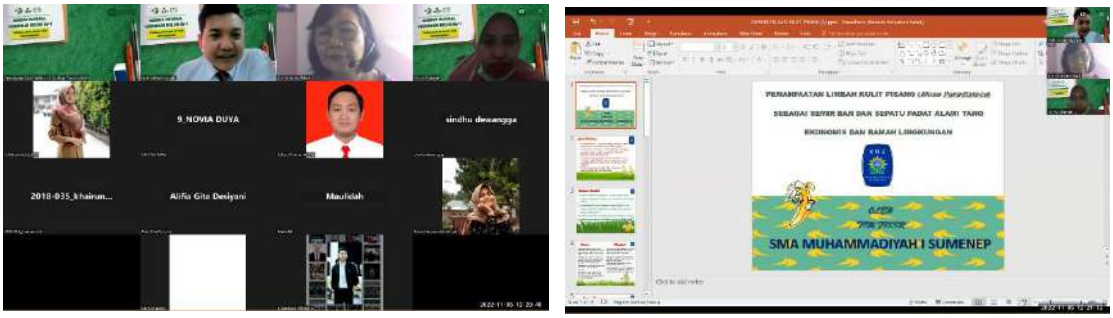

Figure 4. Muhammadiyah teachers joined national seminar before published the scientific articles in national proceeding

Table 1. list of scientific articles published in national journals

No	Article Title	Writer	Article Links
1	Modification of Eucheuma cottoni seaweed and gauze as innovative biosorbents for gangrenous wounds in-vitro	Dwi Yuliowati, Yuni Haryanti, Damayanti Damayanti	http://research-report.umm.ac.id/index.php/psnpb/article/view/531
2	Utilization of waste crab shells and used plastic bottles of mineral water for gypsum is an innovative solution to environmental pollution	Yuni Haryanti, Dwi Yuliowati, Damayanti Damayanti	http://research-report.umm.ac.id/index.php/psnpb/article/view/5359
3	The metamorphosis of bottled water plastic waste into an innovative and economical imitation marble wall stone	Yuni Haryanti, Dwi Yuliowati, Damayanti Damayanti	http://research-report.umm.ac.id/index.php/psnpb/article/view/5358
4	Development of contextual experimental worksheets on alcoholic fermentation to increase motivation and learning outcomes for SMA	Dwi Yuliowati, Damayanti Damayanti, Yuni Haryanti	http://research-report.umm.ac.id/index.php/psnpb/article/view/5335
5	Innovative heart simulator as an effort to increase motivation and learning outcomes on the mechanism of human blood circulation	Dwi Yuliowati	http://research-report.umm.ac.id/index.php/psnpb/article/view/5334

Source: observation data

The teacher has learned a lot and implemented this assistance, so that he is successful in participating in the National Seminar activities, namely the presentation of research results and the publication of scientific articles. Information from

participants during the first meeting when asked whether they had material for scientific writing, most of the participants already had class action research reports or results study simple student. This aligned with Mulyatiningsih (2015) stated article scientific could written from results teacher observation in class or results test student . However, the teachers have not been trained to write reports on the results of classroom action research into a scientific manuscript that is ready to be sent to scientific journals. In addition, Farisi et al., (2017) wrote facts about teachers, one of which is the teacher's perception of the publication of scientific articles in scientific journals. Teachers have the perception that publishing scientific articles in scientific journals is very difficult and even something teachers avoid. The research results of Wahid's (2021) show that the age factor influences the teacher's ability to write scientifically. Teachers over the age of 50 have more difficulty writing scientific articles than those aged 30-40 years. Meanwhile, teachers at a younger age are not required to write and publish scientific articles so that good regeneration does not occur and the same problems will recur. Therefore, it is necessary to encourage young teachers to be able to engage senior teachers to be active in writing, so that the scientific repertoire in writing scientific papers can be properly developed at school. Furthermore, the increase in teacher literation would impact achieving the target for SDGs, especially in the quality of education in Indonesia.

CONCLUSION

The conclusion from the results of this service is that the teacher's enthusiasm and motivation in participating in the socialization of writing scientific articles is quite high. The teacher's knowledge of scientific articles and the stages of writing increases after mentoring. There were five articles that were successfully published in the national proceedings as the output of this activity. Suggestions for similar service activities in the future; It is better to form a driving force teacher who is given an Assignment Letter by the Principal. The driving teacher has the criteria of being young, has the highest motivation in writing, so that scientific article writing activities can continue to be carried out well after the end of the service program.

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Virtual tour-based digital batik village as a place for promotion of Bekasi city batik in the industry 4.0 era: Study on batik tiara

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ABSTRACT

The development of digital technology and virtual reality has also given birth to virtual tourism innovations that impact improving the community's economy through training. This program is carried out to create virtual tourist villages, mainly based on virtual batik tourism so that batik artisans have more time to promote their products and the tourist aspect. The virtual tour-based batik village aims to make the batik artisan community more active in utilizing digital application platforms to market their products and produce practical marketing applications. This digital application makes it easier for buyers to find out the promotions being carried out by Bekasi batik by utilizing gadgets and taking advantage of the digital world. The training method uses a case study approach, discussion, and lecture and ends with a training evaluation. The results of the study are based on the review of the user experience of Bekasi city batik artisans; out of 50 respondents, it is found that 55% strongly agree that training materials and virtual tour systems that are socialized are easy to access, can develop digital village web-based virtual tours as well as a forum for urban batik promotion Bekasi. In the aspect of the desired goals of the Bekasi city batik artisans participants, out of 50 respondents, the result was that 65% strongly agreed that the learning objectives of the training and virtual tour system met the expectations of the respondents. It is the hope of the training participants that the problem of marketing the virtual tour system will be a solution to expand the marketing of batik in the City of Bekasi.

Kata Kunci
Kampung batik
Pelatihan
Pemberdayaan masyarakt
Promosi
Virtual tour

Kampung batik digital berbasis virtual tour sebagai tempat promosi batik kota bekasi di era industri 4.0: Kajian Tiara Batik. Perkembangan teknologi digital dan virtual reality juga melahirkan inovasi virtual tourism yang berdampak peningkatan ekonomi masyarakat melalui pelatihan. Program ini dilakukan untuk menciptakan kampung wisata virtual terutama berbasis virtual tourism batik, sehingga pengrajin batik memiliki waktu lebih banyak untuk mempromosikan produknya dan aspek wisatawan. Kampung batik berbasis virtual tour bertujuan memberdayakan komunitas pengrajin batik agar lebih aktif dalam memanfaatkan platform aplikasi digital untuk memasarkan produknya dan menghasilkan aplikasi praktis untuk pemasaran. Aplikasi digital tersebut memudahkan pembeli mengetahui promosi yang dilakukan batik Bekasi dengan memanfaatkan gadget dan memanfaatkan dunia digital. Metode pelatihan menggunakan pendekatan studi kasus, diskusi, ceramah, dan diakhiri dengan evaluasi pelatihan. Hasil dari penelitian yaitu berdasarkan hasil evaluasi user experience pengrajin batik kota Bekasi, dari 50 responden di dapatkah bahwa 55% sangat setuju dimana materi pelatihan dan virtual tour sistem yang disosialisasikan mudah untuk diakses, dapat mengembangkan kampung digital berbasis web virtual tour serta sebagai wadah promosi batik kota Bekasi. Pada aspek pencapaian tujuan para peserta pengrajin batik kota Bekasi, dari 50 responden di dapatkah hasil bahwa 65% sangat setuju bahwa tujuan pembelajaran training dan virtual tour sistem sesuai harapan responden. Harapan peserta pelatihan agar permasalahan pemasaran virtual tour sistem menjadi solusi untuk memperluas pemasaran batik Kota Bekasi.

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INTRODUCTION

In the Industry 4.0 era, the internet and computers have become essential to everyday life, such as work, communication, study, entertainment, shopping, and others. Digital marketing is the primary management strategy of advertising or marketing (Philip, 2013). Almost all countries are competing to observe digital transformation quickly, so with industry 4.0, every economic actor will face challenges in business (Hafiar et al., 2020). Therefore, it must be watched out for and anticipated, especially by business people, where the millennial generation is predicted to take over many potential markets. Digital marketing is the primary strategy for management to carry out promotions or marketing (Philip, 2013). From several studies conducted by (Suhendar & Fernando 2016), (LD Hollebeek, et al., 2014), (Soegoto, Eddy Soeryanto, 2009), (Susanto, Wijanarto & WM 2014), One form of promotion offered in marketing digital use of virtual tours has positive effects in several places, for example: can be part of a more attractive advertising medium, can make users seem to see and walk around the area, can help someone shape the experience of visiting a place, can generate interest in visiting the business directly (Sri & Siti, 2018; Taryadi et al., 2019).

According to several studies, virtual tours have not been found through digital showrooms for creative industry products that also allow for interaction between creative industry players and consumers. If this is successful, it will positively impact the development of Indonesia's creative industries (Rizkiyanti et al., 2021; Wahyudi et al., 2021; Zahro et al., 2019). Therefore, this service has been carried out in a virtual tourism-based digital batik village as a platform to promote batik in Bekasi City in the industrial era 4.0. A virtual tour is a simulation of a real place or location, so a series of photos or videos are combined with sound effects, music, text, or comments (Rastati, 2020; Yang et al., 2021). A virtual tour, also known as a panorama, can be interpreted as an uninterrupted view because sight is a collection of elongated photographs or a video that captures camera rotation/movement (Sulaiman et al., 2020). Virtual tourism can be called a multimedia field. Virtual tour has a mix of multimedia elements: text, images, sound, animation, and video. Bekasi City is one of the cities in West Java Province, Indonesia. The name Bekasi comes from the word bagasse which has the same meaning as candrabaga, which is found in the inscription on the Tarumanegara royal monument, namely the name of the river that flows through the city. As of 2020, the city of Bekasi has a population of 2,464,719 (Wikipedia 2021), and the town is part of the Jabodetabek metropolitan area, the most populous satellite city in Indonesia.

The area of the city of Bekasi is around 210.49 square kilometers, and the boundaries of the town of Bekasi are North, Bekasi Regency, East, Bekasi Regency, South, Bogor Regency, and Depok City and West, DKI Jakarta Province. In ancient times, people in Bekasi already had the habit of making batik. Along with increasingly sophisticated progress and developments, the impact of this habit is gradually disappearing; however, there are people in Bekasi City who are still consistent in slaughtering, for example, in Rawalumbu (Nurjanah & Rahman, 2021). The development of Bekasi batik is currently not well known in Indonesia. In contrast, batik centers are widely known in several cities/regencies in Indonesia, including Batik Solo, Pekalongan, and Yogjakarta (Sutono & Latifah, 2019). However, this Bekasi Batik has a unique pattern that comes from cultural diversity, both the characteristics of flora, fauna, Betawi culture, and other icons appointed as a cultural heritage and customs of the City of Bekasi. The values of struggle and patriotism from the City of Patriot are also the distinctive features of Bekasi City batik. These characteristics of Bekasi batik are not shared by other batik styles in Indonesia (Chiao et al., 2018; Perdana et al., 2019) s. One of the places used as the location for the Digital Batik Village Based on the Virtual Tour as a Place for Bekasi City Batik Promotion is Tiara Batik Bekasi.

Tiara Batik Bekasi started its journey in February 2019. They were founded under the auspices of CV. Tiara Arunika Dimitry, based on Deed Number 04 dated 18 April 2019 made by Notary Shintawaty Meirindrasari, SH., M.KN domiciled in Bekasi City, which has obtained approval from the Minister of Law and Human Rights of the Republic of Indonesia Directorate General of Public Law Administration based on a Decree No. AHU0028281-AH.01.14 the Year 2019 April 22, 2019. Tiara Batik Bekasi always pushes itself to grow and develop to contribute more to the creative industry, especially batik products in Bekasi City. The creative sector is one of the fastest-growing industries in Indonesia (Amaliyah et al., 2022). Therefore, Tiara Batik Bekasi aims to preserve and develop Batik in Bekasi City. Through cooperation among batik artisans in Bekasi. Tiara Batik Bekasi continues to hone creativity and work hard to present unique and superior motifs suitable for all market segments. Tiara Batik Bekasi also expands the identity of batik by introducing regional standards, which we combine so that the market is more colorful and for the sake of advancing the domestic creative industry (Tosida et al., 2022).

Problems of Human Resources Human resources are fundamental to increasing productivity for entrepreneurs Tiara Batik Bekasi. Currently, Tiara Batik has an administrative workforce of 4 employees, namely 2 SMK and 2 SMA. 4 artisans in Bekasi are, on average, 50 years old and above, making batik takes about 2-4 months, so making batik is expensive, between seven hundred thousand to 5 million depending on the level of difficulty, motives and length of time for the work (Andria et al., 2022). The workforce possesses limited knowledge, so current promotion methods are still limited to the basic knowledge possessed by the staff at Tiara Batik Bekasi. The current number of batik artisans is 4. To invite the surrounding community to preserve the culture of batik, it is necessary to expand and educate the public, especially homemakers, to assist so that later they can increase the family's economic income from the production of batik (Prasetya et al., 2022).

This activity has the following objectives: 1) Providing educational services to the public in the form of training and mentoring to increase operations in the Tiara Bekasi batik business for Batik craftsmen, especially homemakers, to be given training on how to make written batik so that the number of assisted artisans will increase. 2) Providing assistance and training on Marketing management that utilizes digital technology, especially social media and free digital applications that can be used to help with batik marketing. One way that can be used to help market batik in Bekasi City is through the Batik Tiara Bekasi virtual tour program as well as a marketing strategy. 3) Building motivation and a clear business vision. The businessman who Has high motivation and a clear business vision. Building innovation and creativity in entrepreneurship and marketing goods. Entrepreneurs who have entrepreneurial Innovation and creativity and Goods marketing. Partners have not been able to maximize information updates product. So that the operational human resources of partner businesses need assistance updating methods for information-rich batik products, and 4) Assistance on how to carry out promotions to improve outcomes and companion marketing management for batik artisans (Argyriou et al., 2020; Mah et al., 2019).

Marketing management so far has been carried out through social media, Facebook, WhatsApp, Instagram, and direct marketing by visiting housing and offices to offer batik to employees. Due to scale restrictions, the existing outlets are also rarely visited by consumers, so buyers prefer to shop online. Consumers are challenged to shop for clothes online, and buyers cannot see all the batik clothing outlets offered. These conditions allow buyers to need a different experience, to see outlets virtually. Marketing carried out by partners currently needs to be improved so that they can take advantage of online media through currently developing technology, namely virtual tours that can provide information on all batik products in Tiara Batik Bekasi and provide a different experience for visitors or consumers (Kurniartuti & Triastuti, 2017; Widiastuti & Santoso, 2022). The PKM program is expected to motivate and elevate the dignity of batik crafters and support local MSMEs to improve the economic welfare of the community, especially those in the Bekasi city area. Many of the Bekasi batik motifs are inspired by local wisdom around them, such as the snakehead fish motif, Bekasi's struggle monument, natural appearances, and agricultural products. Based on the background of the problems above, there is an identification of issues that are the material of Batik Tiara Bekasi's assistance, namely: 1) the lack of knowledge of the Bekasi community regarding Bekasi typical batik. 2) the lack of media that informs knowledge about Bekasi batik. 3) the information that already exists and is circulating in online media is still incomplete and detailed, and 4) the number of Batik Craftsmen in Bekasi is still tiny and old, so batik education is needed so that it can be preserved and passed on to the younger generation and homemakers as well as the surrounding community so that the typical Bekasi batik is increasingly recognized by the public (O'Neil, 2019; Roziqin & Fajrina, 2021).

The development of Bekasi City batik motif designs that give nuances to culture and historical values and the development of Bekasi City have not been appointed as a distinctive pattern of Batik that can be developed by batik artisans (Nuvriasari et al., 2022). This is an obstacle because of the limited references to the distinctive pattern of Bekasi batik, which is a differentiator from other regions' batik and provides educational and competitive value. Capital constraints as small business actors are a latent problem faced by SMEs. Tiara batik Bekasi is also experiencing this condition. Still, with steps continuously carried out with the community of batik artisans, this capital problem can be solved with various strategies following the capabilities of Batik Tiara Bekasi. Problem solutions are carried out by inviting stakeholders to work together for product development, distribution, marketing, and others (Mamangan, 2021; Setiyo et al., 2022). The aim of this training is that the training provided on a virtual tour basis as a means of promotion that has been carried out can increase the knowledge, attitudes, and skills of the participants and take advantage of the promotion platform to carry out broader marketing. This activity is expected to improve the skills of the community in virtual tour-based digital batik villages. This activity aims to empower the community of batik artisans to be more active in utilizing digital application platforms to market their products and produce practical marketing applications. This digital application makes it easier for buyers to find out the promotions being carried out by Bekasi batik by utilizing gadgets and taking advantage of the digital world. In addition, this dedication will be able to complete one of the Sustainable Development Goals (SDGs) to act to end poverty and ensure that by 2030 all people enjoy peace and prosperity. The existence of this dedication can create creativity, knowledge, technology, and community resources from all societies needed to achieve the SDGs in every context. One of the areas of the SDGs is technology. The technology in this court is in the form of a virtual tour which can create broader marketing so that it can increase income from the surrounding community; this is one of the goals of sustainable development (SDGs).

METHOD

This service is based on practice through training. Creation research usually integrates creative processes and aesthetics as part of research (Arikunto, 2002). The uniqueness of a work of art and design cannot be equated with theoretical concepts in other research places, although the idea may be used but within certain limits. There are three general factors in creating and designing such art; initial inspiration, information gathering, selection, experimentation, articulation, perfection, generalization, human response, and the result of works of art in a work of art or design (Timotius, 2017).

This service is carried out using the training method for increasing the capacity of virtual tour-based batik crafts. They were training to advance the understanding of artisans and stakeholders related to implementing batik business

development activities. Coaching and mentoring activities for batik artisans are carried out to take advantage of the digital virtual tour of the batik village. The training has been carried out with a total of 4 participants employees, that is, 2 SMK and 2 SMA. Four artisans in Bekasi are, on average aged 50 years and over; processing batik writing needs time around 2-4 months, so makes batik write this price is high, between seven hundred thousand to 5 million depending on the level of difficulty, motive, and ever time 50 participants, consisting of a community of batik artisans, batik designers, cultural observers, batik business supervisors, and some of the millennial generation. Participants are recruited through collaboration with social organizations, recommendations from government agencies, professional organizations, and communities related to the batik business.

The training method uses a case study approach, discussions, and lectures and ends with a training evaluation to determine an understanding of the training material and evaluation of training activities (Moleong, 2017). The program implementation approach method is formulated in Figure 1 and Figure 2.

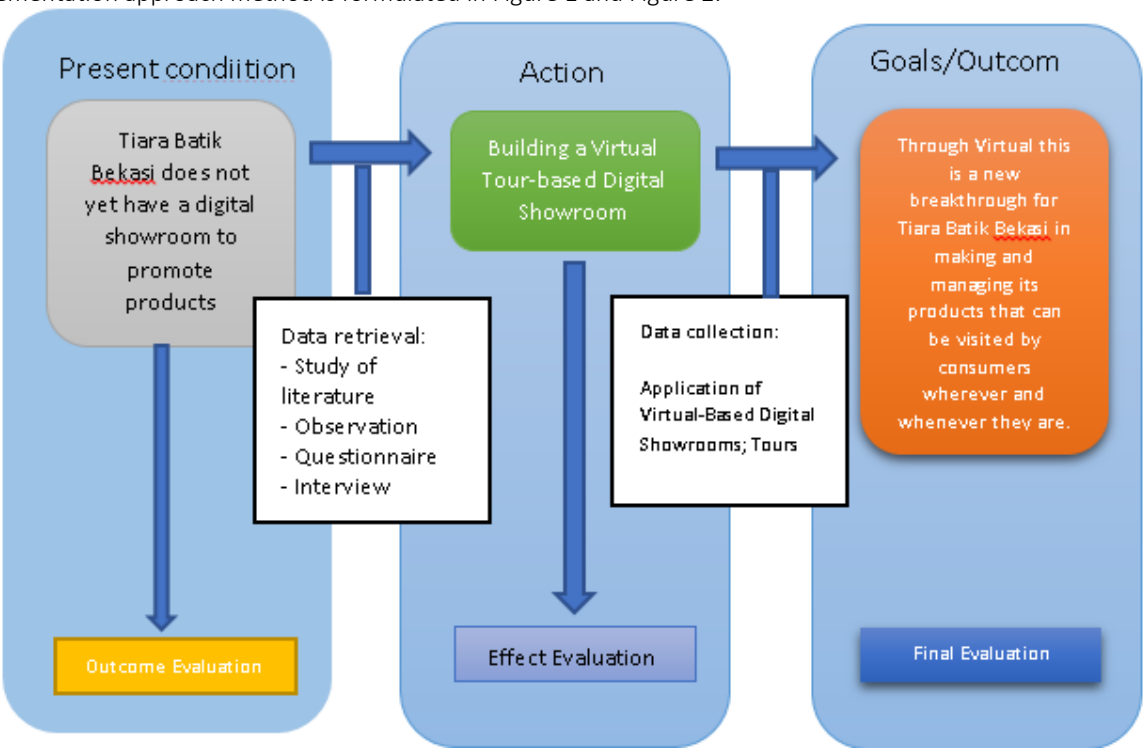

Figure 1. Advanced Development Phase 2: Digital batik village application

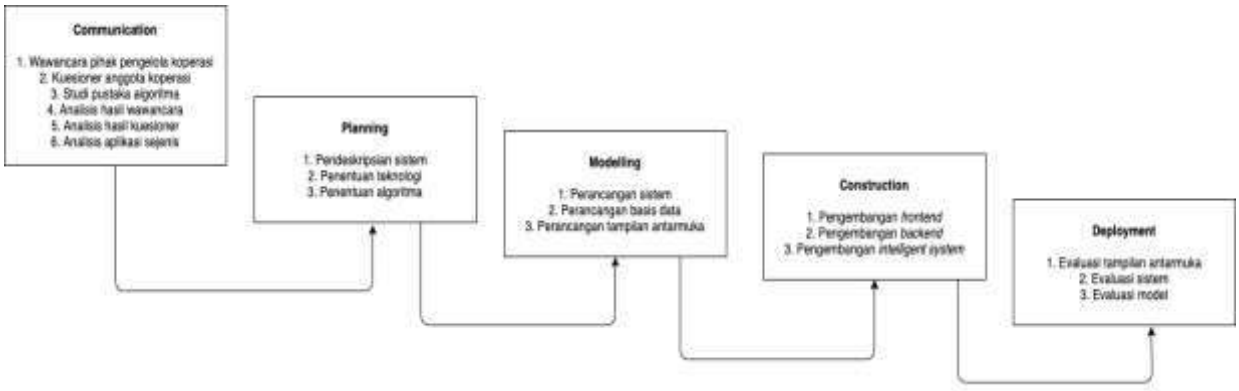

Figure 2. Waterfall system development model

RESULTS AND DISCUSSION

The training aims to increase participants' knowledge, attitudes, and skills. The training materials provided include marketing management, business management strategies, financial management for SMEs, HR management for SMEs, promotion of batik products, and socialization of virtual tour-based products. In Figure 3 it can be explained that the training is carried out in a way how to manage the digital batik village application via a smart phone, in the application a virtual tour from Tiara Batik Bekasi Digital Batik Village can be displayed. Through this application, people can explore it like

visiting Kampung Batik Bekasi, people can see as if they were in a batik village, like in actual conditions. Unlike the other virtual tours, the Digital Batik Village Based Virtual Tour application can display links or online addresses of marketing media from batik artisans in Kampung Batik Bekasi (marketplaces, online stores, personal web, social media, showrooms).

Figure 3. Participants in the virtual tour-based digital batik village as a platform promotion of Bekasi City Batik (Tiara Batik Study) in the industrial revolution era 4.0.

In order to understand how the knowledge, attitudes and actions of the trainees change, it is known that the results of filling out the questionnaire are known as the following results (Figure 4). The learning objectives and the virtual tour system according to the expectations of the batik.

Figure 4. Learning Objectives and Expectation percentage

In Figure 4 it can be explained that the results Learning Objectives Met Expectation percentage. Of the 50 respondents, 65% strongly agreed that learning or seminars met the expectations of the respondents, 15% agreed, 15% quite agreed, and 5% strongly disagreed. So it can be concluded that the Learning Objectives Met Expectation percentage carried out by 65% strongly agrees that learning or seminars are in line with expectations.

As for learning materials and virtual tours, the system can be applied to the work of batik craftsmen (Figure 5).

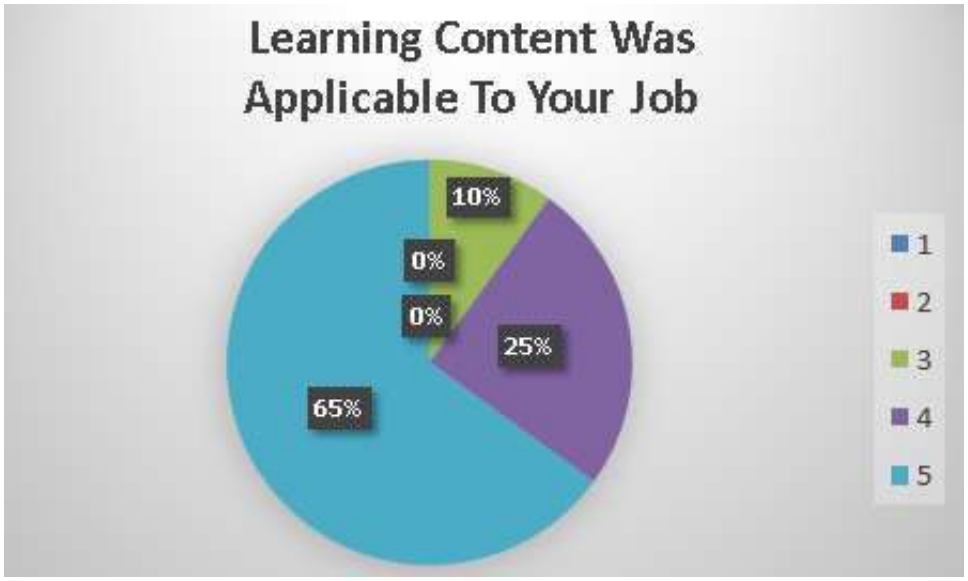

Figure 5. Learning content and the job percentage

In Figure 5 it can be explained that Learning content was applicable to job percentage As many as 50 respondents, 65% strongly agreed that learning or seminars were in accordance with the expectations of respondents, 25% agreed, and 10% quite agreed. It can be concluded that the training participants with the highest filling, namely 65%, strongly agreed that learning or seminars were in accordance with the expectations of respondents.

Learning materials and virtual tours as a system presented are interactive and easy to understand (Figure 6).

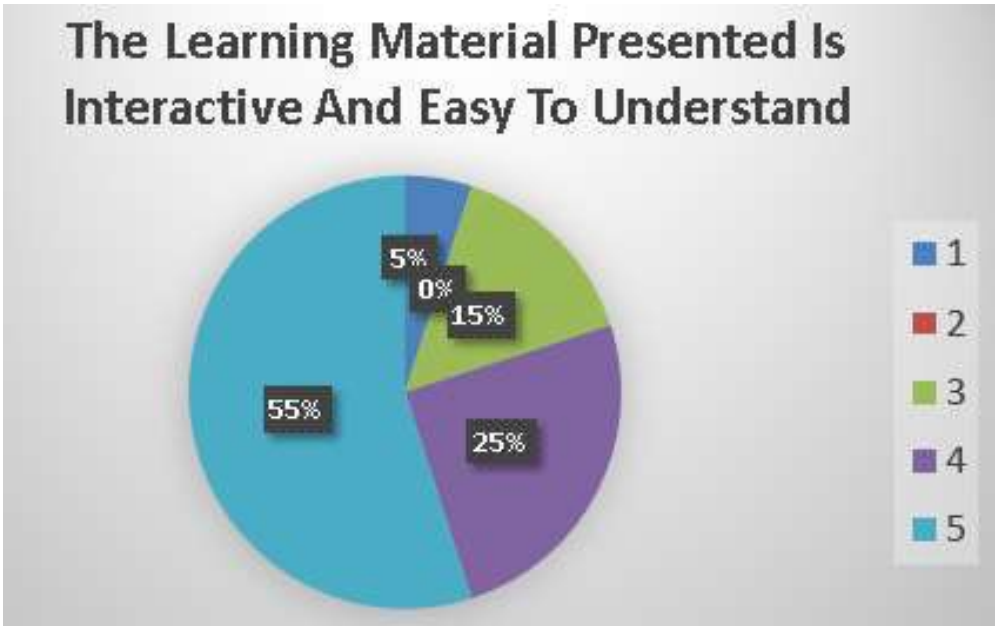

Figure 6. The learning material presentation

In Figure 6 it can be explained that the learning material presented is interactive and easy to understand with a percentage of 50 respondents, it was found that 55% strongly agreed that the learning material presented was interactive and easy to understand, 25% agreed, 15% quite agreed and 5% strongly disagreed. It can be concluded that the training participants with the highest filling, namely 55%, strongly agreed that the learning material presented was interactive and easy to understand.

The results of processing data about skilled facilitators help participants understand learning materials and virtual tour systems (Figure 7).

Figure 7. The facilitator skillfully and the learning content percentage

In Figure 7 it can be explained that the Facilitator skillfully helped you to comprehend the learning content percentage of 50 respondents. It was found that 55% strongly agreed that the facilitator skillfully helped you understand the learning material, 25% agreed, 15% quite agreed and 5% strongly disagreed. So it can be concluded that the highest filling, namely 55%, strongly agree that the facilitator is skilled at helping you understand the learning material,

Regarding the length of time learning and virtual tour training systems are used effectively for the learning process (Figure 8).

Figure 8. Learning time and the learning process percentage

In Figure 8 it can be explained that the percentage of learning time was used effectively for the learning process 50 respondents, obtained 55% strongly agree 2 Learning duration is used effectively for the learning process, 25% agree, 10% quite agree, 5% disagree and 5% strongly disagree. So it can be concluded that the highest filler, namely 55%, strongly agrees 2. Learning duration is used effectively for the learning process.

Participants provide an overview of the ease of accessing learning materials and virtual tour systems (Figure 9).

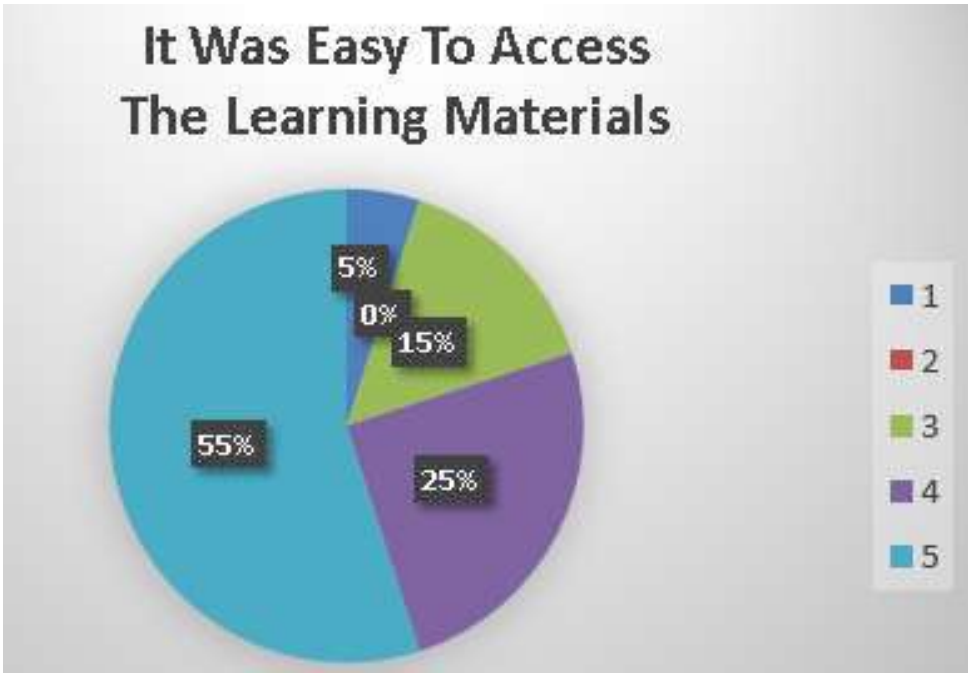

Figure 9. Accessing the learning materials presentation

In Figure 9 it can be explained that it was easy to access the learning materials percentage of 50 respondents, it was found that 55% strongly agreed that it is easy to access learning materials, 25% agreed, 1.5 % quite agreed, and 5% strongly disagreed. So it can be concluded that the highest filling 55% strongly agree Easy to access learning materials

Regarding all the facilities (content, material delivery, and resource persons) in the training that was carried out, the results were in accordance with the needs of the community (Figure 10).

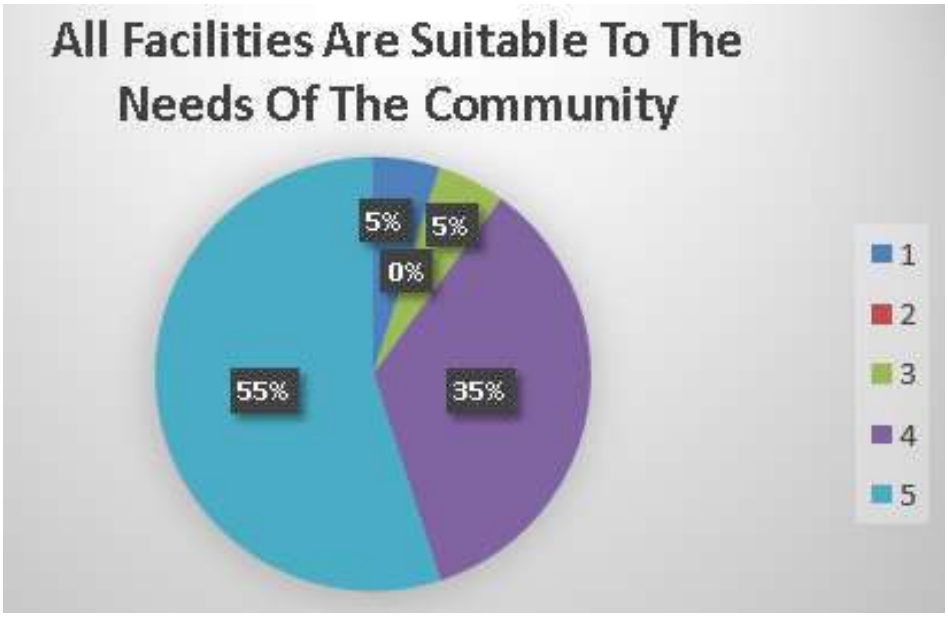

Figure 10. Facilities suitability with the needs of the community percentage

In Figure 10 it can be spelled out that from data processing from 50 respondents, it was found that 55% strongly agreed that all facilities (content, material delivery, and resource persons) were in accordance with the needs of the community, 35 % agreed, 5 % quite agreed, and 5% strongly disagreed. So, it can be concluded that 55% strongly agree that all facilities (content, material delivery, and resource persons) are in accordance with the needs of the community.

To understand how the knowledge, attitudes, and actions of the trainees change, it is known that the results of completing the questionnaire are known to the various impacts of the Learning Objectives Met Expectation percentage 65% strongly agree that learning or seminars align with the respondents' expectations. So that the learning objectives and virtual tours that have been carried out follow the expectations of the batik maker. So that the training participants can carry out the training properly and apply the movement to the fullest. Attitudes and actions that are carried out optimally

can improve human resources' technical, theoretical, conceptual, and moral abilities so that their work performance is good and achieves optimal results (Mah et al., 2019). In addition to the following attitude, namely the material used in training provided. Based on the movement, filling out the highest questionnaire, namely learning material from the virtual tour, the system can be applied to the work of batik artisans, namely learning content used to job percentage 65% strongly agree that learning or seminars are in line with the expectations of the respondents. Exciting content will tend to increase the interest of the target participants in the training so that the participants can focus on the training provided (Argyriou et al., 2020).

Furthermore, based on the learning material presented being interactive and easy to understand percentage, it can be concluded that 55% strongly agree that it is interactive and easy to understand. Materials are arranged systematically to help carry out more focused training activities. The data processing results about facilitators skillfully assisting participants in understanding learning material and the virtual tour system show that 55% strongly agree facilitators competently help you understand learning material. In this case, training participants are drawn to understanding each training taking place so that trainees can focus on carrying out the maximal exercise. Furthermore, the length of time for learning and virtual tour system training are used effectively for the learning process. So it can be concluded that the highest filler, 55%, strongly agrees. Learning duration is used effectively for the learning process. The course used in training is not boring and does not make the trainees sleepy so that the specified time can be categorized as effective and optimal in carrying out this training. Participants provide an overview of the ease of accessing learning materials and virtual tour systems. So it can be concluded that the highest filling, 55%, strongly agree easy to access learning materials. In this training, it is easier for participants to access the material provided and easy to obtain so that it can enable training participants to return to their studies at home (Bennett & Saunders, 2019; Lu et al., 2021). Furthermore, the results regarding all the facilities (content, material delivery, and resource persons) in the training that was carried out showed that the results were following the needs of the community (Chiao et al., 2018; García-Fernández et al., 2020; Perdana et al., 2019). So it can be concluded that 55% strongly agree that all facilities (content, material delivery, and resource persons) follow the community's needs.

In this case, the training follows the facilities provided in terms of content, delivery, material, and resource persons according to the expectations of the training participants. The program evaluation lasts for one month. Observations were made on the Batik virtual tour-based promotion Quality Improvement program at CV. Tiara Arunika consists of planned to stay for one month. The activities carried out in this implementation are batik promotion innovations that the community has carried out. Does the change in virtual tour-based promotions, especially adding descriptions to batik promotions sequentially, affect increasing turnover or sales volume (Mardiana et al., 2020). The program evaluation lasts for one month. Observations were made on batik promotional innovations carried out by the community. Does the change in digital promotion, especially adding sequential descriptions of batik, affect increasing turnover or sales volume (Bhatti et al., 2018; Rachmawati et al., 2018).

CONCLUSION

Based on the evaluation results of the user experience of batik artisans in the city of Bekasi, out of 50 respondents, it was found that 55% strongly agreed that socialized training material and virtual tour system are easy to access, and can develop web virtual tour-based digital villages. As a forum for promoting batik in the city of Bekasi Tiara Batik as a pilot project, this program can potentially increase the socialization of batik products, marketing, and production capacity according to market demand. In the aspect of achieving the goals of the Bekasi city batik artisans' participants, out of 50 respondents, the result was that 65% strongly agreed that the training and virtual tour system's learning objectives met the respondents' expectations. The hope the training participants answered was a marketing problem, where the virtual tour system was a solution to expand the marketing of batik in the City of Bekasi.

Advanced Development Phase 2 digital batik village application based on the website or mobile apps, from a dashboard and user interface (UI) side that is more user friendly. Stakeholder collaboration to create a batik village with cash characteristics in Bekasi City as a cultural preservation area and industrial town and empowering the community's creative economy can be carried out on an ongoing and sustainable basis.

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Optimizing the potential of the river through the "merti kali" program to support the sustainable communities

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ABSTRACT

The development of digital technology and virtual reality has also given birth to virtual tourism innovations that have an impact on increasing the community's economy through training. This program is carried out to create virtual tourist villages, especially based on virtual tourism batik, so that batik craftsmen have more time to promote their products and the tourist aspect. The virtual tour-based batik village aims to empower the batik artisan community to be more active in utilizing digital application platforms to market their products and produce practical applications for marketing. This digital application makes it easier for buyers to find out the promotions being carried out by Bekasi batik by utilizing gadgets and taking advantage of the digital world. The training method uses a case study approach, discussion, lecture, and ends with a training evaluation. The results of the study are based on the evaluation results of the user experience of batik craftsmen in the city of Bekasi, out of 50 respondents it is found that 55% strongly agree that training materials and virtual tour systems that are socialized are easy to access, can develop digital villages based on web virtual tours and as a forum for batik promotion Bekasi city. In the aspect of achieving the goals of the Bekasi city batik craftsmen participants, out of 50 respondents the result was that 65% strongly agreed that the learning objectives of the training and virtual tour system met the expectations of the respondents. It is the hope of the training participants that the problem of marketing the virtual tour system will be a solution to expand the marketing of batik in the City of Bekasi.

Kata Kunci
Ekonomi kreatif
Rekreasi
Sampah
Sungai
Teknologi

Mengoptimalkan potensi sungai melalui program "merti kali" untuk mendukung masyarakat yang berkelanjutan. Perkembangan teknologi digital dan virtual reality juga melahirkan inovasi virtual tourism yang berdampak peningkatan ekonomi masyarakat melalui pelatihan. Program ini dilakukan untuk menciptakan kampung wisata virtual terutama berbasis virtual tourism batik, sehingga pengrajin batik memiliki waktu lebih banyak untuk mempromosikan produknya dan aspek wisatawan. Kampung batik berbasis virtual tour bertujuan memberdayakan komunitas pengrajin batik agar lebih aktif dalam memanfaatkan platform aplikasi digital untuk memasarkan produknya dan menghasilkan aplikasi praktis untuk pemasaran. Aplikasi digital tersebut memudahkan pembeli mengetahui promosi yang dilakukan batik Bekasi dengan memanfaatkan gadget dan memanfaatkan dunia digital. Metode pelatihan menggunakan pendekatan studi kasus, diskusi, ceramah, dan diakhiri dengan evaluasi pelatihan. Hasil dari penelitian yaitu berdasarkan hasil evaluasi user experience pengrajin batik kota Bekasi, dari 50 responden di dapatkah bahwa 55% sangat setuju dimana materi pelatihan dan virtual tour sistem yang disosialisasikan mudah untuk diakses, dapat mengembangkan kampung digital berbasis web virtual tour serta sebagai wadah promosi batik kota Bekasi. Pada aspek pencapaian tujuan para peserta pengrajin batik kota Bekasi, dari 50 responden di dapatkah hasil bahwa 65% sangat setuju bahwa tujuan pembelajaran training dan virtual tour sistem sesuai harapan responden. Harapan peserta pelatihan agar permasalahan pemasaran virtual tour sistem menjadi solusi untuk memperluas pemasaran batik Kota Bekasi.

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INTRODUCTION

Plumbon Hamlet, Banguntapan Village, is located in the northern part of Bantul Regency, with a lowland topography. There is no problem with the availability of water in Plumbon Hamlet both in the rainy season and in the dry season, so residents in Plumbon Hamlet do not experience water shortages. Because of its strategic location and directly adjacent to the City of Yogyakarta, there has been a change in Plumbon Hamlet which is significant from its land use which is mostly dominated by residential areas. With many settlements in Kauman Babadan and some of them live along the river flow, this has the potential to increase river pollution caused by the behavior of people who throw garbage in the river (Panggungharjo, 2019).

Plumbon Hamlet, Banguntapan Village has community empowerment programs. For programs per RT area, there are groups consisting of dasa wisma, groups of PKK and Karang Taruna women, as well as mosque marbot groups. In general, all existing community empowerment programs in Plumbon Hamlet have been well implemented. However, a better development and organization effort is needed. Besides that, the Kauman Babadan area is flowed by a river which can be used as a potential for residents to increase their income. In Kauman Babadan there are two mosques where the Marbot Group of the Ad Darojat Mosque and the Marbot of the Nur Rohman Mosque still need skills in managing natural and environmental potential, one of which is the river that flows in their area. The majority of members of the Marbot group at Ad Darojat Mosque and Nur Rohman Mosque do not have the skills to supplement their income, so certain activities and training are needed by utilizing the natural potential in the form of a river that flows through Kauman Babadan so that they can fulfill their daily needs and revive the group so that it has sustainability.

One of the main environmental issues is the waste problem in society. The behavior of people who throw garbage in the wrong place is still a problem in Indonesia. Based on previous research, the main problems in Indonesia are related to waste collection and the socio-cultural behavior of Indonesian people (Zainul et al., 2021). In several areas in Indonesia, there are still some people who throw garbage in the river to avoid accumulation of waste in settlements (Nurhidayat, 2013). In overcoming river problems caused by garbage, there are several technologies used, one of which is the Trash Wheel (Lindquist, 2016) which is used to pick up trash in the river. This technology has been utilized in the Baltimore River, United States. However, the condition of rivers in Indonesia is very different from the Baltimore river. In Indonesia, most of the rivers are left in accordance with their natural conditions, namely there are still many settlements on the banks of the rivers (Kardono, 2018).

Some of the problems experienced by the community based on our observations are: (1) There is a natural potential in the form of a river flow along the Kauman Babadan area, Plumbon Banguntapan Hamlet which has not been utilized properly. This is because the river is polluted by garbage originating from the upstream area. Thus there is a need for new innovations to be able to take advantage of this potential by cleaning up trash regularly, so that the quality of river water is good and feasible to be developed for fish farming as a water tourism attraction to improve the creative economy and will ultimately be able to increase people's income (Qodriyatun, 2014); (2) Lack of public awareness of environmental cleanliness, especially river cleanliness. (3) The lack of empowerment of the Marbot group of the Ad-Darojat Mosque and the Nur Rohman Kauman Babadan Mosque which can produce a product that utilizes village potential so that it becomes an alternative source of income for the people of Kauman Babadan, Plumbon Hamlet, Bantul Regency.

An area will develop if it is supported by infrastructure, natural resources and human resources. The potential of natural resources and human resources should be put to good use in order to increase people's income (Saleh et al., 2020). This PKM activity aims to take advantage of the natural potential in the form of rivers and the availability of human resources from the Marbot Group of Ad Darojat Mosque and Nur Rohman Mosque so that they can provide economic and social benefits to society through the creative economy. By cleaning the river from garbage pollution and using it as water tourism, it can increase local economic activities which can indirectly improve the welfare of the people of Kauman Babadan Banguntapan. The potential of natural resources and the environment around the community needs to be identified based on local wisdom so that it supports government programs in managing natural resources and the environment and is sustainable (Fadhil, 2007). Therefore, it is necessary to empower community groups. The International Labor Organization (2017) states that it is necessary to identify job opportunities for the community and increase people's income, and can provide innovative ideas for new businesses and job opportunities (International Labour Organization, 2017).

Based on observations, it was found that the natural potential in the form of a river that flows along Kauman Babadan Banguntapan needs to be utilized with human resources from the Marbot Masjid Ad Darojat and Nur Rohman to become Community based tourism in the form of water tourism. Community based tourism is a concept of developing tourist destinations by empowering local communities through their involvement in the process of planning, managing and conveying opinions (Goodwin & Santilli, 2009).

METHOD

This community service held in the Kauman Babadan, Plumbon Hamlet, Bantul Regency (Figure 1). Therefore, the Community Partnership Program Activity Plan is as follows: (1) Handling river waste managed by two groups of Marbot

Ad Darojat Mosque and Nur Rohman Kauman Babadan Mosque, Plumbon Hamlet, Banguntapan Village. (2) Outreach to the community concerned about the environment. (3) Creation of fish farming ponds with river insulation managed by the two Marbot groups. (4) Spreading fish seeds. (5) Initiation of making water tourism as community based tourism. (6) Making videos that are uploaded on social media.

Figure 1. Physical condition of Kauman Babadan, Plumbon Hamlet

The existence of natural potential in the surrounding environment and the lack of ability of community groups to utilize this natural potential, the Community Partnership Program (PKM) activities seek to solve these problems with several approaches carried out together as follows: (1) Group-based, all stages and types of activities that will be carried out by local communities using groups. Community groups will be used as learning media and mentoring, planning, implementing, and monitoring activities. (2) Comprehensive, this PKM program intervenes in all aspects to conduct training for the Marbot Masjid group in increasing expertise, skills and knowledge (fish farming techniques) through fish farming training and strengthening the Dasawisma group as a forum for activities through mentoring. (3) Based on local potential, making water tourism will be based on local potential in the form of a river that runs along the Kauman Babadan.

Figure 2. Stages of PKM activities

The further explanation is as follows:

Program Outreach

The initial step taken by the PKM Team was to ensure support from the community and takmir of the Ad Darojat Mosque and Nur Rohman Mosque for the program to be implemented, namely the dissemination of technology products to the community. The activities carried out included the introduction of all members of the PKM Team and requests for activity permits from the two Mosque Takmirs which were strung together with a presentation of the programs being carried out.

Merti Kali Extension

In the context of utilizing the river, which has been carried out by the "Merti Kali" program using a bar screen tool, it is necessary to provide counseling for the community to care about environmental cleanliness, especially the river environment which has the potential to be used as a source of income through fish farming. With this counseling, it is hoped that it can support the "Merti Kali" program so that the community's green economy is realized. This program

supports the initiation of water tourism development to increase people's income through the creative economy (Arismayanti et al., 2017).

Installation of river trash cleaning equipment

In the "Merti Kali" program, the PKM Team will donate a bar screen tool that is used to clean the river so that the river can be utilized by the community.

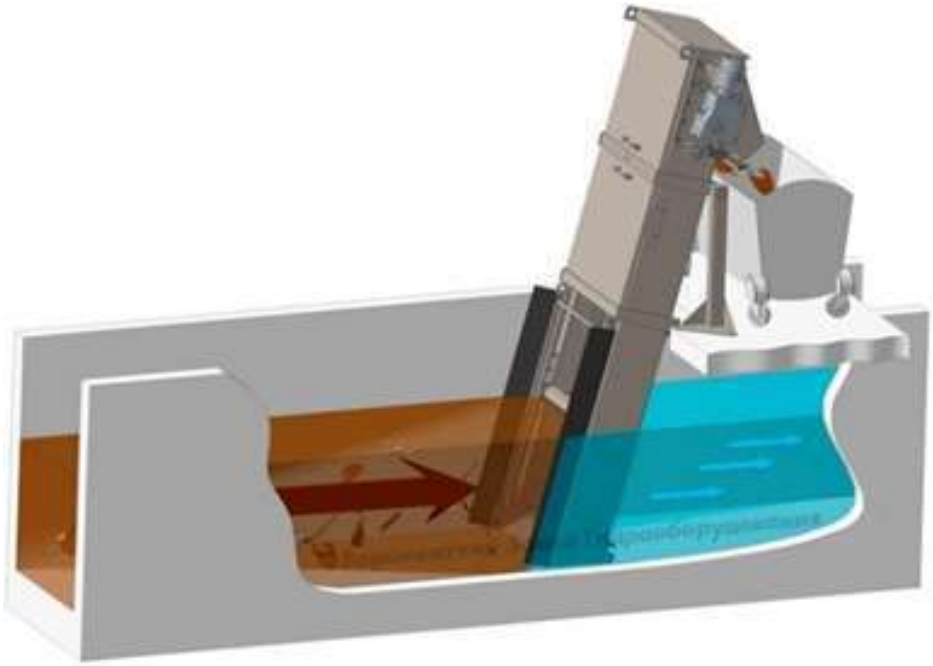

Figure 3. Mechanical bar screen trash cleaning tool

Mechanical bar screen is used to block and get rid of trash floating in the river (Saju et al., 2020). The residual size which is larger than the rod spacing is blocked by the screening surface while the sewage is flowing, the rake tooth plate teeth go deep into the screen chamber. The residue blocking the screen surface will be lifted up by the rake tine, under the driven chain driven and discharged by gravity when it reaches the top of the discharge outlet. Residue that falls from the discharge outlet will fall into the conveyor or bin (Suansri, 2003).

1. River blocking for fish ponds

The "Merti Kali" program which has been carried out will be followed up by blocking 250 meters with a river width of about 2.5 meters and a depth of about 1 meter. This blocking is carried out to create freshwater fish farming, in order to increase community income through the initiation of water tourism Besides, it can also be sold to the wider community.

2. Spreading fish seeds

The fish seeds that will be donated by the PKM implementation team to the two community groups are 5,000 tilapia fish. The PKM team assisted in fish farming in the river after training was conducted for the two Marbot groups.

3. Initiation of water tourism as community based tourism

The “Merti Kali” program, which is followed by spreading fish seeds and cultivating fish, needs to be supported by public awareness to keep the environment clean. Communities who care about environmental cleanliness can encourage the creation of river conditions that are used for fish farming as a tourist attraction. The initiation of water tourism which requires local wisdom is community-based tourism (Suansri, 2003) which requires support from the village government and related agencies, namely the irrigation service. This water tour can later encourage the creation of a creative economy in the surrounding area with various attractions, environmental beauty, and culinary as tourist attractions (Inskeep, 1991).

RESULTS AND DISCUSSION

Several activities in the Community Partnership Program have been carried out including the Socialization of the Community Partnership Program to members of the Ad Darojat mosque marbot and the Nur Rohman mosque marbot and "Merti Kali" counseling to the community, especially in the context of keeping the river clean around their homes.

Socialization of PKM activities

The PKM socialization activity was carried out on July 9 2022 at 19.00 WIB at the Nur Rohman Mosque which was attended by 40 marbot members and administrators of the Ad Darojat Mosque and the Nur Rohman Mosque. This socialization activity is intended so that the takmir of the mosque and members of the marbot understand the purpose and benefits of this PKM activity for the local community, especially the marbot members of the two mosques. With this PKM activity, it is hoped that the rivers around the Ad Darojat Mosque and Nur Rohman Mosque will be cleaner from garbage and can be used to cultivate fish which can later be initiated into tourist attractions for the community, so as to improve the local community's economy (Figure 4).

Figure 4. Socialization of community services accompanied by filling out pre-counseling questionnaires Merti Kali

Merti Kali Counseling

Counseling activities have been carried out as part of this series of PKM activities on July 30, 2022 at the Nur Rohman Mosque (Figure 5). Around 45 participants attended this counseling consisting of RT administrators along the river and members of marbot as well as several heads of households living along the river. This counseling was given by Mr. Ir. Totok Pratopo. He is the Pioneer of Merti Kali on the Code River, which has now succeeded in making the Code River cleaner and a tourist spot for the people of Yogyakarta. This counseling aims to make people care about the cleanliness of the environment, especially the river environment which has the potential to be used as a source of income through fish farming. With this counseling, it is hoped that it can support the "Merti Kali" program so that the community's green economy is realized and support the initiation of water tourism development to increase people's income through the creative economy.

Figure 5. Counseling Merti Kali

The distribution of questionnaires was carried out before and after/after the Merti Kali counseling to find out whether there was an increase in the knowledge of the participants of Marbot Masjid Ad Darojat and Nur Rohman and residents along the river after attending the counseling (Figure 6).

Figure 6. Filling in the questionnaire after the Merti Kali Extension

Characteristics of Participants

The Merti Kali counseling was attended by 45 participants who came from members of the marbot of the Ad Darojat Mosque and Nur Rohman Mosque as well as several heads of households who live around the river. Before and after the Merti Kali Extension, questionnaires were distributed to the participants. The characteristics of the Community Partnership Program participants will be explained further (Table 1). Based on gender, 85 percent of the participants were male and 15 percent of the participants were female (see Table 1).

Table 1. Composition of participants based on gender

Gender	Total	Percentage
Male	38	85%
Female	7	15%

There were as many as 73 percent of all participants who were married, while the remaining 27 percent were single or not married (see Table 2).

Table 2. Composition of participants based on marital status

Marital Status	Total	Percentage
Married	33	73%
Unmarried	12	27%

Based on education level, 72 percent of all participants had high school education. There were 13 percent of participants with junior high school education or equivalent. Only 7 percent have a bachelor's degree, and the remaining 4 percent have primary and master's degrees or equivalent (see Table 3).

Table 3. Composition of participants based on education level

Education	Total	Percentage
Elementary School	2	4%
Junior High School	6	13%
Senior High School	36	72%
Vocational School	0	0%
Bachelor Degree	3	7%
Post graduate Degree	2	4%
Other		

There were as many as 56 percent of all participants who did not have certain skills. Meanwhile, 44 percent of the participants had certain skills (see Table 4).

Table 4. Composition of participants based on certain skills

Skill	Total	Percentage
Have	20	44%
Not have	25	56%

All of the Merti Kali counseling participants have not been involved in a formal business to date. There were 13 percent of all participants who were also not involved in formal or informal businesses. Meanwhile, 78 percent of all participants were involved in informal businesses. The remaining 9 percent are involved in formal businesses (see Table 5).

Table 5. Composition of participants based on involvement with the business

Involvement in business	Total	Percentage
Formal Business	4	9%
Informal Business	35	78%
Not involve	6	13%

Based on the use of river water for daily needs, there were 22 percent of all participants using river water for daily needs (flushing, washing vehicles, etc.. The remaining 78 percent of all participants did not use river water for daily needs (see Table 6).

Table 6. Composition of participants based on the use of river water for daily needs

Use of river water for daily needs (flushing, washing vehicles, etc.)	Total	Percentage
Yes	10	22%
No	35	78%

Based on the habit of throwing garbage in the river, 65 percent stated that local people throw garbage in the river. While the remaining 35 percent of participants stated that residents do not throw garbage in the river (see Table 7).

Table 7. Composition of participants based on their habit of throwing garbage into the river

Do you think that the residents around where you live sometimes still throw garbage in the river?	Total	Percentage
Yes	29	65%
No	16	35%

Judging from the composition of the participants, based on the participants' perceptions, if the river water around their residence is clean and safe for use for fish breeding, before the Merti Kali counseling, 56 percent of all participants agreed that the river water around their residence is clean and safe for use for fish breeding. Meanwhile, 44 percent of all participants disagreed. However, after the Merti Kali counseling there was an increase in the composition of participants who agreed that the river water around their residence was clean and safe to use for fish breeding, namely by 98 percent, while those who disagreed were only 2 percent (see Table 8).

Table 8. Composition of participants based on participants' perceptions if the river water around their residence is clean and safe to use for fish breeding

Do you agree that the river water around your residence is clean and safe to use for fish breeding?	Before "Merti Kali" Counseling		After "Merti Kali" Counseling	
	Total	Percentage	Total	Percentage
Yes	39	56%	44	98%
No	6	44%	1	2%

Based on the actions taken to improve river water quality, after experiencing Merti Kali Extension, there was an increase in the number of participants by 10 percent who thought that installing river cleaning tools could improve river water quality. In addition, there was an increase in the number of participants as much as 15 percent who thought that taking action not to throw garbage in the river could also improve the quality of the river (see Table 9).

Table 9. Composition of participants based on actions taken to improve river water quality

According to you, in order for the river water quality to be good, what actions need to be taken?	Before "Merti Kali" Counseling		After "Merti Kali" Counseling	
	Total	Percentage	Total	Percentage
Don't throw garbage in the river	8	18%	15	33%
Clean up river trash regularly	2	5%	1	3%
Providing education to the community about the importance of clean rivers	18	40%	12	27%
Install river cleaners	10	23%	15	33%
Formation of a river clean volunteer community	7	14%	2	4%
Other	0	0%	0	0%

Based on the frequency of river cleaning, after participating in the Merti Kali Counseling there was an increase in the number of participants by 23 percent who stated that it was necessary to carry out cleaning 2 times a month. The

percentage increase also occurred after counseling for those who thought that river cleaning needed to be done more than 3 times a month (see Table 10).

Table 10. Composition of participants based on river cleaning frequency per month

In your opinion, how many times per month should cleaning the river be done?	Before "Merti Kali" Counseling		After "Merti Kali" Counseling	
	Total	Percentage	Total	Percentage
No need	0	0%	0	0%
1	20	45%	4	9%
2	15	33%	25	56%
3	5	11%	7	15%
4	3	7%	4	9%
>4	2	4	5	11%

Based on the perception that the quality of river water will have an impact on the health of the community around the river, after the Merti Kali Extension there was an increase in the number of participants by 33 percent from 67 percent to 100 percent who thought that the quality of river water would have an impact on the health of the community around the river (see Table 11).

Table 11. The composition of participants based on the perception that the quality of river water will have an impact on the health of the people around the river

In your opinion, will the quality of the river water affect the health of the people living around the river?	Before "Merti Kali" Counseling		After "Merti Kali" Counseling	
	Total	Percentage	Total	Percentage
Yes	30	67%	45	100%
No	15	33%	0	0%

Based on the perception that the quality of river water will have an impact on the health of the community around the river, after the Merti Kali Extension there was an increase in the number of participants by 33 percent from 67 percent to 100 percent who thought that the quality of river water would have an impact on the health of the community around the river (see Table 12).

Table 12. Composition of participants based on the perception that waste in rivers can cause flooding

In your opinion, can trash in the river cause flooding?	Before "Merti Kali" Counseling		After "Merti Kali" Counseling	
	Total	Percentage	Total	Percentage
Yes	30	67%	45	100%
No	15	33%	0	0%

Based on the perception that the river needs to be maintained and preserved for posterity, as many as 100 percent of participants thought that the river needed to be maintained and preserved for posterity, both before and after participating in the Merti Kali Extension (see Table 13).

Table 13. Composition of participants based on the perception that waste in rivers can cause flooding

In your opinion, do rivers need to be maintained and preserved for future generations?	Before "Merti Kali" Counseling		After "Merti Kali" Counseling	
	Total	Percentage	Total	Percentage
Yes	45	100%	45	100%
No	0	0%	0	0%

Based on the perception that the river needs to be maintained and preserved for posterity, as many as 100 percent of participants thought that the river needed to be maintained and preserved for posterity, both before and after participating in the Merti Kali Extension (see Table 14).

Table 14. Composition of participants based on knowledge of the "Merti Kali" program

Do you know about the "Merti Kali" program?	Before "Merti Kali" Counseling		After "Merti Kali" Counseling	
	Total	Percentage	Total	Percentage
Not know	35	78%	0	0%
Just heard but don't know what to use	6	13%	0	0%
Already know but haven't done it yet	4	9%	45	100%
Already know and have done	0	0%	0	0%

Initially, only 22 percent of the participants stated that the "Merti Kali" program was beneficial to the community, while the remaining 78 percent stated that the "Merti Kali" program was not beneficial to the community. However, after participating in the Merti Kali Counseling as many as 100 percent of the participants stated that the “Merti Kali” program was beneficial to the community (see Table 15).

Table 15. Composition of participants based on knowledge of the “Merti Kali” program

If you know, is the “Merti Kali” program beneficial to the community?	Before “Merti Kali” Counseling		After “Merti Kali” Counseling	
	Total	Percentage	Total	Percentage
Yes	10	22%	45	100%
No	35	78%	0	0%

Before participating in the Merti Kali Counseling, 74 percent of the participants stated that they were willing to participate as volunteers for the clean river community around their residence, while the remaining 26 percent stated that they were not willing. However, after participating in the Merti Kali Counseling there was an increase in the number of participants who were willing to become community volunteers to clean the river around their residence (see Table 16).

Table 16. Composition of participants based on their willingness to participate as volunteers for the clean river community around their residence

Are you willing to participate as a volunteer for the clean river community around your residence?	Before “Merti Kali” Counseling		After “Merti Kali” Counseling	
	Total	Percentage	Total	Percentage
Yes	33	74%	40	89%
No	12	26%	5	11%

As many as 67 percent of participants stated that they did not know about mechanical bar screens, 24 percent had only heard but did not know what could be used, 9 percent already knew but had not used it before the Merti Kali Extension. However, after participating in the Merti Kali Counseling, there was an increase in the number of participants who knew about it even though they had not used it to as much as 89%. This is because the PKM activities which are planned to use the mechanical bar screen device are still ongoing and are in the process of ordering (see Table 17).

Table 17. Composition of participants based on knowledge of mechanical bar screens

What is Mr/Ms/Brother? know about mechanical bar screen?	Before “Merti Kali” Counseling		After “Merti Kali” Counseling	
	Total	Percentage	Total	Percentage
Not know	30	67%	1	2%
Just heard but don't know what to use	11	24%	4	9%
Already know but haven't used it yet	4	9%	40	89%
Already know and have used it	0	0%	0	0%

Initially there were as many as 83 percent of participants who stated that the mechanical bar screen was useful for improving river water quality. After participating in the Merti Kali Counseling, 100 percent of the participants stated that the mechanical bar screen was beneficial for improving river water quality (see Table 18).

Table 18. Composition of participants based on the benefits of mechanical bar screens for river water quality improvement

Do you think the use of mechanical bar screens is beneficial for improving river water quality?	Before “Merti Kali” Counseling		After “Merti Kali” Counseling	
	Total	Percentage	Total	Percentage
Beneficial	37	83%	45	100%
Useless	8	17%	0	0%

Based on the expectations of the participants, before participating in the Merti Kali Counseling as many as 93 percent of the participants stated that the river could be used for fish farming as well as a river tourism spot. After participating in the Merti Kali Counseling, as many as 100 percent said they had hope that the river could be used for fish farming as well as a river tourism spot (see Table 19).

Table 19. The composition of participants is based on the hope that the river can be used for fish farming as well as a river tourism spot

Do you hope that the river can be used for fish farming as well as a river tourism spot?	Before "Merti Kali" Counseling		After "Merti Kali" Counseling	
	Total	Percentage	Total	Percentage
Yes	42	93%	45	100%
No	3	7%	0	0%

Based on knowledge about freshwater fish farming, after participating in the Merti Kali Counseling there was an increase of 80 percent of participants who already knew how (see Table 20).

Table 20. Composition of participants based on knowledge of freshwater fish farming

Do you know about freshwater fish farming?	Before "Merti Kali" Counseling		After "Merti Kali" Counseling	
	Total	Percentage	Total	Percentage
Not know	10	22%	0	0%
Just heard but don't know what it's like	10	22%	2	4%
Already know but don't know how to make it	25	56%	7	16%
Already know how	0	0%	36	80%

Based on the willingness to participate in fish farming in the river later, after participating in the Merti Kali Counseling there was an increase in the number of participants who were willing, from initially as much as 89 percent to 100 percent willing to participate in fish farming in the river later (see Table 21).

Table 21. Composition of participants based on their willingness to participate in fish farming in the river later

Are you willing to participate in fish farming in the river in the future?	Before "Merti Kali" Counseling		After "Merti Kali" Counseling	
	Total	Percentage	Total	Percentage
Yes	40	89%	45	100%
No	5	11%	0	0%

As for some of the inputs/suggestions/criticisms in general from the participants related to the Community Partnership Program (PKM) activities, they are as follows (see Table 22).

Table 22. Inputs/suggestions/criticisms from this Community Service program

What are the inputs/suggestions/criticisms of this Community Service program?
▪ It is hoped that this program can continue and continue to be fostered so that the community can be empowered to the fullest
▪ Hopefully this program can run according to the expectations of the people on the banks of the river
▪ The community needs continuous support and motivation so they can use the river
▪ Hopefully the program will run smoothly and the river will be clean and people will care about the cleanliness of the river (don't throw garbage in the river)
▪ This program needs to be constantly monitored

Handover grants and installation of river trash cleaning equipment

In the "Merti Kali" program, the PKM Team will donate a mechanical bar screen device that is used to clean the river so that the river can be utilized by the community (Figure 7).

Figure 7. Submission of goods grants and installation of a mechanical bar screen device

Mechanical bar screen is used to block and get rid of trash floating in the river. The residual size which is larger than the rod spacing is blocked by the screening surface while the sewage is flowing, the rake tooth plate teeth go deep into the screen space. The residue blocking the screen surface will be lifted up by the rake tine, under the driven chain driven and discharged by gravity when it reaches the top of the discharge outlet. Residue that falls from the discharge outlet will fall into the conveyor or bin (Suansri, 2003).

River blocking for fish ponds

The "Merti Kali" program which has been carried out will be followed up by blocking 50 meters with a river width of about 2.5 meters and a depth of about 1 meter. This blocking is carried out to create freshwater fish farming, in order to increase community income through the initiation of water tourism, Besides, it can also be sold to the wider community (Figure 8).

Figure 8. River blocking for fish ponds

Spreading fish seeds

The fish seeds that will be donated by the PKM implementation team to the two community groups are 500 tilapia fish. The PKM team assisted in fish farming in the river after training was conducted for the two Marbot groups (Figure 9).

Figure 9. Spreading fish seeds

Initiation of water tourism as community based tourism

The "Merti Kali" program, which is followed by spreading fish seeds and cultivating fish, needs to be supported by public awareness to keep the environment clean. Communities who care about environmental cleanliness can encourage the creation of river conditions that are used for fish farming as a tourist attraction. The initiation of water tourism which requires local wisdom is community-based tourism (Nurfathiyah et al., 2011) which requires support from the village government and related agencies, namely the irrigation service. This water tour can later encourage the creation of a creative economy in the surrounding area with various attractions, environmental beauty, and culinary as tourist attractions.

CONCLUSION

This Community Partnership Program activity is considered quite beneficial for partners, namely the Marbot Group of Ad Darojat Mosque and Nur Rohman Mosque and residents on the banks of the Kauman Babadan River in Plumbon

Hamlet, Banguntapan Bantul. The existence of the Merti Kali Extension program which will later be followed by the installation of a Mechanical bar screen device which will be donated by the PKM Implementation Team is expected to improve the quality of river water so that it is suitable for fish farming and can later be used as a community-based tourist spot. With the Merti Kali Extension, there is an increased understanding of the importance of Merti Kali and the importance of the Mechanical bar screen device which will be installed later. Partners and the community are also willing to participate in a clean river community and carry out fish farming if the river water quality is proper. This activity cannot be separated from the role of the marbot of the two mosques to continue to encourage people on the banks of the river not to throw garbage in the river and to monitor the cleanliness of the waste. Partners hope that this PKM program can continue, so that by exploiting the potential of the river as a place for fish farming it can become river tourism which can later improve the economy of the surrounding community.

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Improving marketing skills through logo design training for the local business community

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ABSTRACT

Sangir Regency which is located in South Solok Regency, West Sumatra, Indonesia is potential for culinary tourism because the data obtained by the number of local entrepreneurs in the Sangir Nagari Sungai Kunyit area reveal that several communities of local entrepreneurs engaged in home-based culinary businesses. The lack of use of technology to grow the selling value of regional products is an obstacle for local business communities to develop their businesses. Local entrepreneurs lose competitiveness if they want to market their products more broadly. The demographic location of Nagari Sungai Kunyit, which is quite far from the city of Padang Aro, also makes the inclusion of marketing trend technology not well utilized by the community. The method used in this service activity is the following: the first step was preparation, including observation *and licensing administration; the second step was training in a 2-day successive workshop; the third step was 1-day evaluation; and the last step was product marketing assistance through the UNP Faculty of Tourism and Hospitality. The existence of skills development training activities has succeeded in increasing the resources of the local Nagari Sungai Kunyit business community in the field of making logos, which have become reinforcements, providing added value to the products produced. Furthermore, it helps small entrepreneurs to make products more attractive because they have the characteristics of their respective logos. Increasing human resources in the field of branding design is expected to spur an increase in the people's economies in South Solok Regency. It is proven that this activity has increased local business sales turnover and entrepreneurs are more confident in marketing their products outside the region.*

Kata Kunci
Branding
Desain logo
Keterampilan marketing
Komunitas bisnis lokal

Meningkatkan keterampilan pemasaran melalui pelatihan desain logo untuk komunitas bisnis lokal.
Kabupaten Sangir yang terletak di Kabupaten Solok Selatan, Sumatera Barat Indonesia, memiliki potensi wisata kuliner dikarenakan data yang didapatkan jumlah pengusaha lokal daerah Sangir nagari sungai Kunyit terdiri dari beberapa komunitas pengusaha lokal yang bergerak di bisnis kuliner rumahan. Minimnya penggunaan pemanfaatan teknologi untuk menumbuhkan nilai jual produk daerah menjadi hambatan bagi komunitas pengusaha lokal untuk mengembangkan usaha mereka. Pengusaha lokal kalah saing jika ingin memasarkan produk mereka lebih luas. Letak demografis nagari Sungai Kunyit yang cukup jauh dari kota Padang Aro juga membuat masuknya teknologi trend pemasaran kurang dimanfaatkan dengan baik oleh masyarakat. Metode yang digunakan pada kegiatan pengabdian ini yang pertama persiapan termasuk di dalamnya observasi dan administrasi perizinan, kedua pelatihan dalam bentuk workshop beruntun *selama* 2 hari , ketiga 1 hari evaluasi, dan Langkah terakhir pendampingan pemasaran produk melalui fakultas Pariwisata dan Perhotelan UNP. Adanya kegiatan pengabdian pelatihan pengembangan keterampilan berhasil meningkatkan sumber daya komunitas pengusaha lokal Nagari Sungai Kunyit di bidang pembuatan logo menjadi penguat memberikan nilai tambah untuk produk yang dihasilkan. dan membantu pengusaha kecil membuat produk lebih menarik karna mimiliki ciri khas logo masing-masing. Peningkatan sumber daya manusia di bidang desain branding diharapkan dapat memacu peningkatan perekonomian masyarakat di Kabupaten Solok Selatan. Terbukti dengan adanya kegiatan ini menambah omzet penjualan bisnis lokal, serta pengusaha lebih percaya diri memasarkan produknya di luar daerah.

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INTRODUCTION

Some changes in the economic sector have experienced a period of ups and downs, this occurs in various developing countries (Frey & George, 2010) . Number of case studies during a pandemic have been conducted and they reveal that the world economy experienced difficult times. Even to maintain their businesses, many companies terminated work contracts (Samala, et al., 2022). This has triggered an economic decline in various developing countries in the world, including one in Indonesia (Gobel, 2020). In this phase, many digital businesses appear that do not require space and provide goods on demand. This is a positive sign that buying and selling is still alive in the community (Adesti, et al., 2022). The emergence of various digital businesses in the business sector is in accordance with the pillars of economic development contained in the 17 main points of the SDGs. achieving quality economic growth through sustainable employment and business opportunities, innovation, inclusive industry, adequate infrastructure.

The emergence of the Internet in the 1990s prompted a series of innovations that had a profound impact on buyers, sellers and markets (Ratchford, 2019). These innovations typically involve not only the internet in some ways but also include network electronics in general together with an estimated commercialization date and a list of the technologies to which they are being replaced. Trend data on the share of usage of various online devices since 2000 (Fidiastuti et al., 2021). The internet was commercialized around 1990, when it replaced the ARPANET, which provided online communication between government agencies and universities, and restrictions on commercial use were removed. Mosaic, introduced in 1993, was the first popular web browser (Wilianto & Kurniawan, 2018). While the first search engine also appeared around 1993, Google was not founded until 1998 and only became popular around 2000. Online shopping started around 1994, the year Amazon was founded, and online advertising started around the same time. Wi-Fi was introduced in 1998, broadband around 2000, social networking around 2005, and smartphones around 2006.

During the pandemic, it had a major impact on the tourism industry sector in Indonesia (Budiyanti, 2020). Many souvenir traders choose to find other jobs because tourist visits have drastically reduced during the COVID-19 Pandemic (Susanty & Renjaan, 2021). This challenge can be answered by advances in marketing technology. Some traders who consistently sell local products in tourism areas can sell their products in online stores (Indarta, et al., 2021). Utilizing social media facilities to attract visitors or technological breakthroughs to create virtual reality from these tourist objects (Li, 2018; Samala, et al., 2022). Therefore, technology can help the tourism industry sector to revive small entrepreneurs who live from selling, thus, technology provides an educational element for them (Ranuharja, et al., 2021).

Goa Batu Kapal Tourism located in Sangir sub-district, South Solok Regency, is an appropriate example to describe a destination that requires the use of digital promotion and the increase of product value through product symbol branding. The tourist destination of Goa Batu Kapal offers a view of the beautiful mineral cave layers attached to the walls and ceiling of the cave. Goa Batu Kapal itself is of course the concern of the local government to promote local tourism areas by developing and facilitating tourists and local traders. On the outside of the cave it was designed and renovated as a children's playground so that it becomes an additional attraction for tourists who are already married. With so many visitors coming for tours, it has a direct impact on helping to boost the economy of the people of the Sangir Balai Janggo sub-district who work as traders.

Obtained observational data on the marketing of local products in the Sangir sub-district in the form of special food and services that do not yet have the appeal of packaging, promotion and design simultaneously has a positive and significant effect on purchasing decisions (Lacave-García et al., 2020). A product packaging logo provides more value when compared to products that do not have a logo. With a logo that is easy to understand, it will be easier for people to recognize the logo.

The solution offered to the people of South Solok District is in the form of product graphic design training and creating logos/branding. Other things are also regarding the promotion of social media that influence tourist attention, and searches in a positive and significant way; furthermore, the search activity of tourists can influence their actions (Lutur & Santoso, 2020) . The benefit of this training is that the resulting logo design can be distributed for promotional purposes to a variety of existing social media platforms, including *Facebook, Instagram, TikTok*, and others. This training is carried out in the form of theory and practice. Small trader participants in the Goa Batu Kapal tour, Sangir District, Balai Janggo, are facilitated by computers or laptops to make product designs. It is hoped that this training will provide design expertise for the people of Sangir District to promote local products and market them outside the area with attractive and selling product displays. Products with attractive brands and packaging will be more easily marketed outside the Sangir district.

METHOD

The Community Service Program was held in Sangir District, Balai Janggo, precisely in the Sungai Kunyit area, South Solok Regency in collaboration with the local business community in the Sungai Kunyit as training participants, total number of participants were 15 representatives (Figure 1). Participants were selected by partners with the criteria of people who can operate computers and are under 40 years old. This program was carried out on the 15th, 16th and 17th of July 2022. The community service was held at the Nagari Sungai Kunyit hall building.

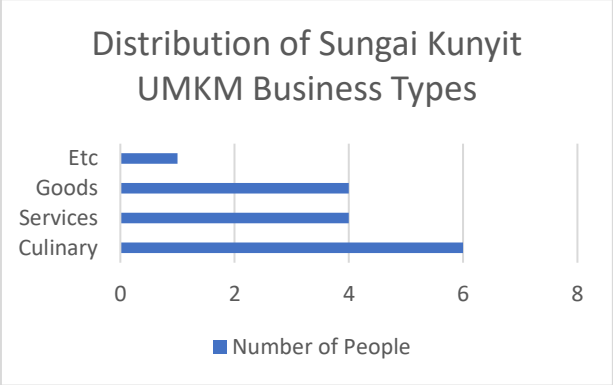

Figure 1. Bar chart of distribution of business types of community service participants

The total number of participants in the Logo Design Workshop in Nagari Sungai Kunyit was 15 people. As many as 6 people were engaged in the culinary business, 4 people were in the service business, 4 people were in the sale of goods and the remaining 1 was not among the three types of business categories. Generally, the implementation method was divided into 4 stages. Stage 1 was pre-implementation of Community Services, stage 2 was Training, Stage 3 was Evaluation of community service, and finally stage 4 was assisting the local community of Sungai Kunyit entrepreneurs. It can be seen from the following Figure 2.

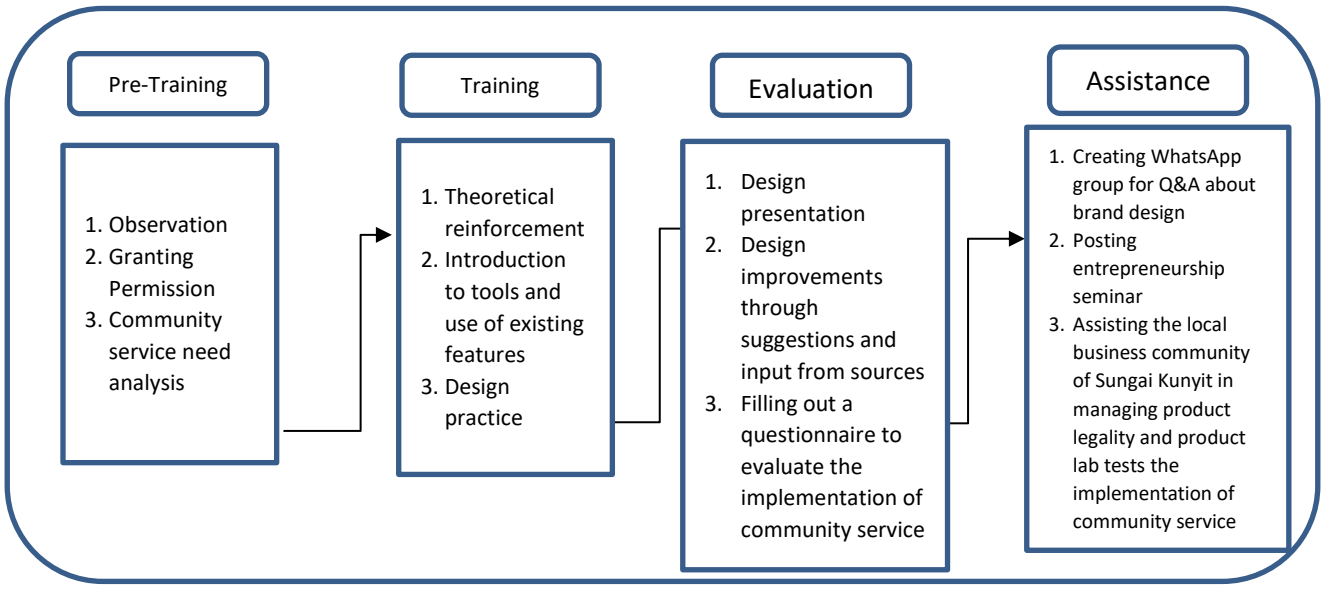

Figure 2. Workflow of Logo Design Training as Community Service at Sungai Kunyit

RESULTS AND DISCUSSION

Community service partnership was conducted in the Goa Batu Kapal tourist spot, Sangir Balai Janggo District. The background of the Padang State University service team from the faculty has carried out other community service programs. Communication with previous partners by sending messages via WhatsApp. The partners were Mr. Rinaldi, S.Sos., M.H who is the Guardian of Nagari Sungai Kunyit and Mr. Mon Effendi as the secretary of the Nagari Sungai Kunyit. From the interviews conducted both by phone and by sending messages via WA, it is revealed that there are at least 10 more local entrepreneur communities who are fostered to develop their businesses better. The lack of human resource capabilities in the field of technology utilization has resulted in complaining that they want to innovate but have not been able to do so. Both in terms of logo packaging and marketing, Sungai Kunyit is still targeting the local community market. Certainly, there is a desire to further develop their business, for that the dedication that is being carried out in partnership with Nagari Sungai Kunyit, Sangir Balai Janggo District, is appropriate for exploring the potential of small and medium businesses. This project was done with the agreement of the Nagari guardian, a partner request letter is obtained, which can be seen in the attachment.

Implementation of community service was done on the 15th, 16th and 17th of July 2022. The method of implementing the community service is the provision of direct material and practice. On the first day, there were 3 materials provided, namely: 1) Design Concepts, 2) Golden ratio and object tracing, and 3) Product logo creation design. After being opened

by remarks by local officials, the dedication team gave a review of the presentation material regarding the 3 main points above. Theoretical material is provided as a basis for participants how to make a product logo that has selling points, is attractive and can be accepted by the wider community.

The second day of the dedication was continued with the practice of a logo design workshop using the image editor software that had been provided and installed for all participants (Figure 3). Participants before the activity started were given information to use their respective laptops complete with a mouse so that the design workshop could run smoothly. For the first exercise, an example of a basic design is given, then if the participants understand the technicalities of using the Adobe Illustrator image editor tool, participants can take advantage of the features/tools available in the software. Fundamental ethics are taught so that participants understand the concept of delivering the design of a product logo, what is conveyed in the design is easily understood by the deserving public, be it information marketing culinary products, services or selling goods. Furthermore, after the participants got the basics for making designs using Adobe AI software, they continued to implement logo designs for the products of the Sungai Kunyit local entrepreneur community. It can be seen that the participants who were selected for this activity were very enthusiastic in designing their product designs.

Figure 3. The implementation of training logos design for community service at Sungai Kunyit

At 3rd stage, the participants were given the skills to design a logo, IG Feed and Packaging continued to present their work, and the service team provided an assessment of directions for improvement of suggestions for the products produced (Figure 4). The resulting product design is expected to provide more selling points than the previous design. By selecting attractive color games, seller can attract potential customers through digital marketing using social media, online shops and other digital platforms. The following are some of the works of the participants in the logo design workshop for the local entrepreneur community, Sangir Balai Janggo Nagari Sungai Kunyit.

As an example of the logo work produced, there were two businesses, namely Bakso MADE IN DWE and Ridiscraft, one engaged in culinary and another business was in the field of selling goods. After being evaluated and presented the results of the participant's logo, suggestions for improvement was given so that the logo will be even better and more attractive in the future. Thus, the logo design workshop was achieved by increasing the participants' skills in using tools to design logos. Research reveals that brand logo has an impact on consumer's preference (Lieven et al., 2015)

Figure 4. Example of logos design from participant

After completing the debriefing and workshop on logo design, IG Feed and packaging design, Sungai Kunyit community service participants were directed to develop their business by involving the local Sungai Kunyit business community in entrepreneurship seminars and existing career development. This action involved the community in Sungai turmeric in the Workshop on Making a Business License by the Department of Family Welfare, Faculty of Tourism and Hospitality, Universitas Negeri Padang (Figure 5).

Figure 5. Flyer of Workshop for Making Business Licenses by FPP

This community service activity consists of logo design training in various media. It is possible that this logo design will be adapted for the development of e-commerce applications in the future. There are not only two-dimensional logos available, but also three- and four-dimensional logos, as well as augmented reality-based logos. The logo design will evolve in response to the needs of consumers and sellers as technology in the field of sales advances.

CONCLUSION

Community Service is carried out by the Department of Electronics Engineering, which has cross-faculty members, namely the FPP Catering Department and the Electronics Department in the Faculty of Engineering. The service which took place in the tourist area of Goa Batu Kapal, Sangir Kec, Balai Janggo with Nagari Sungai Kunyit partners, provided positive results and effects for the local business community in Sungai Kunyit village. This service has succeeded in training participants to understand how to design product logos appropriately which requires graphic design aesthetics so as to add value to the products offered. The Sungai Kunyit local business community was able to practice logo design so that they were able to produce branding for use on various types of packaging as a means of making people more interested. 15 participants who took part in logo design training, all of them were able to practice designing logo designs properly. Based on the results of post-training monitoring of the 15 participants who attended, there were 6 product logo designs used, the increase in sales turnover was felt by 3 products of local entrepreneurs up to 30 percent. Through this partnership program, local entrepreneurs have succeeded in designing product branding logos that have selling points and are attractive to consumers. In addition, this service has also formed a community of 15 entrepreneurs who will help each other develop their businesses. In the future, the service team is still working on completing permits such as lab trials for product expiration dates, BPOM business permits from the Ministry of Health, and so on.

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Training for COVID-19 vaccination educator to counter vaccination misinformation in 10 cities in Indonesia

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ABSTRACT

The COVID-19 pandemic in Indonesia has resulted in high morbidity and mortality from COVID-19. Providing COVID-19 vaccination is one step to minimize the impact of COVID-19. However, the interest of the people in Eastern Indonesia to get the COVID-19 vaccine is still low. This is due to misinformation regarding the impact of the COVID-19 vaccine and the need to mobilize outside the region. This community service aims to produce COVID-19 vaccine educators so they can properly educate the citizens regarding the COVID-19 vaccine. This Community Service is carried out in the form of COVID-19 vaccine educator training using pre-posttest score assessment and roleplay. Information and educational communication media in the form of flipcharts and auxiliary cards. The training was held for 8 hours in 1 day in Manado, North Sulawesi. 61 participants consisting of COVID-19 volunteers, religious leaders and community leaders have attended the training. Most participants showed an increased understanding of the COVID-19 vaccine and were able to roleplay in conducting COVID-19 vaccine education using flipcharts and aid cards.

Kata kunci
COVID-19
Edukator
Pelatihan
Relawan
Vaksin

Pelatihan bagi penyuluh vaksinasi COVID-19 untuk menangkal misinformasi vaksinasi di 10 kota di Indonesia. Pandemik COVID-19 di Indonesia mengakibatkan tingginya akan morbiditas dan mortalitas akibat COVID-19. Pemberian vaksinasi COVID-19 merupakan salah satu langkah untuk meminimalkan dampak dari COVID-19. Namun, minat masyarakat didaerah Indonesia Timur untuk mendapatkan vaksin-COVID-19 masih rendah. Hal tersebut dikarenakan adanya informasi yang salah terkait dampak vaksin COVID-19 serta kebutuhan untuk melakukan mobilisasi ke luar daerah. Pengabdian masyarakat ini bertujuan mencetak edukator vaksin COVID-19 sehingga dapat melakukan edukasi dengan baik ke masyarakat umum terkait vaksin COVID-19. Pengabdian Kepada Masyarakat ini dilaksanakan dalam bentuk pelatihan edukator vaksin COVID-19 dengan menggunakan penilaian skor pre-posttest serta roleplay. Media edukasi yang digunakan merupakan lembar balik dan kartu bantu. Pelatihan dilaksanakan selama 8 jam dalam 1 hari di Manado, Sulawesi Utara. 61 Peserta yang terdiri dari relawan COVID-19, Tokoh Agama dan Tokoh Masyarakat telah mengikuti pelatihan. Mayoritas peserta menunjukkan peningkatan pemahaman terkait Vaksin COVID-19 dan mampu melakukan roleplay dalam melakukan edukasi vaksin COVID-19 menggunakan lembar balik dan kartu bantu.

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INTRODUCTION

By the end of July 2022, it is estimated that the total number of cases of COVID-19 in Indonesia will reach more than 6 million, causing more than 150 thousand people to die from the disease. The prolonged COVID-19 pandemic has had an impact on various sectors of life, including health, economy, social, and education (Gandasari & Dwidienawati, 2020; Malahayati et al., 2021; Murad et al., 2020; Sun et al., 2021). The Indonesian government launched three main strategies to end the COVID-19 pandemic, including implementing 3T (testing, tracing, and treatment), implementing restrictions on micro-scale community activities, and COVID-19 vaccination (Sutomo et al., 2021). In its implementation, the Ministry of Health of the Republic of Indonesia cooperates with various parties, namely the health office, public and regional hospitals, private hospitals, community organizations, and the public, in carrying out the COVID-19 vaccination.

Good health in dealing with COVID-19 is part of realizing the achievement of good health and well-being in SDG's. Various actions have been taken to achieve good health in handling COVID-19 as a part of 3rd SDG's achievement (Jalaali, 2021). One of the steps taken by the government is the implementation of micro-scale community activities. The success of this action is very dependent on community compliance where obedient behavior in preventing COVID-19 has a relationship with the level of public knowledge regarding the transmission of COVID-19 (Soeratinoyo et al., 2021; Wonok et al., 2020). (Walsyukurniat, 2020) said that preventive measures by implementing health protocols and increasing endurance by eating a balanced nutritional diet, adequate rest time, regular exercise and avoiding stress are highly recommended. However, the formation of immunity against the COVID-19 virus will be more important (Maragakis & Kelen, 2021).

Providing the COVID-19 vaccine is one of the steps taken to achieve good health in the era of the COVID-19 pandemic. Someone who has contracted COVID-19 and has received the COVID-19 vaccine will have milder symptoms and have a faster recovery time when compared to someone who has not received the COVID-19 vaccine (Djuang et al., 2022). Government programs related to the COVID-19 vaccine up to booster 1 are the right steps to achieve a healthy life in an effort to reduce morbidity and mortality from COVID-19 disease (Tamara, 2021). However, the achievement of vaccination COVID-19 in easter Indonesia is still low. Therefore, the participation of various parties is needed to achieve the target of the COVID-19 program in Indonesia, especially in Eastern Indonesia.

COVID-19 vaccination is one of the steps chosen by the Indonesian government to end the COVID-19 pandemic. The Indonesian government is targeting around 181.5 million Indonesians to receive vaccines in the 1st quarter of 2022, but as of June 2022, this target has not been realized. 10 regencies/cities spread across 5 provinces, namely Kab. Nunukan (North Kalimantan), Kab. Banjar (South Kalimantan), Banjarmasin City (South Kalimantan), Kab. Murung (Central Kalimantan), Raya Kab. Gunung Mas (Central Kalimantan), Kab. Mempawah (West Kalimantan), Kab. Kubu Raya (West Kalimantan), Kab. Bolaang Mongondow Selatan (North Sulawesi), Kab. South Minahasa (North Sulawesi), and Kab. East Bolaang Mongondow (North Sulawesi) have primary vaccination coverage of less than 70% for the general population and/or the elderly population. According to the Ministry of Health of the Republic of Indonesia, the obstacles identified as the cause of the low achievement of COVID-19 vaccination include the availability of vaccine vials in districts/cities (Risalah, 2021). This is in line with the research result conducted by (Arifin & Anas, 2021), the low availability of vaccine vials causes low achievement of COVID-19 vaccination (Febriyanti et al., 2021). In addition to the limited availability of vaccine vials, socio-cultural characteristics and Indonesia's geographical conditions also have contributed to the low achievement of COVID-19 vaccination in Eastern Indonesia.

The COVID-19 vaccination program is still experiencing various challenges stemming from geographic location, infrastructure, workforce, cultural barriers, and hoaxes. This affects the implementation of public health behaviors, including willingness to receive the COVID-19 vaccination. It is undeniable that Indonesia's vast geographical area and socio-cultural differences among people may make it difficult for some areas to be reached by vaccination programs. In addition, the interest in vaccination that is not high enough for the COVID-19 vaccine is also a challenge in the implementation of the COVID-19 vaccination program. One of the causes of low public interest in the COVID-19 vaccine is misinformation regarding the impact of the COVID-19 vaccine (Kricorian et al., 2022). In their community service report, Sinar, Lubis, and Zein discovered that it is very easy for people to get incorrect information from social media. They suggested that the public get proper counseling and education regarding the COVID-19 vaccine (Sinar et al., 2021). Volunteers, religious leaders, and community leaders are key groups that are easy to access and trusted by the local community. Therefore, activities are needed to increase public understanding of the COVID-19 vaccine so that it can be used to increase the success of COVID-19 vaccination in the area. One of the steps that can be taken to increase the achievement and coverage of COVID-19 vaccination is to provide education to increase public understanding regarding the importance of COVID-19 vaccination.

Correct information through a communicative approach by utilizing media that is understandable to the public is an effort to eliminate public doubts and increase understanding of the importance of the COVID-19 vaccine. The presence of educators in the effort to convey this material to the public is important so that the messages about the COVID-19 vaccine can be conveyed to a wide audience. One of the important steps to achieving this is organizing COVID-19 vaccine educator training. This training aims to produce educators who can convey important messages to the public by using quality educational media that are easily understood by all groups. With the holding of training in each province, educators for the COVID-19 vaccine will be born. It is hoped that more educators who are involved in the community will increase the number of people willing to receive the COVID-19 vaccine. Achievement of vaccines from aforementioned 10 Regencies/Cities from 5 Provinces is still below the national primary vaccine target, which is below 70%. From the

results of discussions with representatives of partners, it was found that the reason for the low achievement of the vaccine was that the public's understanding of the importance of the COVID-19 vaccine was still low and the public received incorrect information regarding the COVID-19 vaccine, which had an impact on interest in getting the COVID-19 vaccine.

METHOD

This community service method is in the form of training using information, education and communication (IEC) media that was held in Manado, North Sulawesi. The IEC media used are flipcharts (Figure 1) and aid cards (Figure 2) resulting from the collaboration of the Johns Hopkins Center for Communication Programs (JHCCP) in the Breakthrough Action for COVID-19 (BA for COVID-19) program, MPKU Muhammadiyah, and the Ministry of Health of the Republic of Indonesia, which is in the process of being funded by USAID.

Figure 1. Flipchart for COVID-19 vaccine education

Figure 2. Cue Card for COVID-19 education

This activity was attended by 58 participants consisting of COVID-19 volunteers, religious leaders, and community leaders from 10 districts/cities located in 5 provinces, namely Kab. Nunukan (North Kalimantan), Kab. Banjar (South Kalimantan), Banjarmasin City (South Kalimantan), Kab. Murung (Central Kalimantan), Raya Kab. Gunung Mas (Central Kalimantan), Kab. Mempawah (West Kalimantan), Kab. Kubu Raya (West Kalimantan), Kab. Bolaang Mongondow Selatan (North Sulawesi), Kab. South Minahasa (North Sulawesi), and Kab. East Bolaang Mongondow (North Sulawesi). The IEC material was delivered by 2 MPKU Muhammadiyah RCCE teams and 6 facilitators for 8 hours on December 15, 2022. This training process consisted of three stages: (1) participants were explained the mechanism for outreach to cadres; (2) introduction and use of flipcharts (CE kits) and cue cards; and (3) roleplay. Before the implementation of stage 1, to see an increase in understanding regarding the material presented, participants were required to take a pre-test before the activity took place and then do a post-test at the end of the activity. In addition, participants were asked to role-play carrying out the role of educator to see the participants' ability to use IEC Media as an educational medium.

RESULTS AND DISCUSSION

This activity involved 61 participants from 10 districts or cities spread across 5 provinces (Table 1). At the beginning of the activity, the facilitator is in charge of giving instructions to the participants, including that they should be able to write their name and region of origin on a sticky note, which is then attached to the chest area to make it easier for fellow participants to recognize each other.

In stage 1 of the training, all participants were given classical information related to community outreach mechanisms for education. The participants were directed to identify groups in society that could be targeted for education on the COVID-19 vaccine. Elderly posyandu groups, recitals, schools, mosque youth groups, youth groups, and dasawisma groups are targets for education on the COVID-19 vaccine. In stage 2, participants were introduced to IEC media, namely flipcharts (CE Kits) and assist cards (Cue Cards). Participants are taught how to use both media. The facilitator demonstrates how to use the flipcharts (CE kits) and cue cards. At the end of this stage, the facilitator explores participants' understanding of how to use the educational media.

Table 1. Participants' characteristics

Characteristics	n	%
Sex		
Male	52	84.5
Female	9	15.5
Participants' area		
Banjar	6	10.3
Banjarmasin	5	8.6
Bolaang Mongondow Selatan	6	10.3
Bolaang Mongondow Timur	5	8.6
Gunung Mas	7	12.1
Kubu Raya	6	10.3
Mempawah	6	10.3
Minahasa Selatan	6	10.3
Murung Raya	6	10.3
Nunukan	5	8.6

In stage 3, participants were divided into 5 groups to be able to role-play how to use IEC media. The facilitator accompanies each group and directs group members to be able to role-play (Figure 3). Participants give each other feedback based on what has been practiced by other participants. facilitator feedback at the end of the roleplay. In the results of research conducted by Lianawati, it was found that the roleplay technique was able to improve students' communication skills (Lianawati, 2020). Roleplaying provides an opportunity for trainees to try their hand at acting as educators by educating the public using IEC flipcharts and aid cards.

Figure 3. Participants demonstrated the use of flipcharts in COVID-19 vaccination education

As evidenced by completing the activity pre-posttest, 58 of 61 participants completed the activity to the end.61% (36) of participants showed an increase in score, and 39% (n= 22) of participants showed a fixed score where the score is a "passed" score. In the initial process of filling out the post-test, there were 20% (n= 12) participants who showed a decrease of 1 score. Statistical test there was significant increase of the knowledge of participants after having a training (p: 0.009).

Table 2. Statistical test' result of pre-post test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Pre test – Post test	-.36207	1.02081	.13404	-.63048	-.09366	-2.701	57	.009

The training method is one of the most effective methods for increasing one's understanding and skills. Training on blood pressure measurement conducted by Marpaung and Zendarto in the elderly group showed an increase in efficacy in measuring blood pressure in the elderly (Marpaung & Zendrato, 2022). In this training, the elderly is invited to play

roles in the form of roles in opera. Creative, interactive, and hands-on training methods produce good outcomes. Moreover, another study in the context of religious settings showed that delivering knowledge form expert to Islamic Boarding School students was considered a significant effort to improve understanding of students related to the prevention of COVID-19 (Ikhsan et al., 2021).

CONCLUSION

Community service activities in the form of COVID-19 vaccination educator training to increase the understanding of COVID-19 volunteers, religious leaders, and community leaders have gone well and achieved the intended goals. Almost all participants showed an increase in their understanding scores regarding the material and were able to use flipcharts and assist cards in carrying out education related to the COVID-19 vaccine.

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Diabetes mellitus in society: Increasing public awareness through a social approach

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ABSTRACT

Diabetes mellitus (DM) is a non-communicable disease with high morbidity and mortality. Lifestyle and knowledge are crucial factors in the handling and prevention of DM, but public awareness to obtain information is still low. This activity was carried out to increase public awareness in obtaining information and providing education related to DM. Preparation for the activity was carried out from 21 November 2022 and the core activities were in the form of outreach and health checks as a DM screening and were carried out on 24 November 2022. The main target for this activity were residents who had a family history of suffering from DM and risk factors such as obesity and hypertension. From this activity it was found that 90% had high blood pressure and 2 of them had fasting blood sugar levels above 300 mg/dL. In addition, it is known that public awareness to obtain information is still lacking.

Kata kunci
Diabetes mellitus
Gula darah
Pemeriksaan kesehatan
Sosialisasi

Diabetes melitus di masyarakat: Meningkatkan kesadaran masyarakat melalui pendekatan sosial.
Diabetes mellitus (DM) merupakan salah satu penyakit tidak menular dengan morbiditas dan mortalitas tinggi. Gaya hidup dan pengetahuan menjadi faktor krusial dalam penanganan dan pencegahan DM, namun kesadaran masyarakat untuk memperoleh informasi masih rendah. Kegiatan ini dilakukan untuk meningkatkan kesadaran masyarakat dalam memperoleh informasi dan memberikan edukasi terkait DM. Persiapan kegiatan dilakukan sejak tanggal 21 November 2022 dan kegiatan inti berupa sosialisasi dan pemeriksaan kesehatan sebagai skrining DM dan dilakukan pada tanggal 24 November 2022. Sasaran utama pada kegiatan ini adalah warga yang memiliki riwayat keluarga menderita DM dan faktor risiko seperti obesitas dan hipertensi. Dari kegiatan ini dijumpai 90% memiliki tekanan darah tinggi dan 2 orang di antaranya memiliki kadar gula darah puasa diatas 300 mg/dL. Disamping itu, diketahui bahwa kesadaran masyarakat untuk memperoleh informasi juga masih kurang.

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INTRODUCTION

Diabetes mellitus (DM) is a metabolic disorder characterized by chronic hyperglycemia (Soelistijo, 2021). DM is a non-communicable disease with a high mortality rate. The number of DM sufferers continues to increase from year to year (Kementerian Kesehatan RI., 2020). Previous studies have shown that 80% of DM sufferers live in areas or countries with

lower middle income aged 40-59 years. DM if not handled properly can cause various complications and can increase morbidity and mortality due to DM (Asmat et al., 2016; Trisnawati & Setyorogo, 2013; Wahyuningrum et al., 2020).

DM can be regulated by adopting a healthy lifestyle, if it cannot be regulated by lifestyle modifications then drug therapy is needed (Association, 2022; Webber, 2013). The main factor that influences the incidence of DM is lifestyle (Irwansyah & Kasim, 2021). Lifestyle including food preferences and physical activity will lead to the emergence of diseases or disorders that lead to an increased risk of developing DM, including dyslipidemia, obesity, and hypertension (Murtiningsih et al., 2021). Besides that, several factors influence the incidence of DM, namely smoking habits, stress management that is not optimal (Utomo et al., 2020), as well as the lack of information regarding DM among the general public (Purqoti et al., 2022).

Community knowledge or understanding of DM in particular is generally still around handling through diet, medication, and wound care but has not yet entered into how to modify lifestyle to prevent and manage DM itself (Khasanah et al., 2019). That is, education related to how to manage lifestyle to prevent DM and or make peace with DM for sufferers.
To tackle Non-Communicable Diseases (NCDs) including DM, the government has made various efforts to overcome and prevent it. Some of them are by holding the PROLANIS program (chronic disease management program). PROLANIS is a health service system and a proactive approach that is carried out in an integrated manner. One of them is PROLANIS as a forum or effort to distribute information related to PTM (Khasanah et al., 2019).

Health socialization is one of the supporters that increase the success of government programs (Sukmana et al., 2020). Health socialization can be carried out by mass organizations, as well as intellectuals from universities. The lack of public awareness of independent health checks is also one of the obstacles to delays in the delivery of information (Hardani et al., 2018; Ramatillah et al., 2022), so additional efforts need to be made, one of which is health socialization coupled with health checks. The purpose of this community service activity is to increase public awareness in seeking information and conducting early diabetes mellitus examinations. This supports the government's sustainable development program in the health sector to ensure healthy lives and promote well-being for all people of all ages.

METHOD

The method used in this activity is active and participatory learning through the stages of socialization, checking blood pressure, and checking fasting blood sugar. The main target of this activity is the main target in this activity are residents who have a family history of DM and risk factors such as obesity and hypertension (Etika & Monalisa, 2016). This activity was carried out in Merembu Village, Labuapi District.

Preparation

Health socialization and examination activities began with the preparatory stage, where this stage included obtaining permits and discussions with the village administration and the local auxiliary health center for targeting. After obtaining data related to the target, the head of the RT then distributes activity coupons. Preparatory activities began on November 21, 2022.

Socialization

The socialization stage was carried out to give an overview of public understanding and awareness of DM disease. In this socialization, the community is given education related to health problems of hypertension, tuberculosis, and DM which includes understanding, the causes, symptoms, complications, and treatment to prevention of DM disease. Socialization activities and health checks will be carried out on November 24, 2022.

Check blood pressure and check fasting blood sugar

This activity is a health screening to see in general the risk of developing DM in participants.

RESULTS AND DISCUSSION

To support sustainable development programs in the health sector, this activity is one of the real efforts to increase public awareness. This socialization activity began with the distribution of coupons to prospective participants. The selection of potential participants was based on recommendations from the RT and village health officers. Recommendations are given based on risk factors and the family history of the prospective respondent (Etika & Monalisa, 2016).

At the time of the distribution of coupons, prospective participants were notified of an overview of the activities to be carried out. For blood sugar checks, prospective participants are advised to fast for at least 10 hours before checking blood sugar levels. This is by the SOP for checking fasting blood sugar, in which prospective patients are asked to fast 10-12 hours before checking their sugar (Andreani et al., 2018). During the activity, the respondents followed the explanations from the speakers carefully and enthusiastically. The atmosphere of the activity can be seen in Figure 1, while the atmosphere of the health check can be seen in Figure 2.

Figure 1. Health outreach activities related to Diabetes Mellitus

Education about DM can provide benefits in increasing public awareness and knowledge about DM and its symptoms and can apply the information appropriately. So that in the end, participants can become agents of information dissemination for people who have not been exposed to counseling. This is in line with the results of the service carried out by (Suhatridja, Rizka, and Liza Tantrian, 2020) which in the service carried out socialization becomes an effective means of conveying information.

Figure 2. Health Examination

From the activities carried out, there were at least 40 prospective respondents. However, in reality, only 20 people came. Confirmations made to potential participants indicated that the absence was due to a celebration event that took place simultaneously with this activity. This can be an indicator that public awareness to accept health socialization and health checks still needs to be improved.

Health examination results showed that 90% (18 out of 20 respondents) had high blood pressure and 55% (11 out of 20) had blood sugar levels above 120 mg/dL, two of them had fasting blood sugar levels above 300 mg/dL. After conducting a debriefing, it was discovered that one in 20 respondents had been diagnosed with diabetes 10 years ago and are currently still trying to adopt a healthy lifestyle. While one other person has never checked blood sugar levels but has a family history of diabetes. From this activity, it is hoped that residents will become more aware of periodic self-examination and enthusiastic about participating in health counseling from both the government and non-government.

The development of the health sector for the SDGs is highly dependent on the active role of all stakeholders, both central and regional governments, parliament, the business world, the mass media, social organizations, professional and academic organizations, development partners, and the United Nations (ITS, 2019). One of the important points that are a milestone in the achievement of programs that have been formed in the context of eradicating communicable and non-communicable diseases is public awareness in obtaining health information and services. Based on the activities we have carried out; this is still very far from expectations. This is evidenced by the small number of prospective respondents who attended (only 50%).

CONCLUSION

From the community service activities carried out, it can be concluded that the enthusiasm of the community to take part in health counseling and health checks still needs to be improved. For the next activity, we can suggest choosing the right time so it doesn't clash with the event at the activity location. In addition to determining the activity schedule, giving souvenirs in the form of staples, pocketbooks, and examination vouchers can be suggestions for further activities to attract respondents' interest. Equally important, it is necessary to intensify health counseling or outreach to continue to spark public awareness.

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Digitalization of tourist attractions: Increasing the capacity of Sunrise Land Lombok tourism workers through digital marketing

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ABSTRACT

The Covid-19 pandemic has driven changes in various fields in the application of technology, including in the tourism sector. Increasing the use of social media is a new challenge for tourism workers to carry out digital marketing. However, human resources capable of using technology and conducting digital marketing in tourism management are not always available. The purpose of this community service is to improve the quality and ability of Sunrise Land Lombok (SLL) employees to digitize and use social media. The implementation of community service will be carried out from October to December 2022 by providing training and assistance SLL tourism workers. The stages carried out in this service include the stages of observation and interviews, training, mentoring, and evaluation. Based on observations and interviews with the director of SLL, it is known that SLL workers face several obstacles in utilizing social media. These obstacles include more understanding about creating engaging social media content. Based on these problems, the training materials provided include: 1) Content planning, Canva, and website training for scheduled posting; 2) Press release writing and copywriting training and 3) practice video editing using CapCut and VN. The training is carried out online and is divided into several meetings, with each meeting accompanied by assignments for workers to practice the material given during the delivery.

Kata kunci

Digitalisasi

Media sosial

Pariwisata

Pemasaran

Sumber daya manusia

Digitalisasi daya tarik wisata: Peningkatan kapasitas pengelola wisata sunrise land lombok melalui pemasaran digital. Pandemi Covid-19 telah mendorong perubahan di berbagai bidang penerapan teknologi, termasuk di bidang pariwisata. Meningkatnya penggunaan media sosial menjadi tantangan baru bagi para pelaku pariwisata untuk melakukan digital marketing. Namun, sumber daya manusia yang mampu menggunakan teknologi dan melakukan pemasaran digital dalam pengelolaan pariwisata tidak selalu tersedia. Tujuan dari pengabdian masyarakat ini adalah untuk meningkatkan kualitas dan kemampuan karyawan Sunrise Land Lombok (SLL) dalam mendigitalkan dan menggunakan media sosial. Pelaksanaan pengabdian kepada masyarakat ini akan dilakukan pada bulan Oktober sampai dengan Desember 2022 dengan memberikan pelatihan dan pendampingan kepada para pekerja pariwisata SLL. Tahapan yang dilakukan dalam pengabdian ini meliputi tahapan observasi dan wawancara, pelatihan, pendampingan, dan evaluasi. Berdasarkan observasi dan wawancara dengan direktur SLL, diketahui bahwa para pekerja SLL menghadapi beberapa kendala dalam memanfaatkan media sosial. Kendala tersebut antara lain pemahaman yang lebih dalam membuat konten media sosial yang menarik. Berdasarkan permasalahan tersebut, maka materi pelatihan yang diberikan meliputi: 1) Perencanaan konten, Canva, dan pelatihan website untuk posting terjadwal; 2) Pelatihan penulisan press release dan copywriting dan 3) praktek editing video menggunakan CapCut dan VN. Pelatihan dilakukan secara daring dan terbagi dalam beberapa kali pertemuan, dengan setiap pertemuan disertai dengan penugasan kepada pekerja untuk mempraktekkan materi yang diberikan pada saat penyampaian.

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INTRODUCTION

The Covid-19 pandemic that entered Indonesia in March 2020 has changed the landscape of the tourism industry and tourist behaviour (Caniago & Yusuf, 2022). The policy issued by the government to break the chain of the spread of the Covid-19 outbreak requires people to carry out activities at home. This encourages people to be able to adapt to conditions that occur, especially in the use of technology. Digital media users are increasingly developing, resulting in digital acceleration and maturity (Kemenparekraf, 2022).

Currently, the existence of social media has become an integral part of people's lives. Tourists' use of social media during the Covid – 19 pandemic experienced a growth of 44% (World Travel & Tourism Council, 2021). The growth in the use of social media as a source of information by tourists requires the tourism sector to move massively within the digital ecosystem. In Indonesia alone, social media users make up 61.8% of the total population, or as many as 170 million users (Hootsuite, 2021).

In the tourism sector as a service industry, promotion is an element of the marketing mix that aims to develop and deliver persuasive communications about the tourism products being marketed. Tourism promotion is closely related to delivering messages and publications to build the image of a tourism destination and tourist attraction. Various methods and media can be used to disseminate the potential of a tourist destination to build a positive image (Daffa & Ratnasari, 2022).

A positive image can be formed with the use of social media. Social media has a significant impact on the way tourists find information. Social media is also an excellent tool for tourists to share their experiences when visiting a destination (Dewi, 2022). As many as 91% of tourists share their experiences in photos, and more than 50 million photos of tourist visits have been shared via social media (Jang, Han, Shih, & Lee, 2015). Social media influences tourists' decisions about travel destinations (Kim, Lee, Shin, & Yang, 2017). In compiling tourist trips, tourists generally use social media to get convenience in finding information quickly, as well as extensive social networks, then collecting and reviewing this information before the decision-making process (Leung, Law, Hoof, & Buhalis, 2013). Social media that uploads regularly is timely, informative, and has an attractive design that influences the formation of the image of a destination and tourist attraction (Nugraha & Hardiyanto, 2022). The comment column is also usually a concern because it can determine people's sentiments regarding the uploaded content (Yudhiasta & Rahmatin, 2022).

Sunrise Land Lombok (SLL) is a new tourist attraction in West Nusa Tenggara (NTB). The beach, located in the Montong Meong hamlet, Labuhan Haji village, East Lombok district, began operating in May 2022. At first, this beach had the name Labuan Haji Park and was managed by the local government. Unfortunately, this Labuan Haji Park is neglected and not properly cared for. The beach is filled with trash and needs proper facilities for tourists visiting. This deplorable condition moved a group of local youths from the Montong Meong hamlet to manage this abandoned beach. These youths see the potential for the beach's natural beauty and want to revive a local community-based tourism area. Armed with a sense of wanting to move forward, these young men signed a contract with the local government to manage the beach and rebranded it with Sunrise Land Lombok.

SLL is managed by 15 native people from Montong Meong hamlet. These youths have idealism and a strong belief that the region's marine tourism resources, if appropriately managed, will improve the lives of the surrounding community. Covering an area of 7 hectares, this marine tourism area has the vision to be the cleanest and safest public space in NTB.

Tourists can do many exciting things at SLL, such as relaxing while enjoying the beauty of the sunrise, *madaq keke* or looking for sea shells with various motifs and variations, and walking along the long coastline. In addition, SLL also provides a camping ground for tourists who want to experience spending the night on the beach. Tourists can also enjoy a variety of culinary seafood, where all the ingredients are fresh, obtained directly from fishermen. In addition, SLL offers a unique concept compared to similar beach tourism in East Lombok, namely marine tourism with conservation principles. SLL is home to hundreds of turtles. The beach area is a habitat for turtles to lay their eggs, one of which is the black sand turtle or olive ridley turtle, which is currently relatively rare in Indonesia. Workers package this phenomenon as an attraction as well as an educational tool for tourists so that tourists gain an understanding of the importance of animal conservation. The forms of tourist attractions offered are watching turtles laying their eggs and releasing hatchlings to the beach.

Thanks to the persistence of these local youths, in less than one year, SLL has managed to live and grow into a new and superior tourist attraction in East Lombok, West Nusa Tenggara. SLL has been covered by 17 national media, such as MNC TV and TVRI, after only two months of operation. On weekends, tourist visits increase rapidly to reach 1,500 visitors.

SLL which managed by applying a community-based tourism approach, provides economic benefits to the surrounding community. Community-Based Tourism has a different concept from mass tourism. Community-Based Tourism is a development model that assumes that tourism must depart from an awareness of the values of community needs to build tourism that is more beneficial to the needs, initiatives and opportunities of local communities (Sitapraptiwi & Muktiali, 2020). The involvement of the local community is thoroughly carried out in this area. Fishermen, whose main occupation was fishing, now have an additional job selling firewood for camping tourists. Residents also sell culinary products as well as other MSME products. This community-based approach creates a sense of belonging to the local community and spurs community participation in the management and development of the SLL area.

SLL, born again in the conditions of transition and economic recovery after the Covid-19 pandemic, needed to adapt immediately amidst the swift digital flow that accelerated the coming pandemic's impact. As a medium for promoting and transforming information, social media's role is vital for SLL. Especially in the new tourism context, qualified human resources (HR) in Information and Communication Technology (ICT) are needed (Mumtaz & Karmilah, 2021). Maximizing

social media use is expected to provide insight and an introduction to the broader community about SLL as a marine tourism attraction in East Lombok.

This is in line with the global action plans agreed upon by leaders of countries worldwide, including Indonesia, which are called the Sustainable Development Goals (SDGs). The SDGs program has 169 targets summarized in 17 indicators (United Nations, 2015). Improving the competency of human resources in the tourism industry in the ICT field is in line with SDGs number 8, namely promoting inclusive and sustainable economic growth, employment and decent work for all. In SDG's target number 8, several targets are closely related to the ability of human tourism resources in digitalization, namely target 8.2, technological upgrading and innovation, and 8.9 promoting sustainable tourism that creates jobs and promotes local culture and products (Dwyer, 2022). Community service activities with the theme of digitization in this tourist attraction are expected to be able to answer the SDGs challenges, especially target number 8.

Digitalization is a technology that simplifies or even shortens an activity process. Digitalization in today's era must become a new wisdom and make it a habit that technology is a part of life. Digitalization will improve the quality of human resources to be maximized (Alwy, 2022). Digitalization must be used to answer the challenge of sustainable development or SDGs. In this regard, it is essential to carry out community service activities to improve the quality and ability of SLL management human resources in digitizing and using social media (Falah, 2021). Through a series of training activities, SLL workers can maximize the use of social media to promote SLL in achieving its company goals. With this community service activity, it is hoped that promotions carried out by SLL will no longer be word of mouth. In addition, SLL employees can better understand how to create interesting social media content using the software so that the uploads presented can attract public attention to access SLL's social media content.

METHOD

Community service activities are conducted online for Sunrise Land Lombok (SLL) employees. SLL is a tourist attraction located in Montong Meong Hamlet, Labuhan Haji Village, Labuhan Haji District, West Nusa Tenggara (Figure 1). The number of participants in this community service activity was 10 – 15 SLL employees. Apart from SLL managers, this activity was also attended by SLL relations, who were invited directly by the director of SLL, namely environmental activists, Pokdarwis and students doing internships at SLL.

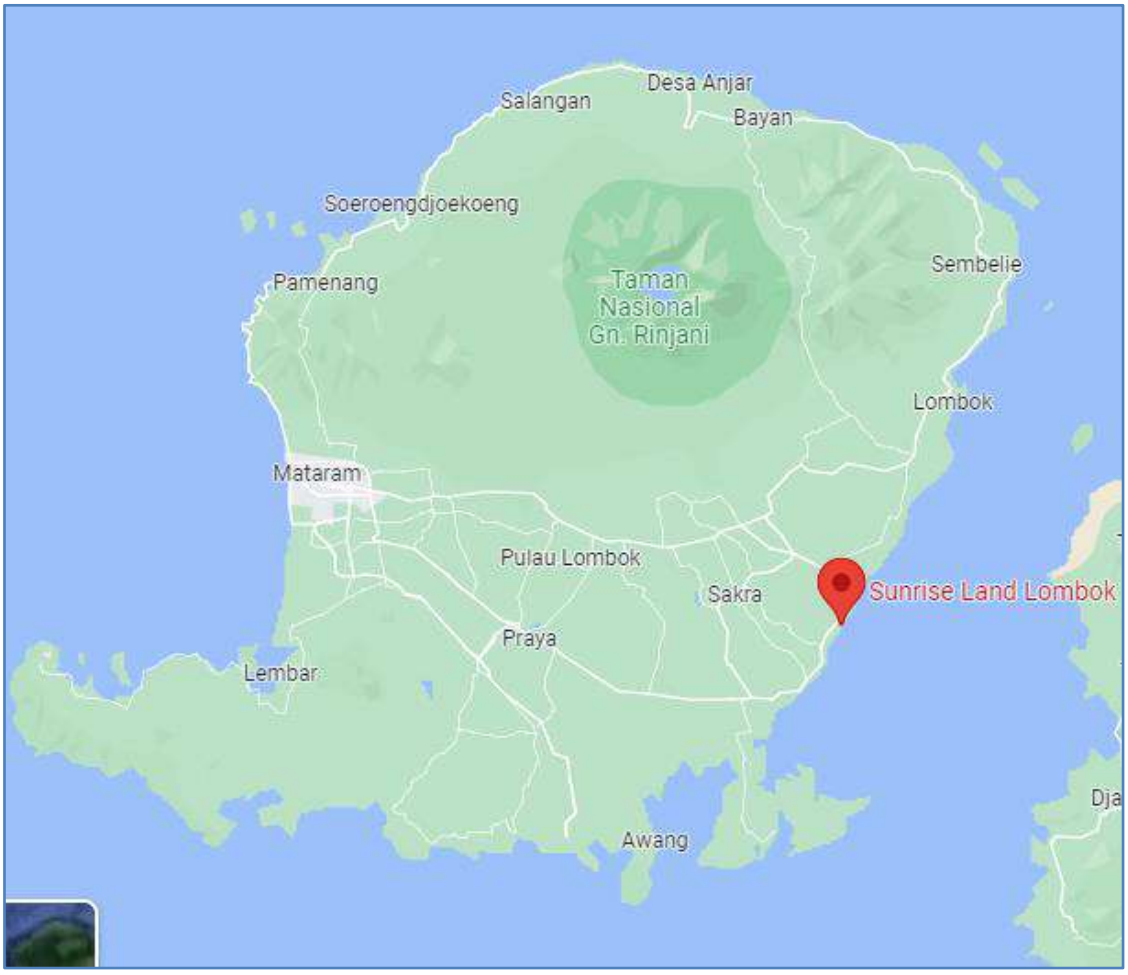

Figure 1. Location of Sunrise Land Lombok (Source: Google maps)

The implementation of community service is aimed at workers of the Sunrise Land Lombok (SLL) tourist attraction by providing training and assistance in managing social media content. The method of implementing the activity occurs, as shown in Figure 2.

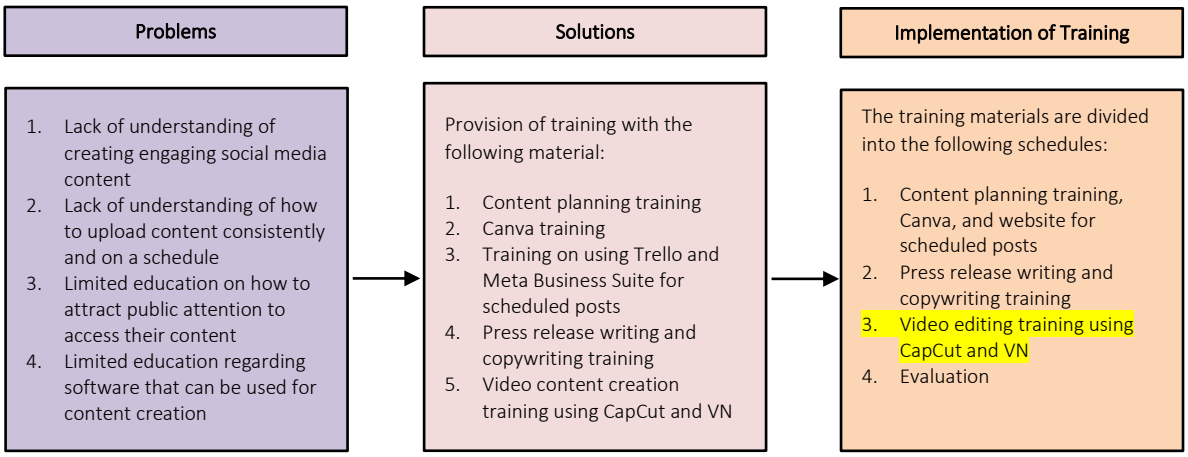

Figure 2. Table of training implementation

Based on the results of observations and also the results of interviews with the director of SLL, it is known that SLL workers face several obstacles in utilizing social media. These obstacles include more understanding about creating engaging social media content. In managing social media content, SLL workers only utilize the repost feature from uploads of tourists visiting SLL. In addition, SLL workers need to be proficient in using software to edit video content. Due to other activities, workers also find it difficult to upload content on schedule—another obstacle experienced by SLL, namely writing captions and press releases for media purposes.

To assist SLL workers in overcoming these obstacles, the service team provides a solution through training and mentoring. In this activity, the community service team also involved students in sharing knowledge with SLL workers. Training is given online using Zoom media. The training materials provided are in the form of (1) content planning training; (2) Canva usage training; (3) Training on using Trello and Meta Business Suite for scheduled posts; (4) Press release writing and copywriting training; and (5) Video content creation training using CapCut and VN.

In its implementation, the training materials that have been prepared are divided into four stages. The first stage is the provision of content planning, Canva, and website training for scheduled posts. The second stage is training in writing press releases and copywriting. The next stage is video editing training using CapCut and VN and continues with the final stage, namely evaluation. At each stage of the training, participants will be given assignments to apply the material provided directly.

Implementation begins in the second week of October and closes with the evaluation stage in the second week of December. There are no training activities in the first week of December, so this week can be used for SLL workers to manage their content independently before entering the evaluation stage. Further details regarding the training implementation schedule can be seen in Table 1.

Table 1. Schedule of Training Implementation

No	Activity	October 2022			November 2022	
		II	III	IV	I	II
1.	Content planning training, Canva, and website for scheduled posts					
2.	Press release writing and copywriting training					
3.	Video editing training using Capcut and VN					
4.	Evaluation					

RESULTS AND DISCUSSION

Content planning training, Canva, and website for scheduled posts

The first training phase was held on Friday, 14 October 2022 via the zoom channel. On this occasion, three materials related to social media management were presented. East Java "Veteran" UPN Tourism Study Program students were actively involved at this stage, namely Regita Cahyani and Fabella Winishajmilla. The two students are members of the

Tourism Student Association (HIMASATA) and are in charge of managing HIMASATA social media content. The SLL director and all SLL area workers attended this training (Figure 3).

The first material is using Canva to create social media content (Figure 4). Canva is an online design program that provides various tools for creating posters, presentations, resumes, brochures, graphics, infographics, banners, books, and so on (Pelangi, 2020). In this material, SLL workers learn together about how to design a design from a blank document to complete exciting and informative content. Workers are also given valuable tips to combine various existing elements to become content that is full of meaning. Using Canva will assist workers in creating their social media content because the Canva application is relatively easy to use and has many attractive templates that can be created in such a way. In addition, this application can also be made using a mobile phone.

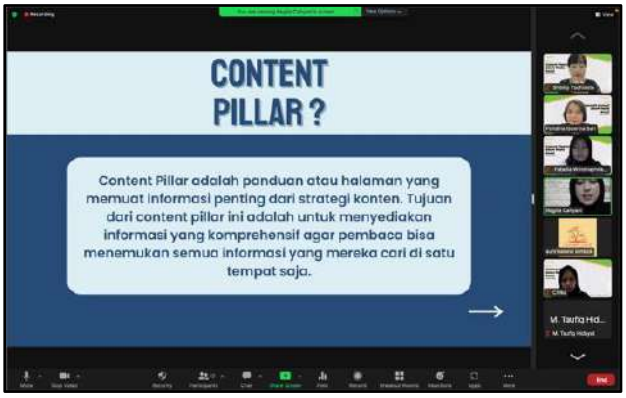

Figure 3. Content Planning Training

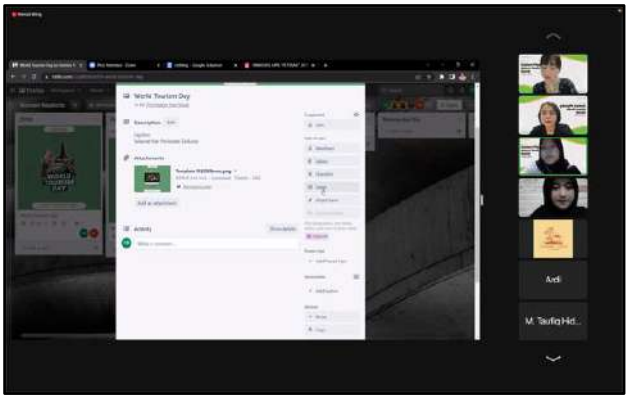

Figure 4. Canva Training

The following material is content planning and website use for scheduled posting (Figure 3). In this material, SLL workers learn how to plan content development and pillars, determine the type of content, the platform to use, and the right time to upload. Well-planned content will increase public trust in a product (Amirah, 2021). Based on the results of interviews with the director of SLL, it is known that social media content workers often feel overwhelmed. After all, they cannot upload content according to schedule because they have other activities. Therefore, materials on assistance tools for scheduled postings were also presented. Workers are provided with information regarding the use of Trello and Meta Business Suites so they can schedule posts according to plan. So, if the manager faces other activities, the content will be uploaded automatically because it was previously scheduled.

The initial training took place interactively. Participants were very enthusiastic and actively asked questions. On this occasion, participants received much new information that could be useful for them in managing social media content. At the end of the training, participants were tasked with creating content using Canva and creating content planning. These tasks will be discussed at the evaluation stage.

Press release writing and copywriting training

The next stage is press release writing and copywriting training (Figure 5 and 6). The second training phase was held on Wednesday, October 19, 2022. This training aims to dissect the technical ins and outs of copywriting and press release writing. Proficiency in writing copywriting and press releases is considered very important to build a positive image of SLL and to be a means of persuasive communication to attract tourists to visit. In addition to the management, the director of SLL and tourism industry players in East Lombok also attended this activity.

Figure 5. Copywriting training

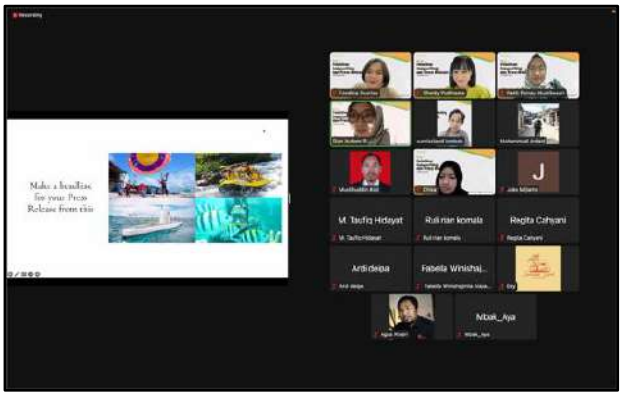

Figure 6. Training on how to write a press release

In copywriting material, participants learn about writing captions for content and editorial writing in social media content to attract the audience's attention to access their content. At this stage, the material was delivered by Ratih Pandu Mustikasari, MA. Copywriting is the art of conveying messages using writing. Copywriting skills can be helpful in promotional activities (Tarigan, 2022). With the proper copywriting techniques, workers can achieve the goal of attracting tourists to search for further information about SLL and make a decision to visit SLL. This material also explains the AIDA principle (Attention, Interest, Desire, Action) as the basis for creating captions and copywriting for social media content. In addition, it also explains the elements of copywriting, formulas in copywriting and also brand persona.

The following material in the second stage of the training activity is writing a press release. This material was delivered by Dian Hutami Rahmawati, M.Med.Kom. This material teaches workers about the structure of writing press releases and the types of press releases. It was also conveyed regarding the stages of making a press release so that it can be implemented directly by the SLL manager. Training participants are given an understanding of the importance of making press releases in the digital world and the rapid development of technology today.

The second training session was interactive. In this session, participants were also tasked with creating content along with captions by applying AIDA principles and making press releases for the latest SLL events so that they were deemed fit to be uploaded to the media. With this training, the SLL management team will be able to create effective materials to build a positive image of SLL as a new tourist attraction in East Lombok.

Video editing training using CapCut and VN

The next training stage is video editing training using CapCut and VN (Figure 7 and 8). This activity was held on Friday, 27 October 2022. This training was divided into two sessions. Muhammad Anbiya Fath Alla hosted the first session, and Arva Rizqullah hosted the second session. The two presenters are students of the Tourism Study Program who are also members of HIMASATA. In this session, the trainees learn to make content in video form more creatively using simple tools.

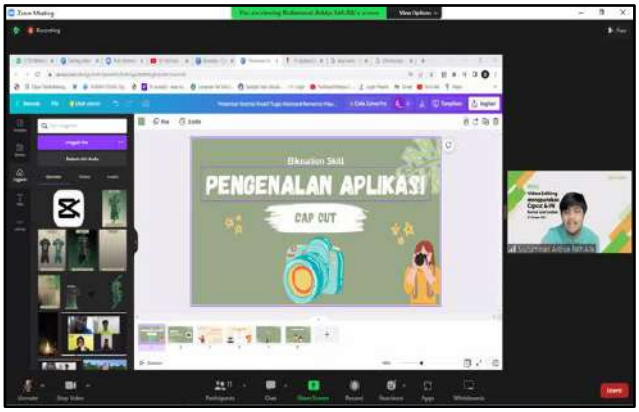

Figure 7. CapCut training

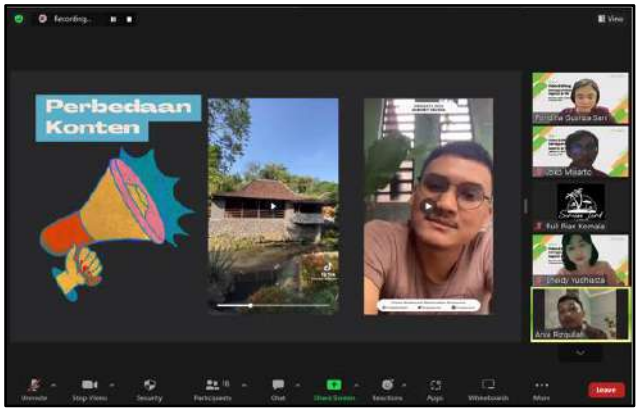

Figure 8. VN training

In this stage, the trainees are given an understanding of the advantages of content in video form, especially since the skyrocketing popularity of Instagram and TikTok reels. The phenomenon of Instagram and TikTok reels has resulted in social media users flocking to present content in aesthetic and attractive videos, including business people. Before being given training on editing videos, participants learned about determining the social media segments to use. This is done so that the content to be presented is more targeted and the information provided is acceptable to the target market.

CapCut and VN are video editing applications that have also become popular for creating content. Both of these applications are relatively easy to use. On this occasion, participants learned how to create video content by utilizing the features contained in the two applications. Participants learn how to provide sound, song effects, and video overlays and use templates already available in the application. Apart from maximizing the templates already available, participants also learn how to make videos from blank projects to becoming content worth broadcasting. At the end of the activity, participants were tasked with creating content in the form of a video which would be assessed at the evaluation stage.

Evaluation stage

The evaluation phase is carried out on November 2nd week. This evaluation stage aims to see how far SLL workers can accept the material provided during the training. Apart from that, this evaluation stage is also a reminder for SLL workers about the material that has been provided. Evaluation activities are carried out on the tasks given for each

material provision. SLL workers have implemented the material provided during the training. This can be seen in several posts on SLL's Instagram, which are the training results, as seen in Figure 9.

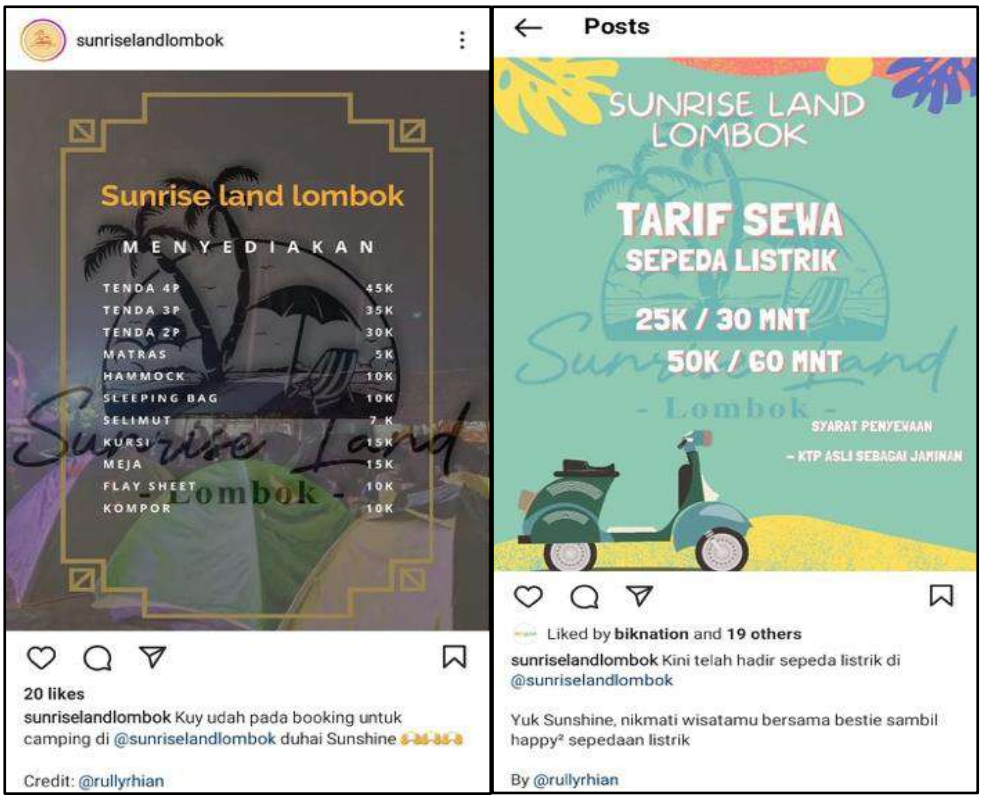

Figure 9. Training results uploaded on Sunrise Land Lombok's social media

The community service activities that have been carried out are expected to improve SLL managers' capabilities, especially in digital marketing. It is because digital marketing can capture a wider market. After all, internet access in Indonesia continues to increase (BPS, 2019). Digital marketing is done through search engines and social media. Using social media to market tourism activities is an important step tourism employees must take because as many as 87.2% of internet users use it for social media (BPS, 2019). Furthermore, Icha (2016) stated that social media is the fastest way to get consumers' attention. This training will assist employees in digital marketing through every social media owned by SLL. It is important because, according to APJII (2019), people have high access to YouTube, Facebook and Instagram.

If this digital marketing is achieved, then the activities that have been carried out will support the realization of SDGs indicators, precisely SDGs number 8, namely promoting inclusive and sustainable economic growth, employment and decent work for all. In SDG's target number 8, several targets are closely related to the ability of human tourism resources in digitalization, namely target 8.2, technological upgrading and innovation, and 8.9 promoting sustainable tourism that creates jobs and promotes local culture and products. In addition, several indirect indicators can be achieved, namely: (1) Indicator 1 is poverty-free because, with the expansion of the SLL market, the number of SLL visitors will also increase, which will ultimately increase income for managers and the public involved; (2) Increase the use of technology that enables, especially information and communication technology, to increase women's empowerment; the involvement of women managers in this activity demonstrates this; (3) Indicator 14.7, namely increasing economic benefits for small island developing countries and less developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

CONCLUSION

The Covid-19 pandemic has had an impact on the world of tourism, especially in terms of digital marketing. One of the obstacles to implementing digital marketing in tourism, especially tourist attractions, is the need for more competent human resources in this field. Training and assistance related to digitization for workers of tourism industry players must be done not only to increase the capacity of tourism workers but also to help workers market their area more broadly, likewise, with the constraints experienced by a tourist attraction that has just developed in East Lombok, namely Sunrise

Land Lombok (SLL). Based on the results of interviews with the director of SLL, it is known that SLL has experienced several problems in its development. These problems include 1) a lack of understanding about creating engaging social media content; 2) a lack of understanding on how to upload content in a consistent and timely manner; 3) limited education on how to attract public attention to access their content, and 4) limited education regarding software that can be used for content creation. Some of the materials that can be provided to tourism workers related to digital marketing include: 1) content planning, Canva, and website training for scheduled postings; 2) training on writing press releases and copywriting and 3) training on video editing using applications such as CapCut and VN. With this material, tourism workers can make exciting posts in the form of pictures or videos accompanied by good captions.

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Development of maritime school management as a center of excellent in supporting the learning process

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ABSTRACT

Improving the quality of Human Resources in the marine sector through the development of Vocational High Schools in the Maritime Sector still faces challenges. Link and match with industry have not happened thoroughly other than that educators are not adequate. Vocational High School teachers have not met the needs, so it is necessary to develop the management of Vocational High Schools in the maritime sector. The purpose of this Community Service activity is to conduct training to develop maritime school management to make vocational high schools in the maritime field a Center of Excellence (CoE) in Supporting the Learning Process. The method used in this service activity is training carried out with three kinds, namely: lecture method, discussion and question and answer method as well as an evaluation method. The results of the service show that with this training, the CoE of vocational education vocational schools that are increasingly relevant to the demands of community needs that are constantly changing according to the development of the business/industry world and can support the learning process regularly and continuously. The results of the training evaluation showed the enthusiasm and positive motivation of the trainees which was marked by the value of the evaluation results of the implementation of the training obtained an average score of excellent criteria of 79.33% and a good of 20.67%. After the training, it is hoped that training participants can hone their skills in developing maritime school management.

Kata kunci
Manajemen sekolah
Maritim
Perkembangan
Proses pembelajaran
Pusat Keunggulan

Pengembangan manajemen sekolah bahari sebagai pusat unggulan dalam menunjang proses pembelajaran. Peningkatan kualitas Sumber Daya Manusia bidang kelautan melalui pengembangan Sekolah Menengah Kejuruan Bidang Maritim masih menghadapi tantangan. Link and match dengan industri belum terjadi secara menyeluruh selain itu tenaga pendidik belum memadai. Guru SMK belum terpenuhi kebutuhannya, sehingga perlu dikembangkan pengelolaan SMK di bidang kemaritiman. Tujuan dari kegiatan Pengabdian Kepada Masyarakat ini adalah melakukan pelatihan pengembangan manajemen sekolah kemaritiman untuk menjadikan SMK bidang kemaritiman sebagai Center of Excellence (CoE) dalam Mendukung Proses Pembelajaran. Metode yang digunakan dalam kegiatan pengabdian ini adalah pelatihan yang dilaksanakan dengan tiga macam, yaitu: metode ceramah, metode diskusi dan tanya jawab serta metode evaluasi. Hasil pengabdian menunjukkan bahwa dengan adanya pelatihan ini, SMK pendidikan kejuruan semakin relevan dengan tuntutan kebutuhan masyarakat yang terus berubah sesuai dengan perkembangan dunia usaha/industri dan dapat menunjang proses pembelajaran secara teratur dan berkelanjutan. terus menerus. Hasil evaluasi pelatihan menunjukkan antusiasme dan motivasi positif peserta pelatihan yang ditandai dengan nilai hasil evaluasi pelaksanaan pelatihan memperoleh skor rata-rata kriteria sangat baik sebesar 79,33% dan baik sebesar 20,67%. Usai pelatihan, diharapkan peserta pelatihan dapat mengasah keterampilannya dalam mengembangkan manajemen sekolah maritim.

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INTRODUCTION

Indonesia is the country with the largest marine biodiversity in the world. The content of marine wealth covers an area of two-thirds of the area that is abundant with various types of marine life and fish such as shrimp, tuna, skipjack, snapper, baronage, crab, grass, ornamental fish sea, all of which have high economic value (Cleary & Devantier, 2011). There are no less than 8500 species of fish, 555 species of seaweed and 950 species of coral reef biota(Oktavilia et al., 2019). In addition, Indonesia also has renewable energy resources such as geothermal, solar energy, wind and wave energy (Alhamid et al., 2016). However, all these potentials require Human Resources with qualified knowledge and skills to process them into national superior commodities that add value. Indonesian Human Resources must be skilled, mastering science and technology(Darsana & Sudjana, 2022). Indonesia has great potential to get out of the trap of being a middle-income country(Aviliani et al., 2014). Because currently, Indonesia is at the peak of demographic bonuses, where the population of productive age is much higher than the unproductive age.

National education functions to develop the ability and shape the character and civilization of a dignified nation to educate the nation's life, aiming to develop the potential of students to become human beings who have faith and piety in God Almighty, have a noble character, healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens(Legistia, 2019). More specifically, Vocational Education is secondary education that prepares learners primarily to work in a particular field. Vocational Education is higher education that prepares students to have jobs with certain applied skills maximum equivalent to undergraduate programs (Moodie, 2002). Maritime Vocational High School is included in vocational education. The Maritime Vocational High School consists of Fish Fishing Vessel Sailing (consisting of Nautical Fish Fishing Vessels and Fishing Vessel Teknika), Commercial Vessel Sailing (consisting of Commercial Vessel Nautical and Commercial Vessel Engineering), Fisheries (consisting of Freshwater Fisheries Agribusiness, Brackish and Marine Fisheries Agribusiness, Ornamental Fish Agribusiness, Seaweed Agribusiness, Marine Fisheries Industry) and Fishery Product Processing(Håvold, 2010). Many vocational education challenges and policies include: first, link and match with industry have not yet occurred as a whole. Industry involvement in vocational implementation is still very limited (Areli et al., 2020).

In Vocational High Schools there are 146 skills considered too many and inefficient. Unemployment of Vocational graduates (Vocational High School and Diploma I / II / III) is 16.41% of the total unemployed (Yunikawati et al., 2018). Vocational High Schools topped the list at 10.42%. Industrial interest in collaborating with vocational is limited. Second, educators are not adequate. According to Widayati et al., (2021), Vocational High School teachers have not met the needs, 56% of Vocational High School teachers are general teachers, (language, religion, etc.), and there is still a shortage of 314,674 skilled teachers. There are still many Vocational High School principals who have not been trained as CEOs. The ministry of education encourages Vocational High Schools to partner with industry (Jerusalem & Fitrihana, 2019). Second, the construction and revitalization of Vocational High Schools towards a centre of excellence according to the focus of vocational revitalization (Ahmad, 2020). Third, coaching school management and accreditation by industry. Fourth, the equipment assistance is by the standards of the industry (Jordan et al., 2015). Fifth, fostering Vocational High Schools in the creativity of products and services and creating safe schools (Amponsah et al., 2019). Sixth, facilitation to the provincial government in organizing Vocational High Schools. Seventh, the development of the character of the work culture and the assistance of the Smart Indonesia Card for Vocational High School students (Wahjusaputri & Bunyamin, 2022). Revitalization of Vocational High Schools. More specifically, the initial stage is the assessment of the vocational high school revitalization master plan, which is the determination of vocational high schools to be trained based on assessment data and the revitalization master plan of 730 vocational high schools.

Scientific Productivity from Islamic Sciences The Ministry of Culture intervened in 407 Vocational High Schools Center of Excellence in the form of assistance in facilities, infrastructure, application of industrial learning, certification and development of work culture (Nugraha et al., 2016). To expand its impact on society and related industries, these 407 Center of Excellence Vocational High Schools (including Maritime Vocational High Schools) provide services for surrounding Vocational High Schools, as well as the provision of work competency training services for the public and the production of goods and services, especially in the maritime field. Efforts to improve the quality of Human Resources in the marine sector through the development of Vocational High Schools in the Maritime Sector still face challenges (Suwandi et al., 2021). The first challenge, linking and matching with the industry has not happened thoroughly. Industry involvement in vocational implementation is still very limited. Industrial interest in collaborating with vocational is limited. The second challenge is that educators are not adequate(Baldwin et al., 2011; Al-Balas et al., 2020). Vocational High School teachers have not met the needs, 56% of Vocational High School teachers are general teachers, and there is still a shortage of 314,674 skilled teachers. So it is necessary to foster the management of the Maritime Vocational High School. From the above background, the Education and Sports Office, the Vocational High School section in the field of secondary education, in collaboration with the Yogyakarta Maritime College held training on the development of maritime school management to make Vocational High School in the maritime sector as a Center of Excellence. The purpose of this Community Service activity is to conduct training to develop maritime school management to make vocational high schools in the maritime field a Center of Excellence in Supporting the Learning Process. The contributions of this community service activity are (1) Increasing the role of the Yogyakarta Maritime College in the development of Maritime school management; (2)

Improving the quality of teacher learning, and its impact can improve the quality of maritime graduates; (3) Support the achievement of Key Performance Indicators Number 7 of the Directorate General of Higher Education Research and Technology; (4) Improving the implementation of the Merdeka Belajar program in maritime schools (5) encouraging the achievement of SDGs goal number 8, as a preparatory workforce capable of competing in this increasingly complex world (Winaryati et al., 2022; Rieckmann, 2017; United Nations Educational, 2017)

METHOD

This community service was held by the Education and Sports Office in the framework of Culture-Based Education activities, a sub-section of local content development activities, a section of Vocational High Schools in the field of secondary education, and collaboration with the Yogyakarta Maritime College as a resource person in the activity. The targets in this community service activity are maritime-based Vocational High School teachers. The method used in this service activity is training carried out in three kinds, namely: lecture method, discussion and question and answer method as well as an evaluation method (Astriawati et al., 2021). The function of implementing evaluation in this service is to be able to illustrate the results of the implementation of training in terms of the services provided during the training program which can be used as a step to improve quality (Phillips & Phillips, 2016). According to Naylor et al., (2015) that evaluation assessment variables include implementation time, suitability of themes and materials, delivery of resource person materials, benefits of activities, and assessment of training implementation. An evaluation process that focuses on filling out questionnaires for each trainee. The assessment scale used for each variable in the evaluation of the implementation of the training program uses a scale value of 1-4 with a scale of assessment criteria described in Table 1 (Astriawati et al., 2021).

Table 1. The scale of Assessment Criteria

Number scale	Criterion
1	Very Bad
2	Bad
3	Good
4	Very Good

The results of the evaluation was presented in a recapitulation table of the assessment of the implementation of the training, using quantitative data analysis based on the assessment that has been given by each trainee using the following equation (1).

$$\text{Average} = \frac{\textit{Participant assessment scores}}{\textit{Maximum scoring score}} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots..(1)$$

Equation (1) has several variables, namely the average, the participant's assessment score and the maximum assessment score. The calculation of the average value will provide a conclusion of information in the form of an average value obtained from the evaluation results of each variable. The participant assessment score variable is the accumulated value of each variable given by each trainee according to the scale of the assessment criteria. While the assessment maximum score variable describes the maximum value of the assessment according to the results of the recapitulation and will be presented in a graph that describes the percentage of the accumulated valuation of each variable. This step is carried out to describe the distribution of data used as a reference for the success of the training implementation. In addition, the evaluation results are also used as an indicator of the usefulness of training implementation for training participants.

RESULTS AND DISCUSSION

The implementation of community service activities is a form of the tri dharma of higher education which is one of the tasks of universities in disseminating knowledge and providing benefits to the community. This community service activity was carried out in the form of governance training for the development of high school management in the maritime sector which was held on 20-23 October 2021 at Tirta Kencana Hotel Jalan Ring Road East, Sunten, Banguntapan, Bantul with the number of trainees reaching 30 trainees.

The delivery of lecture materials was carried out as a step to provide a fundamental understanding related to the management of maritime school management, including related to the implementation of training activities including training and certification of Fishing Vessel Seafarer Expertise, Implementation of Education and Training for Seafarers of Fishing Vessels, Types of Training for Seafarers of Fishing Vessels, Implementation of Fishing Vessel Seaman Expertise Tests. This is done, as a basic provision of understanding for trainees to be able to manage maritime-based schools by industry needs. The presentation media is presented based on the information obtained at the observation stage. The description and illustrations of the substance of the material in the presentation media are arranged as close as possible to the implementation of applicable policies so that trainees can manage schools by applicable regulations. Documentation of the series of activities delivering basic theories can be described in Figure 1.

Figure 1. Delivery of Theory by the Service Team

In the implementation of the Maritime School Management Development training activities, discussion and question and answer activities are carried out which are oriented towards the material and practices that have been carried out previously. In addition, the questions asked by the trainees show the proactive attitude of the trainees in participating in the entire series of activities. Documentation of discussion and question-and-answer activities can be seen in Figure 2.

Figure 2. Discussions With Trainees

At the end of the training implementation, an evaluation process of training assessment is carried out. The assessment process is carried out by distributing an evaluation link to each trainee. The results of the assessment evaluation recapitulation describe all the variables assessed during the training process. An illustration of the results of the training evaluation recapitulation is described in Figure 3.

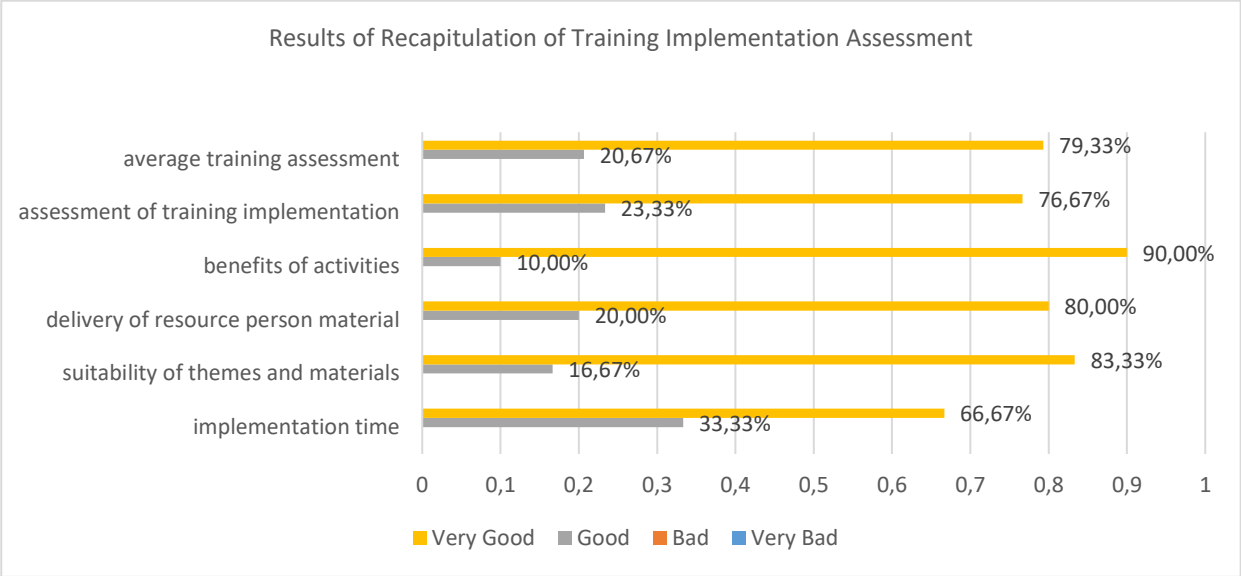

Figure 3. Graph of Results of Recapitulation of Training Implementation Assessment

The results of the assessment evaluation showed that for the evaluation assessment variable, the implementation time obtained excellent criteria of 66.67% and good by 33.33%. For the variable assessment of the evaluation of the suitability of themes and materials, it obtained excellent criteria of 83.33% and a good of 16.67%. For the assessment variable, the evaluation of the delivery of resource person material obtained excellent criteria of 80.00% and good by 20.00%. The variable assessment of the evaluation of the benefits of the activity obtained excellent criteria of 90.00% and good by 10.00%. For the evaluation variable, the assessment of the implementation of training obtained excellent criteria of 76.67% and good by 23.33%. With the average research, training obtained excellent criteria of 79.33% and good by 20.67%. Where the majority of trainees give an average assessment with a scale of 4 (four) on each assessment variable. This indicates the successful implementation of the training in the context of this community service. In addition, the results of the evaluation are also used as an indicator of the usefulness of the implementation of the service. The implementation of the Maritime School Management Development training as a Center of Excellence is very important to support the learning process as stated by Lund and Eriksen (2016) and Sabariah (2022) that good school management can improve the quality in the management of the educational process to achieve the goals that have been set, both short, medium, and long-term goals in supporting the learning process. In addition, according to Riswandi (2015), one of the efforts to create effective schools in schools is to implement comprehensive school management and develop a plan for the development of school work programs.

CONCLUSION

The entire series of training activities have been completed under the previously established plan. Based on the results of the implementation of the activity, the level of enthusiasm of each trainee shows interest and interest in the field of training provided. This raises hopes regarding the contribution of training to increasing participants' knowledge in the field of training. The results of the evaluation assessment of the implementation of the training program showed high interest and enthusiasm from the training participants. The results of the service show that with this training, the centre of excellence of vocational education vocational schools that are increasingly relevant to the demands of community needs that are constantly changing according to the development of the business/industry world and can support the learning process regularly and continuously. The results of the training evaluation showed the enthusiasm and positive motivation of the trainees which was marked by the value of the evaluation results of the implementation of the training obtained an average score of excellent criteria of 79.33% and a good of 20.67%. After the training, it is hoped that training participants can hone their skills in developing maritime school management so as to create a maritime school that is in accordance with the demands and needs of the world of work.

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Designing instructional media for English speaking club to develop learners' communication skills

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ABSTRACT

This paper presents the development of instructional media for an English-speaking club to improve students' speaking and general communication skills as part of a community service program. This was conducted as an attempt to address a lack of English communication competence of students at SMP Muhammadiyah 1 Malang. The project is part of the collaboration between the English Language Education Department (ELED) of the University of Muhammadiyah Malang (UMM) and SMP Muhammadiyah 1 Malang. The project involved ELED lecturers, students, and English teachers and students of SMP Muhammadiyah 1 Malang. The chosen topics for the English club are relevant to students' everyday lives, complemented with corresponding English language-related games. For that, a module was created for ten sessions with three specific topics (English vlog, speech, and storytelling), complemented with the digitalized media for the games in each session. This paper presents a detailed account of the preparation, development, and evaluation of the developed module and media for the speaking club, emphasizing the collaborative nature of all involved in the project. Lessons learned are discussed and highlighted for other English language teachers and educators who wish to conduct the same project in their respective institutions.

Kata Kunci
Media pembelajaran
Klub berbahasa Inggris
Keterampilan berkomunikasi
Sekolah menengah

Merancang media pembelajaran bagi klub berbahasa Inggris untuk mengembangkan keterampilan komunikasi peserta didik. Artikel ini menyajikan pengembangan media pembelajaran bagi klub berbahasa Inggris untuk meningkatkan keterampilan berbicara dan komunikasi umum siswa sebagai bagian dari program pengabdian masyarakat. Hal ini dilakukan sebagai upaya untuk mengatasi kurangnya kompetensi komunikasi bahasa Inggris siswa di SMP Muhammadiyah 1 Malang. Proyek ini merupakan bagian dari kerjasama antara Jurusan Pendidikan Bahasa Inggris (ELED) Universitas Muhammadiyah Malang (UMM) dan SMP Muhammadiyah 1 Malang. Proyek ini melibatkan dosen ELED, siswa, dan guru Bahasa Inggris serta siswa SMP Muhammadiyah 1 Malang. Topik yang dipilih untuk klub bahasa Inggris relevan dengan kehidupan sehari-hari siswa, dilengkapi dengan permainan terkait bahasa Inggris yang sesuai. Untuk itu, dibuat modul untuk sepuluh sesi dengan tiga topik khusus (vlog bahasa Inggris, pidato, dan bercerita), dilengkapi dengan media digital untuk permainan di setiap sesi. Makalah ini menyajikan laporan terperinci tentang persiapan, pengembangan, dan evaluasi modul dan media yang dikembangkan untuk klub berbicara, menekankan sifat kolaboratif dari semua yang terlibat dalam proyek. Pelajaran yang didapat didiskusikan dan disoroti untuk guru dan pendidik bahasa Inggris lainnya yang ingin melakukan proyek yang sama di institusi masing-masing.

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INTRODUCTION

English is an international language used to communicate globally among people from different countries, and the language is classified as English as a foreign language (EFL) in Indonesia. Unfortunately, Indonesians are less exposed to English in their daily lives. In fact, English has become an extracurricular course for primary school students (Ayu, 2016). This situation creates more burden for secondary school English teachers when teaching English because their students have low English mastery when entering junior higher schools. So, it is important to boost their motivation and better English proficiency. Thus, an appropriate teaching approach needs to be applied. EFL teachers are required to facilitate students' interest in developing their English learning motivation, so the students can perform better English and achieve better English learning outcomes (Yusuf et al., 2020). Also, the EFL teachers need to provide a vast amount of English exposure to the students for reinforcement and better English. Watching English movies, listening to the radio, and reading English books, magazines, or newspapers very important for EFL learners' English progress (Al-Zoubi, 2018).

Additionally, students are supposed to be trained in order to be more autonomous, so they can keep learning independently. Student independent learning is deemed necessary to improve their motivation (Cheng & Lee, 2018). As a result, they are more likely to comprehend their English, particularly speaking skills. In most factual contexts, speaking is seen as one the most essential skills because it is the main skill needed by English learners to communicate fluent English verbally. To express ideas, thoughts, and opinions clearly, they need to use English speaking in verbal communication (Darnis, 2020).

Speaking skill advancement could be gained through various methods: storytelling, role play, and game. Storytelling could lead to better English-speaking performance (Zuhriyah, 2017). When the teachers have various teaching speaking approaches, students can easily get engaged and enjoy the speaking activities in class. Consequently, their speaking fluency will gradually be enhanced. Internet use in English learning could also be a good teaching option for speaking skill practices. For instance, students who wish to practice their communication outside the classroom find online speaking practices beneficial and can determine their preferred speaking practices and set their own learning pace (Rodrigues & Vethamani, 2015). They added that the English learners' confidence increases when their speaking performance is better. However, learning flexibility might sometimes be hindered by the slow internet connection (Sriwichai, 2020). Hence, it is always important to prepare another option. Considering formal speaking classroom interaction might create boredom for students due to the pre-determined lesson plan. So, creating English speaking club will be an excellent idea for more fun speaking practices because the club is less formal instruction, and teachers can modify the instructional topics based on the students' wants and needs more flexibly.

When EFL learners rely merely on formal classroom activities, English attainment will not be optimum. Consequently, EFL learners have fewer opportunities to improve their English (Waloyo et al., 2021). Due to its less formal and flexible nature, the English club could result in more fun and engaging speaking activities. Most students who joined English-speaking clubs were identified to increase their vocabulary, pronunciation, and fluency when using English (Wahyuniati et al., 2020). Integrating digital gamification into the English-speaking club offers more enjoyable English-speaking practices for junior high school students who are digital natives.

Self-regulated learning (SRL) is a competence that students need to develop in speaking. SRL means learners actively participate in controlling their own learning experiences, including shaping their productive workplace and applying the available resources effectively, organizing obtained information to learn, maintaining positive emotions during pedagogic activities, and maintaining their beliefs about their competences, learning values, and aspects that influence the learning itself (Wang et al., 2013). When integrated with the English-speaking club, SRL will optimize EFL learners' outcomes because they manage and organize related aspects, environment, media, time and information, to support their speaking progress. Here, they must remember that they must have a clear and reachable learning objective. Otherwise, it will be hard to progress their speaking skills because they will be fully responsible for their learning progress.

Speaking clubs are known to have more enjoyable activities that can help students conquer their problems in speaking (Prabowo, 2020). Speaking club has other benefits for speaking practices, such as providing students with proper contexts, exposures, opportunities, learning partners, and a safer learning environment (Brown & Daly, 2004; Prabowo, 2020). Students also find English club a positive environment where they confidently nurture their speaking skills like fluency, vocabulary, and pronunciation (Wahyuniati et al., 2020). To facilitate a good session for learning speaking, an English club should involve interactive activities and proper support from the teachers for better self-regulated learning and communication (Fauzi, 2019; Wahyuniati et al., 2020).

A positive and supportive learning environment created in English club activities also encourages using games to enhance the learning quality. Playing games can help improve English speaking skills regardless of the students' age as most games require active verbal participation (Kaur & Abdul Aziz, 2020). Games can also be useful in facilitating speaking skills like vocabulary while increasing students' confidence (Sunarti & Halim, 2019). Those theories support that having games for after-school clubs can positively change teaching instructions and makeearning activities more fun, relatable, engaging, creative, and effective (Schlosser & Balzano, 2014).

Specially tailored learning media will be developed in this community service to support the activities of the English-speaking club in the targeted setting. The media is also expected to promote active participation and production to help

improve other macro skills, like vocabulary, fluency, and comprehension (Kurniawan, 2016). Integrating such media is expected to enhance the learning during English speaking club activities to benefit the program's sustainability. However, to the best of our knowledge, we could not figure out the study or community service that focused on how digital gamification was used as a part of the teaching media for speaking practices and English communicative skill development. Therefore, we carried out this community service. This community service is expected to result in a practical module that would be sustainable for future use. Also, an academic article could be created as a reference for teaching English speaking and communication skills via English-speaking club using digital-gamification media.

We conducted the community service program partnering with SMP Muhammadiyah 1 Malang. This service aimed at progressing education sector, particularly English skills. This becomes the community service focus because English skill progress has been tough there due to very few English teachers and supporting references. This school is one of the junior high schools in Malang under the organization of Muhammadiyah Kota Malang. The school has a strong commitment to strengthening students' English competences. They believe the students can be more confident and are able to compete regionally and nationally if they have good English competences, particularly speaking and communication competences. Furthermore, we conducted the preliminary observation and interview with the school partner, SMP Muhammadiyah 1 Malang, to do a need analysis for the current community service program. During the initial Focused Group Discussion (FGD) with the teacher and school principal, an issue with English teaching came out. That was the assistance related to the school's extracurricular activity. Therefore, we sprung an idea to have English Speaking Club. Drawing from those things, our community service focused on the instructional media, particularly digital gamification, and design for the English speaking club module for better speaking and communication skills.

Our community service is part of our effort to support the Sustainable Development Goals (SDGs) in education sector targeting quality education for children. When the quality education is run well, the sustainable development would be able to be achieved. Education is proven to be one of the strongest and real vehicles to ensure sustainable development (UNDP, 2015). Therefore, at practicality level, we actively participated to achieve that goal by conducting English speaking club at SMP Muhammadiyah 1 Malang, so students could access inclusive English learning and they are ready to build better future for global development. This club was chosen because it is critically needed by the school. Also, this approach was considered effective to enhance students' vocabulary, pronunciation, and speaking fluency in English (Wahyuniati et al., 2020).

METHOD

Considering the theoretical background and the school partner's problems, ensuring the quality of the English club learning programs is important. This section presents detailed methods to achieve such quality involving the project participants, the offered solutions, and the stages of the program implementation.

Participants

The community service program was conducted by the team of lecturers affiliated with the English Language Education (ELED) of the University of Muhammadiyah Malang (UMM) in partnership with SMP Muhammadiyah 1 Malang. First, the main team from ELED consisted of three lecturers and was supported by 10 undergraduate students, all of whom aspired to be English teachers and were in the middle of their training. Next, the SMP Muhammadiyah 1 Malang team consisted of an English teacher and 19 students who were active members of the school English speaking club. The team of lecturers and the teachers conducted the initial planning for the project, deciding the specific aims and expected outcomes before involving the ELED students to assist with the material development of the module and media. Once the module and media were finished, the ELED students, supervised by the lecturers and the English teacher, were responsible for executing the plan and running the club within 11 weekly sessions run from early September to mid-December 2022. The English club participants, the students of SMP Muhammadiyah 1 Malang, were observed to have a good knowledge of English, sufficient digital literacy, and access to online devices like smartphones. Despite having such ideal participants, the club's activities had been suspended during the pandemic. With the help of this community service team from UMM, now the English Club has been reactivated and rebranded with a new and stronger concept and execution.

Offered solutions

The main solutions offered in this program are in the form of a complete learning module, media, teaching assistance, and supervision tailored to the English Club at SMP Muhammadiyah 1 Malang. Currently, the English Club serves as a main learning extracurricular activity to promote better English speaking culture in the school and improve students English communicative skills, which was urgently needed according to the school's principal. To be more detailed, the offered solutions and outputs are presented as follows.

1. Module for English speaking club. The module was used as the main references for the English-speaking club activities. The instructors for the club are ELED - UMM students, under the close supervision of the lecturers and

teacher of English teachers of the school. The module consisted of materials, activity worksheets, and learning media that were implemented in the club and evaluated through feedback from students about its practicality. The English Club module consists of ten chapters for ten meetings/sessions. The module covers materials for speaking for informal and formal interactions, as the development team and the English teachers agreed initially.

2. Game-based instructional media. The instructional media were made to accompany the module in the form of game-based media for English language learning related to the topics discussed. The media were developed based on the principles of autonomy and self-regulation in foreign language learning in order to support and encourage students' independence in learning English speaking skills. Further, the media were made available online and printed for easy access and future references to ensure its sustainability of use. The media were interactive gamification-oriented activities involving digital technology. For example, the previous paper and pencil-based games (e.g., treasure hunts using simple written instructions on pieces of paper) were replaced by QR code games using smartphones. The use of gamification and digital devices was aimed to make the English Club activities more enjoyable and contextual for the 'digital native' students while helping the teacher to manage the learning resources better. That way, the English Club has digitized media and its materials, activities, games, and assessments. It can make the future implementation of English Club and the development of the module easier while ensuring its quality.
3. Assistance and supervision for Speaking Club. We also provided assistance throughout the execution of the English-speaking club and supervised its progress. To do that, the 10 students who were in charge of teaching were prepared and trained before each session. To ensure that learning takes place effectively, they were also assisted in the evaluation process after each session to encourage active reflection on the teaching practice experience in the club.

Stages of program implementation

The achievement of the three goals was conducted in three main stages covering the planning, implementation, evaluation, and reporting of the overall community service program. Below is the detailed elaboration of the stages.

Table 1. Detailed elaboration of the planned stages

No.	Stage	Activities	Participants	Platforms	Outcome
	I. PREPARATION STAGE				
1	Preparation and need analysis	- Introduction with the school, English teacher, and participants - Conducting need-analysis - Preparing initial module and media template	Lecturers, Teacher, Principal	- Site Visit - Google Form - WhatsApp group	- Agreement with participants - Initial data for module development
	II. EXECUTION STAGE				
2	1st Development of the learning module and media	- Recruitment of ELED students - First coordination meeting - Developing materials for the module and the media	Lecturers, ELED students	- F2F meeting - Zoom Meeting	List and draft of planned topics and materials
3	1st Evaluation and validation	- Communicating the module draft with the school and English teachers - Validating the material with experts	Lecturers, Teacher, ELED students	- F2F meeting - Zoom Meeting	- Document evaluation and validation reports
4	2nd Development of the learning module and media	- Developing learning activities, games, and additional resources	Lecturers, ELED students	- F2F meeting - Zoom Meeting	- Module drafts and game media for the learning activities
5	2nd Evaluation and validation	- Communicating the module learning activities, games, and additional resources with the school and English teachers - Validating the learning activities, games, and additional resources with experts	Lecturers, Teacher, ELED students	- F2F meeting - Zoom Meeting	- Digitized learning activities and games, and other resources.

No.	Stage	Activities	Participants	Platforms	Outcome
6	Workshop and Training	- Practicing sessions of the learning module with the English Club teachers (ELED students) - Transferring the learning module to the school and the English teacher - Evaluating the final draft of the module - Documenting the finished module	Lecturers, ELED students	- F2F meeting - Zoom Meeting	- Document reports
7	English Club sessions	- Facilitating the English Club activities using the module with the English teacher - Observing, evaluating, and improving module usages by the English Club	Lecturers, Teacher, ELED students, SMP students	- Site visit - Google Form	- Evaluation report of the programs
	III. EVALUATION AND REPORTING STAGE				
8	Program evaluation	- Evaluation for the module and media development - Regular and weekly evaluation during the execution phase - Final evaluation at the end of the program	Lecturers, Teacher, ELED students, SMP students	- Site visit	- Evaluation report of the programs
9	Reporting the results	- Creating documentation and reports	Lecturers, Teacher, ELED students	- Google Docs	- Document reports

The detailed description of the outcomes of the planned method is presented in the following Results and Discussion Section.

RESULTS AND DISCUSSION

The community service team from English Language and Education Department (ELED) or Universitas Muhammadiyah Malang conducted a service program in SMP 1 Muhammadiyah Kota Malang, which focused on developing the junior high school's Speaking Club as one of the main extracurricular activities for students. The program aimed to develop instructional media for the speaking club. It was initiated by lectures of ELED, led by Nina Inayati, M.Ed. The prominent service members were Alimin Adi Waloyo, M.AppLing., Bramy Biantoro, M.Ed., and Ibrahim, M.TESOL. (Lecturer of Universitas Muhammadiyah Kalimantan Timur). During the implementation of the service program, there were 10 students from ELED who aided the designing process and the speaking club activities as facilitators.

The service program was started by doing a school visit in July 2022 to obtain a brief data of need analysis from the principal and English teachers in SMP 1 Muhammadiyah Kota Malang. From the school visit, the service team received significant information to develop the blueprint of the module and additional instruction media (e.g., games). For example, the principal stated that the students needed to improve their communication skills, especially regarding social media content creation, speech, and storytelling. Those activities were often used for national and international student competitions, so equipping students with those skills was deemed important by the schools. Then, the service team along with the students, spent two months developing the module and the instructional media in the form of educational games for the speaking club. Then, the team also held several trial sessions, one of them on September 1st, 2022, in UMM, where students were trained to facilitate learning activities for students in the speaking club using the module and instructional media. The developed module, with its learning games, was also regularly communicated with the English teacher of SMP 1 Muhammadiyah Kota Malang, to get meaningful feedback, especially in matching with the initial objectives and the students' proficiency.

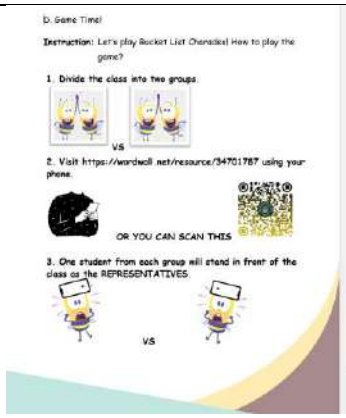
(a) (b) (c)

Figure 1. Documentation of the preparation stage and the initial development of the module and instructional media (games): (a) the introduction meeting with the principal and English teacher in July 2022, (b) the development of the module and media in August 2022, and (c) the training for UMM students to facilitate the learning using the module in September 2022.

In August 2022, the module and the instructional media could be finished properly. The module for the speaking club consisted of nine (9) chapters, and each chapter was designed for one meeting. The chapters were structured thematically based on three main themes, vlogs, speeches, and storytelling, which were expected to improve their speaking skills and enable them to participate in future speaking competitions. Each chapter was designed systematically, starting with brainstorming activities, an overview of the material, a vocabulary section, speaking practices, and games (for the instructional media). The sections were arranged specifically as scaffolding for students in learning English speaking, especially at the junior high school level. Additional learning media include videos, pictures, and websites to provide students with more relevant and contextual examples. The activities in the module were also integrated with digital technology like smartphones, social media, and the internet to increase the ease of use and quality of learning. The combination of those materials was expected to improve students' proficiency in daily conversations and formal public speaking like speeches and debates.

Table 2. Sample of content pages in the Speaking Club Module with the instructional media - games

Description	Sample pages
Introduction page	
Brainstroming and Overview pages	

Description	Sample pages
Tips and Practice pages	 
Vocabulary and Example pages	 
Games page (Offered Instructional Media)	 

The speaking club was officially started on Friday, September 2, 2022. It was the beginning of 11 meetings for the speaking club facilitated by the UMM students using the developed module and games as the media. The first meeting was held to introduce the facilitators and the module to the students, and 22 students joined this session. The students could be observed participating in the activity enthusiastically due to the use of a game as instructional media. In this first meeting, the UMM students who became the facilitator were still guided by the service program's core member, as seen in Figure 2. The English teacher of SMP 1 Muhammadiyah Kota Malang stated that his students seemed to accept the introduction of the module and instructional media well, showed by their active participation in learning speaking through the prepared games.

Figure 2. Documentation of the official opening of the Speaking Club activities using the prepared module and the instructional media

Furthermore, the speaking club was conducted regularly every Friday morning, from 08.00 to 10.30 a.m. in the following 10 weeks. The sessions were divided into three themes according to the module structure: vlogging, speech, and storytelling. The first three meetings were categorized as introductory meetings where the students got familiar with the module and the instructional media. The topic for those meetings was vlogging in which the students engaged with the module to learn to create simple social media content using technology while honing their speaking skills. With the help of the facilitators, they learned vocabulary, expressions, pronunciations, and gestures for making vlogs per the module's themes, such as daily vlogs, popular vlogs, and hobby vlogs. The students also engaged with interactive and fun games implemented to improve their learning participation and motivation, such as *Spinning Wheel Vlogs*, *Wordwall Charades,* and *Guess Who* games. By the end of the vlogging-themed meetings, students were observed to be more confident and active in participating in the speaking club activities.

In addition, the next three meetings focused on learning speech using the module. During the meetings, students learned and practiced three things: what speech is, social media speech, and important day speech. These meetings encouraged students to improve their speaking skills and confidence more by doing individual practices and collaborative games assisted by the facilitators using the prepared instructional media. The games were *guessing words*, *snakes and ladders*, and *word search* games. With the module and instructional media, the students saw examples of speeches, practiced them individually and collaboratively, and improved their overall speaking skills. Lastly, the last three meetings were focused on the theme of 'storytelling,' in which the students could learn how to do storytelling in general, daily storytelling (i.e., recount), and fiction storytelling (i.e., narratives). The students also further learned pronunciation and evaluated each other's speaking performances using the guide from the module. Games as the supporting media were also utilized in the last three meetings, namely *virtual trivia*, *tell and guess*, and *story chain* games. The module activities and contents, along with the games, were able to improve the quality of the speaking club, as suggested by the English teacher who always accompanied during all the meetings. In addition, there were two additional meetings set up as an evaluation stage. The first was to observe students speaking improvements after learning using the module and the instructional media, and the second was an interview session to get beneficial feedback from the students regarding the module.

(a) (b) (c)

Figure 2. Documentation of the meetings of based on the Module's themes: the daily vlogs meeting (a), the speech meeting (b), and the storytelling meeting (c)

During the development of the module, 10 meetings of the speaking club, and two additional evaluation sessions, there were two observed obstacles like students' participation and technical issues. Firstly, the speaking club's participants initially recorded as many as 22 students from 7th and 8th graders. However, the number decreased to 18 students at the end of the speaking club. Most students who quit were boys, leaving only one male student at the end of the speaking club activity. Considering the speaking club was an extracurricular activity, there was a possibility that many male students decided to join other extracurricular activities, which were also held at the same time with the speaking club (i.e., all extracurricular activities in SMP 1 Muhammadiyah were held at the same time, every Friday morning). Secondly, as the module and the games were distributed or implemented using digital platforms (i.e., smartphones and LCD projectors) with an internet connection, technical issues happened several times during the speaking club meetings. Some students did not have internet data, so the English teacher often provided students an internet connection through tethering. Sometimes, students' smartphones experienced lagging that the facilitators solved. Nevertheless, the participant and technical issues did not affect the speaking club learning activities using the module significantly. Interestingly, the technical issue regarding the internet connection prompted the school to install Wi-Fi access for students after the speaking club finished.

Based on the speaking club activities described above, the speaking learning activities using the module and integrated media (games) indicated positive results for students and the school. The module and the games have improved the quality of the speaking club activities, students' participation, and speaking skills of the students. This aligns with Wahyuniati et al. (2020) research, which suggests that speaking club with a good supplementary material like modules can improve students' speaking skills (fluency, accuracy, and pronunciation), confidence, and comfortable learning environment. The support from educational games as additional learning media, like guessing games in the module, is argued to improve young learners' speaking skills (Meiningsih & Madya, 2021). Games tailored for English speaking, like the ones developed for the module, can be essential to support verbal communication exchanges and improve vocabulary learning for students in the speaking club (Kaur & Abdul Aziz, 2020; Sunarti et al., 2019). Moreover, as the module and games were implemented using digital platforms and the internet, the participants were able to adjust the learning activities based on their preferences, either individually or collaboratively. This notion supports the self-regulated learning theory (Wang et al., 2013), which can further improve the quality of student learning activities using the module. SRL-based learning promotes better adaptive learning for students where they can have responsibility and freedom in doing their own learning. Furthermore, the involvement of technology, like smartphones, websites, applications, the internet, and social media in the module and game-based instructional media was successful in generating positive learning impacts among the students. According to Sosas (2021), employing a technology-based medium to teach speaking can be effective in helping students do their tasks and create a good relationship between students and teachers while reducing students' anxiety. Lastly, the English teacher at the school can collaborate with the community service team and the facilitators to improve his teaching practices for the extracurricular activities and the main English classes. Using the module and the game-based instructional media, the English teacher can get the best practice for selecting teaching approaches and strategies for his English classes, such as the use of storytelling and personalized learning (Zuhriyah, 2017; Rodrigues & Vethamani, 2015).

The students who were more engaged, actively participated and improved their communicative and speaking skills indicated the positive impacts of the English speaking club. Thus, this community service was positively affecting both the team of the community service (English lecturers and the ELED students) and the schools (students, English teachers and the school principle). More importantly, this community service supports the SDGs goal in the educational sector. Here, we targeted inclusive English development for children, which is accessible for all gender, various economical background, yet affordable. Then, they are ready to actively contribute to creating change for more prosperous and peaceful future through their ability to use English for global communication. Also, they can find better job due to their competence in using English which leverage their social and economic status.

CONCLUSION

The Speaking Module and game-based instructional media were vital to be developed promptly to support the school programs in improving the quality of the speaking club, which is the main extracurricular activity to enhance students' English proficiency to join local and national competitions. The result of the community service showed that the development of the Speaking Club Module and the game-based instructional media, which was implemented in the English extracurricular at SMP 1 Muhammadiyah Kota Malang was a success. The program was implemented properly chronologically, starting from the preparation, development, implementation, and evaluation. The module and the games were observed to promote effective, contextual, and enjoyable speaking activities for the students while improving their speaking skills and confidence during the classes. Despite obstacles like the decrease in several students' participation and technical issues while using the smartphone and the internet, the students, English teachers, and facilitators were able to hold the speaking club activities properly according to the school's initial objectives. Therefore, developing a

quality module with interesting instructional media is suggested to be explored and implemented by other schools to improve the quality of English extracurricular-related activities. Additionally, this community service was so positive due to the activities' impact to create better English access for children from all gender and various social-economic background. So it supports the SDGs in education sector.

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Training to improve skill in managing and reporting regular BOS Fund in SMA/SMK

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ABSTRACT

Problems related to the management of BOS funds are that they are still not optimal in implementing procedures and reporting of BOS funds. Conditions like this often trigger errors in data input and financial reporting of BOS funds that are not in accordance with Permendikbud No 6 of 2021. The purpose of this service is to increase the accountability of BOS funds reporting at Senior High and Vocational. The object of this service is the Education Authorities of Lubuk Pakam Sumatera Utara. The approach to implementing this community service is to carry out financial observations and training conducted by the community service team. The results of this community service activity show that the understanding of BOS chamberlain at Senior High and Vocational has been implemented in managing BOS funds. Procedures and reporting of BOS funds must comply with the principle of Accountability which is the principle of public accountability. This means that the budgeting process starting from planning preparation and implementation must be truly reportable and accountable. The implementation of the BOS funds at SMK program has followed the guidelines prepared by the Government in the 2022 BOS at Senior High and Vocational Technical Guidelines by prioritizing the concept of School Based Management (SBM), namely the principles of self-management and participatory, transparent, accountable, democratic, effective and efficient, orderly administration and reporting, and mutual trust. In the SBM concept, schools are required to independently explore, allocate, demand priorities, control and be accountable for empowering resources, both to the community and the government.

Kata Kunci
Dana BOS
Laporan
Manajemen
Pelatihan
Peningkatan keterampilan

Pelatihan untuk meningkatkan keterampilan pengelolaan dan pelaporan dana BOS reguler di SMA dan SMK. Permasalahan terkait pengelolaan dana BOS adalah masih belum optimalnya pelaksanaan prosedur dan pelaporan dana BOS. Kondisi seperti ini sering memicu terjadinya kesalahan input data dan pelaporan keuangan dana BOS yang tidak sesuai dengan Permendikbud No 6 Tahun 2021. Tujuan pengabdian ini adalah untuk meningkatkan akuntabilitas pelaporan dana BOS di SMA dan SMK. Obyek pengabdian ini adalah Dinas Pendidikan Lubuk Pakam Sumatera Utara. Pendekatan pelaksanaan pengabdian masyarakat ini adalah dengan melakukan observasi keuangan dan pelatihan yang dilakukan oleh tim pengabdian masyarakat. Hasil kegiatan pengabdian kepada masyarakat ini menunjukkan bahwa pemahaman pengurus BOS SMA dan SMK telah diterapkan dalam pengelolaan dana BOS. Tata cara dan pelaporan dana BOS harus memenuhi asas Akuntabilitas yang merupakan asas akuntabilitas publik. Artinya, proses penganggaran mulai dari penyusunan perencanaan hingga pelaksanaannya harus benar-benar dapat dilaporkan dan dipertanggungjawabkan. Pelaksanaan dana BOS pada program SMK telah mengikuti pedoman yang telah disusun oleh Pemerintah dalam BOS SMA dan Petunjuk Teknis SMK tahun 2022 dengan mengedepankan konsep Manajemen Berbasis Sekolah (MBS), yaitu prinsip swakelola dan partisipatif, transparan, akuntabel, demokratis, efektif dan efisien, tertib administrasi dan pelaporan, serta saling percaya. Dalam konsep MBS, sekolah dituntut untuk mandiri menggali, mengalokasikan, menuntut prioritas, mengontrol dan bertanggung jawab dalam memberdayakan sumber daya, baik kepada masyarakat maupun pemerintah.

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INTRODUCTION

One thing that cannot be forgotten in achieving the educational goals of a nation is the role of the state in providing educational facilities. The environment and educational facilities are sources that can determine the quality and continuity of educational efforts. The environment can be physical, social and cultural, all of which have a direct or indirect influence on educational efforts. Inadequate places for education (school buildings, sports and recreation facilities), equipment, educational tools, educational materials, lack of cooperation between various institutions in society, low population education and relatively expensive education costs in general can hinder good education (Solikhatun, 2016). According to Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System states that the government and regional governments are obliged to provide services and facilities, as well as guarantee the implementation of quality education for every citizen without discrimination. One of the roles of the state in this regard is to provide or reduce the cost of education in Indonesia. Government Regulation (PP) Number 32 of 2013 concerning National Education Standards (NES)explained that in outline the cost of education consists of investment costs, operating costs, and personal costs.

The School Operational Assistance Fund (BOS) is a government program which is basically to provide non-personnel operational costs for basic education units as implementers of the compulsory education program (Silele & Sabijono, 2017). School Operational Assistance Fund (BOS) programs in the education sector, must be used as effectively as possible so that goals are achieved (Albiy and Yahya, 2021). School Operational Assistance is a government program to provide funding for non-personnel costs for basic education units as implementers of compulsory education, but there are many problems in determining distribution and BOS which often become obstacles to distribution so that it is not in accordance with the objectives. Therefore, to obtain better results and overcome these problems, a decision support system is needed in determining the criteria for granting BOS funds. In this study, a decision support system uses the Preference Selection Index (PSI) method to facilitate decision making in determining the provision of BOS funds (Ali and Aprina, 2019).

Problems often occur because the school does not know the standard rules for the detailed code descriptions that will be written into the BOS fund report, resulting in the presentation of BOS fund reports often being late and inaccurate (Firmansyah and Purwaningtias, 2019). The management process is carried out by the institution consistently and continuously. The process is carried out by institutions engaged in profit-oriented or non-profit activities. Educational institutions which are engaged in non-profit activities also carry out the management process. Educational institutions are required to carry out optimal management processes. School management cannot happen without involving the right resources. Good school management involves all elements in the school (Pontoh et.al, 2017). Elements in question such as teachers, employees, students, school facilities, and others. To support management activities, schools need money to carry out school plans that have been set for a certain period. The money circulating in the school should be properly managed based on the applicable regulations. This is confirmed in Government Regulation of the Republic of Indonesia Number 39 of 2007 concerning Management of State Money /Region whereas money management is the management of cash and securities including overcoming cash shortages and making optimal use of excess cash. The Government Regulation also explains that schools as government institutions are supervised by school principals in internal control and regional functional supervisors as well as the Supreme Audit Agency in functional control.

The problem of delays in the distribution of BOS funds and the price of goods which can change every year, has an effect on the instability of the amount of funds disbursed for operational costs (Hutagalung & Azlan, 2020). Schools have the duty to manage finances based on the principles of financial management so that money in circulation can be used optimally. Good school financial management processes can also be carried out by good stakeholders. Stakeholders are both internal and external school parties who play an active role in managing school finances. The activeness of stakeholders will support the process of managing school finances which will affect the optimal amount of money. The optimal amount of money such as money available according to the needs required by the school (Sumarni, 2015). Mulya (2019) can be explaned if an excessive amount of money can reduce the efficiency of school financial management, while an insufficient amount of money reduces the performance of other resources, such as the performance of teachers, employees, utilization of school facilities and others.

School financial management is based on the principles set out in Government Regulation of the Republic of Indonesia Number 48 of 2008 concerning Education Funding namely the principles of fairness, efficiency, transparency and public accountability. The regulation also explains that the four principles are used in the process of managing school finances starting from planning, realizing the receipt and disbursement of education funds, supervision and examination to accountability (Okvita, 2019). The researchers focused on this training material on managing the BOS budget for school financial reporting based on the principles of fairness and efficiency because these two principles are closely related to the stages in managing school finances at the planning and realization stages of the budget for receiving and spending education funds. The principle of justice relates to the widest opportunity given to students in receiving educational services, while the principle of efficiency relates to the use of resources in providing educational services through schools (Sulfiati et al., 2010).

The process of managing school finances, which includes planning and budget realization, is thought to have not been fully carried out based on the principles of school financial management, which include fairness and efficiency, although basically the reporting concept between countries can differ from one another with varying degrees of difference. The use

of the principle of justice intended when preparing the RAPBS and the principle of efficiency when applied internally in the form of realization of the school revenue and expenditure budget, as well as externally in the benefits received and costs incurred by students when students go to school (Ismail & Sumaila, 2020). Aklima (2020) states that the School Operational Assistance (BOS) fund program is one of the government programs that was born from policies in the field of education. The main goal is to ease the burden of costs for the poor who wish to continue their schooling.

Based on the background and information obtained from the research results, the current problems are: (1) In carrying out his daily work the BOS Treasurer is still not optimal in implementing the procedures and reporting of BOS Funds; (2) Conditions like this often trigger errors in data input and financial reporting of BOS Funds that are not in accordance with Permendikbud No 6 of 2021. Solutions to priority partner problems are (1) Educate BOS Treasurers in implementing procedures and reporting of BOS Funds in accordance with Permendikbud No. 6 of 2021 and Permendagri No. 24 of 2020; (2) Train BOS Treasurers in implementing procedures and reporting of BOS Funds in accordance with Permendikbud No 6 of 2021 and Permendagri no 24 of 2020.

METHOD

The approach method offered to solve employee problems is to do community service by providing counseling (Sari & Irawan, 2021): (1) Provide understanding and knowledge to the BOS Treasurer regarding procedures and reporting of BOS Funds in accordance with Permendikbud No 6 Tahun 2021 Permendagri no 24 Tahun 2020; (2) Educating BOS Treasurers to be more active and sensitive to increased understanding Permendikbud No 6 Tahun 2021 Permendagri no 24 Tahun 2020; (3) Provide understanding and knowledge to the BOS Treasurer in reporting the finances of the BOS Fund; (4) Lastly in evaluating the results by observing again the management and procedures for financial reporting of the BOS Fund.

The series of approaches offered are described as follows:

Figure 1. Working Procedures

Work procedures to support the realization of the solutions offered, so first make initial observations in the field to approach through interviews and find problem phenomena. After observation and outreach, an assessment of the problem is carried out and finding the solution to be offered, then setting priorities for the implementation stages and then doing community service by providing counseling (Irawan, 2022). Finally, in evaluating the results by observing the quality of employee work again. The entire series of work procedures can be seen in the image below:

The material used for the employee service implementation program is work quality and service quality. The application method used in the implementation of employee service includes: (1) Lectures and Discussions, Lecture materials (training) are given to participants. After finishing the lecture, it is continued with discussion (question and answer) and direct practice. Lecture material includes understanding the procedures and financial reporting of the BOS Fund; (2) Question and Answer session, After the lecture method is carried out, the next method is to conduct question and answer interactions with the participants (Siregar & Irawan, 2021).

RESULTS AND DISCUSSION

The Table 1 is a schedule for the implementation of community service in accordance with the existing material:

Table 1. Training Materials and Schedule

Time	Material	Room	Source Person
08.00 am – 10.00 am	Taxation of BOS Funds	Class A	Irawan., SE., M.Si
10.00 am – 10.15 am		Coffe Break	
10.15 am – 12.15 pm	Planning for Management and Administration of BOS funds in accordance with the Ministerial Regulation N0.24 of 2020		Irawan., SE., M.Si
12.15 pm – 14.00 pm		Break	
14.00 pm – 16.00 pm	BOS Fund Reporting	Class A	Irawan., SE., M.Si

The results of the implementation of the program (Figure 2, Figure 3, and Figure 4) carried out on procedures and financial reporting for the 2022 Regular BOS Fund are 5 stages. First, Regular BOS is a Central Government Program to help fund school operational costs which can be used for the administration of school activities, provision of learning tools, library development, increasing the competence of teachers and education staff, maintenance of school facilities and infrastructure, payment of honorariums, and so on. other. Second, Regular BOS Fund Management Regulations: (a) PMK No 197/PMK.07/2020 about Second Amendment above PMK No 48/PMK.07/2020 replaced with PMK 119/PMK.07/2021 about Pengelolaan DAK Nonfisik; (b) Permendagri Nomor 24/2020 about Pengelolaan BOS Funds pada Pemerintah Daerah; and (c) Permendikbud Nomor 6/2021 about Petunjuk Teknis Pengelolaan BOS Funds Reguler. Third, Accepting School Requirements of Regular BOS Funds: (a) Filling out and update the Dapodik in accordance with the real conditions in schools until August 31; (b) Having NISN recorded at Dapodik; (c) Having a permit to organize education for schools organized by the community who are registered with Dapodik; (d) Having a minimum number of students 60 students for the last 3 years; and (e) Having No at Satuan pendidikan Kerjasama (SPK).

Figure 2. BOS Fund Training

Fourth, determination of schools that receive Regular BOS Funds, as (a) Schools receiving Regular BOS Funds that meet the requirements are determined by the Minister every academic year; (b) Determination of schools that receive Regular BOS Funds is based on data from Dapodik every August 31; (c) Data on the number of students who have NISN based on data from Dapodik on 31 August; and (d) Dapodik data on August 31 is used to determine the number of students in the distribution of Regular BOS Funds in (1) phase III of the current year; and (2) phase I and phase II the following year.

Figure 3. Discussion

Fifth, Management of Regular BOS Funds is carried out based on principles: (a) flexibility, namely the use of Regular BOS Funds is managed according to school needs; (b) effectiveness, namely the use of Regular BOS Funds is sought to be able to provide results, influence, and efficiency to achieve educational goals in schools; (c) efficiency, namely the use of Regular BOS Funds strived to improve the quality of student learning at a minimum cost with optimal results; (d) accountability, namely the use of Regular BOS Funds can be accounted for as a whole based on logical considerations in accordance with laws and regulations; and (e) transparency, namely the use of Regular BOS Funds is managed openly and accommodates the aspirations of stakeholders in accordance with school needs.

Figure 4. Question and Answer Session

The series of approaches offered are described in Figure 5.

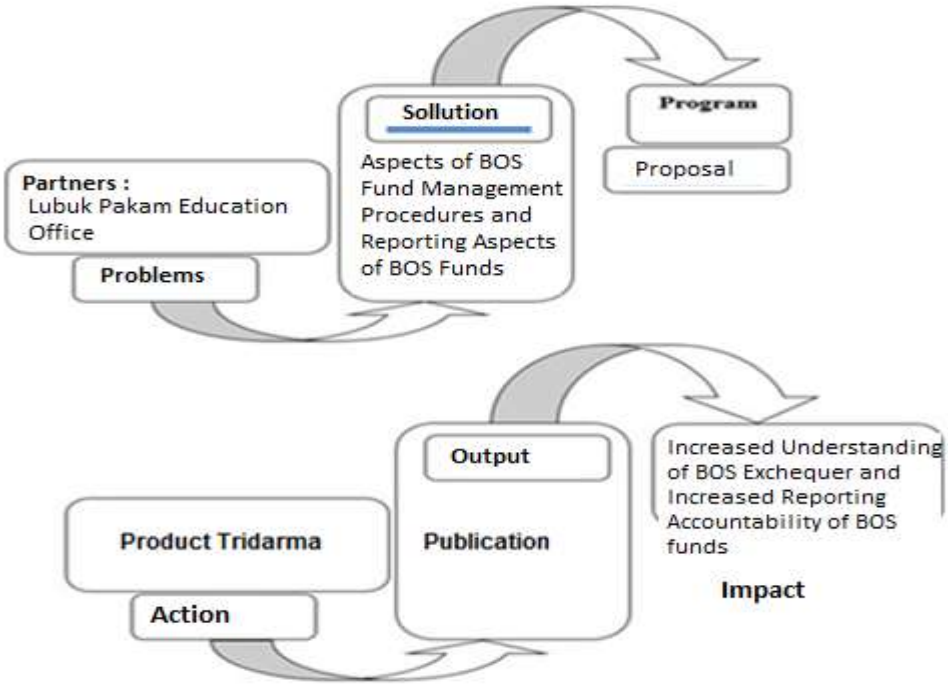

Figure 5. Program Implementation Process Flow

The current use of BOS Funds includes the target of paying 50% of the non-ASN staff from the school BOS budget. As for honorary teachers who can get honorariums from the School Operational Assistance (BOS) funds, they are those who are registered in the basic education database. At the latest, honorary teachers must be registered with Basic Education Data on December 31, 2021. In this case the school principal is responsible for any data input. And the relevant Head of the Education Office is responsible for ensuring all schools input their data, including schools that are not connected to the

internet network. Factors supporting the success of the efficiency of BOS funds are HR factors, communication, a clear organizational structure and the attitude of the leadership of an educational institution (Noor and Monita, 2021). The results of Saisarani and Sinarwati's research (2021) show that 1) the process of planning, implementing, monitoring, and reporting on BOS Fund Management at SMA Negeri 4 Singaraja in 2020 has gone well in accordance with the technical guidelines of the Minister of Education and Culture (Ministry of Education and Culture Regulation) Number 8 of 2020 , 2) Obstacles in the management of BOS Funds at SMA Negeri 4 Singaraja, namely the disbursement of funds is often delayed and there are also changes in regulations in the management of BOS.

Hidayat, et al (2019) explained that in the implementation of BOS funds, these were divided into 8 standards for the use or flow of BOS funds, namely: Graduation Competency Development, Content Standard Development, Process Standard Development, Educator and Education Personnel Development, School Facilities and Infrastructure Development, Standard Development Management, Development of Financing Standards, Development and Implementation of Rating Systems. Prohibition on the Use of BOS Funds: (1) transfer Regular BOS Funds to a personal or other account for purposes other than the use of Regular BOS Funds; (2) interest for personal gain; (3) lending to other parties; (4) purchase software for regular BOS Fund financial reporting or other similar software; (5) rent a data collection application or PPDB application in the network; (6) financing activities that are not a school priority; (7) financing activities with a fee mechanism; (8) buying clothes, uniforms, or shoes for teachers or students for personal use that are not school inventory; (9) maintaining school infrastructure with moderate and severe damage categories; (10) build a new building or room; (11) buying investment instruments; (12) finance activities to participate in training, outreach, and assistance related to the Regular BOS Fund program or the Regular BOS tax program organized by institutions outside the Service and/or Ministry; (13) finance activities that have been fully funded from sources of funds from the Central Government, Regional Governments, or other legitimate sources; (14) misuse the use of Regular BOS Funds for personal or certain group interests; (15) Become a distributor or retailer of purchasing books for students at the school concerned.

The results of Muryati's research (2016) show that: (1) planning for the management of BOS funds is prioritized for quality improvement, but the participation of school members is not optimal. (2) In the implementation: (a) the distribution of funds is carried out at the beginning of the quarter, (b) the bookkeeping process is carried out regularly, and (c) the principles of accountability and transparency have been properly implemented. (3) supervision is carried out by school principals and school supervisors by examining the SPJ BOS; evaluation is carried out by filling out an implementation questionnaire once a year by the District BOS Management Team. (4) Reporting on the use of BOS funds in the form of SPJ is carried out quarterly to the Regency BOS Management Team through the UPT of Education Services. The procedures for and reporting of BOS Funds are based on the establishment of the main tasks and functions of each of them: (1) Make plans for the use of Regular BOS Funds; (2) Fill out and update the Dapodik according to the real conditions in schools up to the deadline set every year; (3) Use Regular BOS Funds in accordance with the components used for Regular BOS Funds; (4) Make a report on the use of Regular BOS Funds; and (5) Form a School BOS team, consisting of: (a) principal as the person in charge; (b) school treasurer; and (c) members consist of: 1 (one) person from the teacher element; 1 (one) member of the School Committee; and 1 (one) person from the parents/guardians of students outside the School Committee, selected by the school principal and the School Committee by considering credibility and not having a conflict of interest (Arti, 2020). In planning the use of BOS funds, school principals must first make adjustments to the overall school development plan, both short-term and long-term development. Short term development is in the form of one year development. Long-term development is in the form of five-year, ten-year and twenty-five year development. With a plan, the use of BOS funds can be done properly. The use of BOS funds should be based on joint agreements and decisions between the school's BOS management team, the teacher council and the school committee. The results of the agreement must be stated in writing in the form of minutes of the meeting and signed by all meeting participants. In using BOS funds, not all school needs could be met. Because these BOS funds only finance certain activity components, such as purchasing/copying textbooks, student learning and extra-curricular activities, school maintenance, payment of monthly honoraria for honorary teachers and so on (Fitri, 2020).

The results of Yanti's (2021) show that the application of accountability and transparency in the management of BOS funds in the RKAS program at SMP N 3 Sukawati is interrelated and has been going well. Implementation of accountability has been going well. Reporting of BOS funds is not only intended for the party providing the budget, but also for distribution to the party receiving the budget. Thus, the management of the BOS budget funds aims to direct the activities carried out not to deviate from the specified direction. Things that need to be considered in managing the BOS budget include analyzing program activities and their priorities, analyzing existing funds and possibly being able to procure them from various sources of income and from various activities. The management of the BOS budget in the RKAS program carried out by schools is to plan activities and budgets for the next one year together. Furthermore, activity plans and budgets that have been planned are published to Guardians as a form of control that can be exercised by Guardians regarding the management of The BOS budget is contained in the RKAS program's. Accountability can be difficult without monitoring and public participation in decision making (Anggraini, 2001).

CONCLUSION

The results of the community service implementation applied to Partners show that a good and correct understanding of the BOS Treasurer has been carried out according to the Permendagri 24 tahun 2020 and permendikbud 06 tahun 2021. The BOS Treasurer is capable of managing BOS Funds from the planning process to financial reporting. The BOS Treasurer manages finances according to the norms in accordance with the provisions of the Government's procurement of goods/services of President Regulation No.16 Year 2018.

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Utilization of plastic waste into garden decoration using ecobrick techniques

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Waste utilization

ABSTRACT

Plastic waste which is dangerous and difficult to manage is still one of the factors causing environmental damage which is still a big problem for the people of Indonesia. Depok City has a fairly chronic problem in terms of solid waste. This study aims to determine the relationship between the level of public knowledge on the use of waste through the Eco-brick Technique in the management of plastic waste. Community service is carried out to provide facilitation with assistance and training on the dangers of plastic waste, as well as waste management through eco-brick techniques that have high utility value. The method of a community development program with a model of tutoring and empowering the communities, especially women in Cinangka District, Depok City. From the results of the community empowerment, it can be seen that community service activities through workshops and implementation of the use of plastic waste are useful for human daily life, in this case in the form of garden decorations. Some of the program targets/indicators are that the people of Cinangka Village, Depok City are able to apply eco-brick techniques in the creativity of building furniture for the needs of sleeping land that will be processed together into a functioning public space. People are starting to understand why we need eco-brick and making eco-brick can be used as garden decorations that are used as an alternative solution to the use of a lot of plastic waste through creative community empowerment activities.

Kata Kunci
Pemberdayaan masyarakat
Pemanfaatan limbah
Eco-bricks

Pemanfaatan sampah plastik menjadi dekorasi taman dengan teknik ecobrick. Sampah plastik yang berbahaya dan sulit dikelola masih menjadi salah satu faktor penyebab kerusakan lingkungan yang masih menjadi masalah besar bagi masyarakat Indonesia. Kota Depok memiliki masalah yang cukup kronis dalam hal limbah padat. Penelitian ini bertujuan untuk mengetahui hubungan antara tingkat pengetahuan masyarakat tentang pemanfaatan sampah melalui Teknik Eco-brick dalam pengelolaan sampah plastik. Pengabdian kepada masyarakat dilakukan untuk memberikan fasilitasi dengan pendampingan dan pelatihan tentang bahaya sampah plastik, serta pengelolaan sampah melalui teknik eco-brick yang memiliki nilai utilitas tinggi. Metode program pengembangan masyarakat dengan model bimbingan belajar dan pemberdayaan masyarakat, khususnya perempuan di Kabupaten Cinangka, Kota Depok. Dari hasil pemberdayaan masyarakat dapat dilihat bahwa kegiatan pengabdian kepada masyarakat melalui workshop dan implementasi pemanfaatan sampah plastik bermanfaat bagi kehidupan manusia sehari-hari, dalam hal ini berupa hiasan taman. Beberapa sasaran/indikator program adalah masyarakat Desa Cinangka, Kota Depok mampu menerapkan teknik eco-brick dalam kreativitas membangun furnitur untuk kebutuhan lahan tidur yang akan diolah bersama menjadi ruang publik yang berfungsi. Masyarakat mulai memahami mengapa kita membutuhkan eco-brick dan pembuatan eco-brick dapat dijadikan hiasan taman yang dijadikan alternatif solusi pemanfaatan sampah plastik secara berlebihan melalui kegiatan pemberdayaan masyarakat yang kreatif.

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INTRODUCTION

Plastic is a material that can be recycled through many processing methods. The characteristics of plastics are chemicals that are difficult to degrade or decompose by nature; It takes hundreds or even thousands of years to decipher them (Widodo et al., 2018). Waste is the residue of daily human activities and natural processes that are solid (Article 1 of Law Number 18 of 2008 concerning Waste Management). The degree of public health is determined by the condition of the host, agent (cause of disease), and environment (Leria et al., 2020). Environmental factors are one of the determining elements of public health. If there is a change in the environment around humans, there will be changes in the health conditions of the community environment (Istirokhatun & Nugraha, 2019). Environmental factors and behavioral factors greatly affect public health, so they deserve serious attention. Healthy behavior factors are expected to maintain, improve health and protect themselves from the threat of disease, while a healthy environment is expected to create a conducive, pollution-free residential environment (KLHK, 2020).

Plastic is widely used in various types of living needs. From food wrappers to automotive gear. Plastic is the most popular material for the manufacture of automotive elements other than metals, such as iron (Khoirina, Opti & Ludwina, 2016). Non-biodegradable plastic waste is a major plastic problem. Cleaning up plastic waste from the face of the earth takes a very long time. In addition, the use of plastic is almost uncontrollable (Suminto, 2017). The air temperature of plastics is also getting warmer day by day, due to the non-porous nature of the polymer. Today, most products are manufactured without considering where they are used (Kalfas et al., 2022). The cause behind the overflow of landfills, mountains of plastic and wraps, packaging, and products that obscure the region's ecosystem is the design philosophy of poor waste management (Widodo et al., 2018).

Many companies need massive investment and restructuring, including production, material sourcing, and the implementation of new systems for product absorption to set up plastic waste treatment systems. Healthy and effective waste management can be something that must be completed (Istirokhatun & Nugraha, 2019). Today, waste is a severe environmental problem around the world and is closely related to everyday human life. As a party that produces waste, no one can escape the waste problem (Kurniawan, 2003). Thus, the problem of waste is a matter of the perception of society itself and the choice of whether to cultivate it or not.

Depok City will enter it is 24th year in April 2023. At such a young age, Depok has a fairly chronic problem in terms of waste. So far, Depok City has only relied on the Cipayung landfill to be used as a landfill, which is increasingly exceeding its proper capacity. There are at least about 1.3 tons per day of mountainous waste in the Cipayung landfill. This mountain of garbage will undoubtedly be a potential landslide-prone disaster (Kumar & Hafiz, 2013).

The discourse on transferring waste disposal from the Cipayung landfill to the TPPAS (Waste Management and Final Processing Site) in Lulut Nambo, Bogor Regency was initiated in 2019. However, this idea has not been approved by the West Java Provincial government, so it has been delayed until now. The Head of the Depok City Environment and Hygiene Office proposed a revitalization plan for the Cipayung landfill to be able to increase the capacity of waste storage every day (Kurniawan, 2003). This revitalization is carried out by structuring infrastructure, active zones, and other facilities. The old litter will be spent, so it will leave only five percent residue.

In terms of number and type, waste is a problem that is increasing day by day along with the increasing population, activity level, lifestyle, socioeconomic level, and technological advances (Susanto, 2020). Plastic waste which is dangerous and difficult to manage is still one of the factors causing environmental damage which is still a big problem for the people of Indonesia (Ministry of Environment and Forestry Indonesia, 2021). Plastic bag waste that is needed by the community, it requires decomposition within tens or even hundreds of years (Wardani & Khotimah, 2021). Plastic waste that cannot be decomposed by bacteria is a severe problem for soil pollution. It would be nice if plastic waste can be reused by recycling and creating new products. Plastic waste management is currently not effective; many people throw garbage without regard to the category (Shakir et al., 2013).

Behavior is an attitude that is born as a result of interaction between humans and the environment (Tantiwat et al., 2021). The behavior of individuals and society can affect environmental conditions, and public awareness can influence it (Maulana & Haryanto, 2020). Community service in Bunga Raya Subdistrict found that one of the factors influencing waste management behavior is the level of education and public knowledge about local regulations on waste (Fauzi et al., 2020). About 80% of housewives dispose of plastic waste in the garden and burn plastic waste around their homes (Singh & Singh, 2022). Housewives in Depok City, who are around 75% of whom work as teaching staff, are often seen carrying drinks using used mineral water bottles (Ariyani et al., 2021). This community service aims to determine the relationship between the level of knowledge of housewives and the behavior of plastic waste management.

Ecobricks are one of the innovations in the construction world that uses plastic waste. Ecobricks use Polyethylene terephthalate (PET) bottles known as plastic materials that are widely used as mineral water packaging to carbonated drinks. According to a study conducted by the Ministry of Environment and Forestry (2020) together with UNEP, the food and beverage industry in Indonesia utilizes PET for production packaging which accounts for 60% of the total plastic production. However, the other side of PET is that it has a petroleum base, and it is not easily decomposed when released into the earth's environment through plastic waste leakage (Benyathiar, 2022).

The creation of PET bottle contents to eco-bricks varies widely from sand to brick to plastic (Ariyani et.al., 2020). However, to maximize plastic waste management, many communities choose to fill PET bottles with plastic waste (Antico et al., 2017). Ecobricks using plastic waste can use household plastic waste such as plastic bags, detergent wraps, instant food, and the like (Taaffe et al., 2014). Experiments conducted by Antico et al., (2017) show that at least an eco-brick containing plastic with a density of 481.9 kg/m^3 is needed to be used instead of solid materials such as brick and below it can be used as a roof or partition.

Departing from the problems faced by Cinangka Village, Depok City, Exposure to communities with the impact of plastic waste accumulation is crucial to avoid. Unfortunately, does not have adequate knowledge in managing waste, so waste is allowed to accumulate in one sleeping area in the middle of community housing. The behavior of individuals and society can affect environmental conditions, and public awareness can influence it. Community service is carried out to provide facilitation with assistance and training on the dangers of plastic waste, as well as waste management through eco-brick techniques that have high utility value. In addition, this activity can be a provision for the community in being creative in managing plastic waste which has been an environmental problem for many years. In addition, this activity has also indirectly clouded the implementation of SDGs 11 targets on sustainable cities and settlements with the aim of reducing adverse per capita urban environmental impacts, including by paying special attention to air quality, including handling municipal waste.

METHOD

This community service is a community service with a tutorial approach and assistance to the community (Table 1). This is done to the community and especially women in Cinangka Village, Depok City (Figure 1) with 65 participants. This program begins by collaborating with the local community, namely the head of the RT, PKK Cadre then conveys the technical activities that will be carried out, namely in the form of direct socialization to the community regarding eco brick management. This will affect the environment in the future.

Table 1. Stages of implementation of Community Service activities

No	Activities	Implementation Time	Explanation
1	First survey	Oct 21, 2022	The first survey was carried out in order to observe the situation of the local community as well as introduce team members who will carry out the workshop
2	Second survey	Oct 30, 2022	Explore the problems experienced by the community in depth and discuss the schedule of activities together with representatives of the activity participants.
3	Conducting workshops	November 5, 2022	Before the workshop began, the committee divided the participants into 4 groups with a total of 5-6 people per group. After that, each participant will be handed out a tool kit containing a pen and a book to facilitate participants in expressing their ideas related to land arrangement designs which will be discussed together in a Focus Group Discussion. Each group will be given 30 minutes to discuss simple land use ideas and the desired layout of eco-brick furniture. Then, each group will be given 5 minutes each for the presentation of ideas in front of the other group. At the end of the session, the committee will determine the best land arrangement design ideas and reward the group with the best design ideas. This is done to encourage the enthusiasm of the activity participants to bring out their best ideas in the land arrangement design to be realized.
4	Closing and Evaluation Events	December 18, 2022	With the assessment of the implementation of land management carried out by the community, whether it has reached the target or indicators of the success of the activity while again reminding the community of the urgency of good and correct waste management and avoiding the accumulation of waste that can endanger the environment and public health

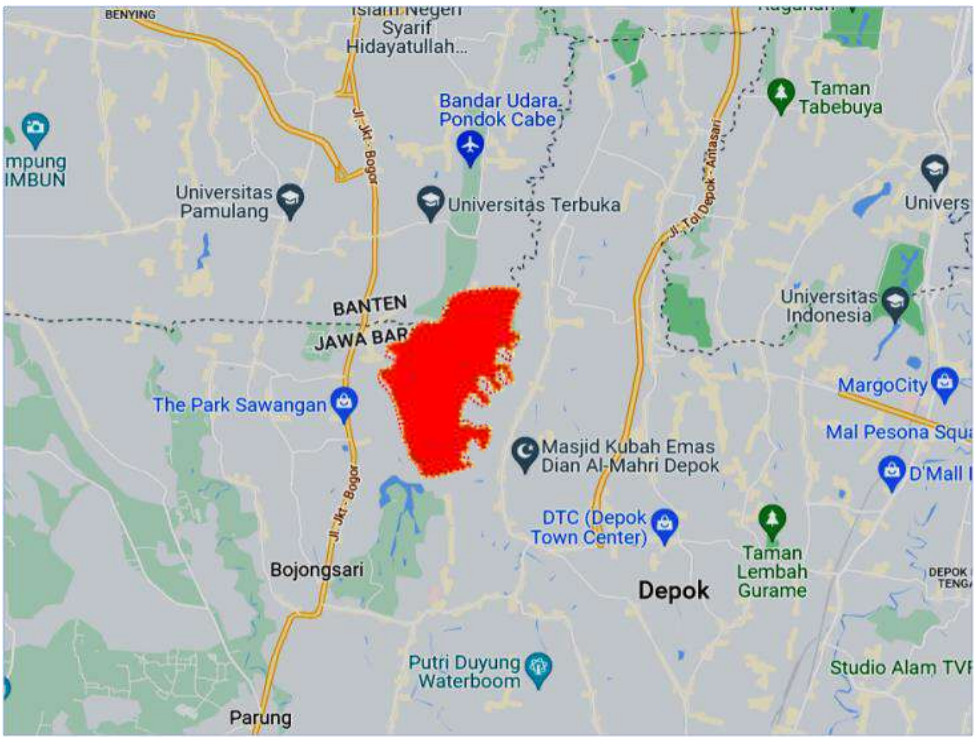

Figure 1. Location of Community Service Activities in Cinangka Village, Depok City

This is done by teaching the public about eco-bricking techniques and manufacturing procedures (Sujatini, 2018). The implementation stage is carried out by socializing and explaining plastic waste, its impact on the environment, and environmentally friendly management methods as well as training on managing plastic waste into value-added and environmentally safe products. Community service activities are a follow-up process of control for eco-brick results carried out. At this stage, it is also explained about the advantages and economic value of products made from plastic waste. The community and related parties are expected to be able to understand and practice how to manage plastic waste that is environmentally friendly and can socialize it to the communities around where they live.

RESULTS AND DISCUSSION

The role of the academic community in the downstream of science

The University of Indonesia through the Academic Community of the Urban Development Studies Study Program, the School of Strategic and Global Studies (SKSG), together with the Depok City Government have carried out Community Service and Empowerment in East Bulak Village RW 04 Cinangka Village, Sawangan Depok. This village is an area that has been used as an example of the Women's Empowerment, Healthy, and Prosperous Family Program (P2WKSS). This community service activity aims to contribute education to the community in reducing and utilizing plastic waste which is a problem in urban areas through active collaboration between the government, academics, and especially, local communities (Figure 2).

According to Maturbongs and Lekatompessy (2020), academics are one of collaborator agents who are responsible for solving development problems through their scientific capacity. In accordance with this, academics conduct training activities on eco-bricking from bottle waste and plastic to be reused into used items. The implementation of the program is a form of transferring knowledge for the ability to reprocess waste or recycle. Together with reuse and reduction, reprocessing waste is one of the easiest ways to implement waste control at the household level (Chowdhury et al,. 2014). It's just that the level of public awareness of waste control in Bulak Village is still minimal. This is supported by the participants' narrative that their understanding of waste reuse in daily life is higher. In fact, waste such as snack packaging and hygiene fluids, and plastic bottles are items that are never released in their daily lives. Therefore, the participation of academics in channeling their abilities and knowledge can have a big impact on the lives of people in settlements, especially the community in Bulak Village RT 3 RW 4, Cinangka Village.

Figure 2. Waste Utilization Training Activities.

Garden decoration making makes use of eco-brick products

The documentation of this program can be seen in the Figure 3. In practice, the eco-bricking described in the training can be explained in the order in which it is carried out. The manufacturing step consists of collecting used plastic bottles, such as used beverage bottled bottles (e.g. mineral water), used cooking oil bottles, and so on. Then wash well, then dry. Collect various kinds of plastic packaging, such as instant noodle packaging, instant drinks, plastic wrapping, plastic bags, and so on. It must be ensured that the plastic is free from all kinds of food (left in it), dry, and does not mix with other materials such as clips, threads, or paper. Put all kinds of plastic in point b into the plastic bottle in point a. With a side note, namely not mix with organic waste materials or other toxic and hazardous waste Should not be mixed with paper, glass, metal, sharp objects, and other materials other than plastic. The plastic material put in the plastic bottle must be compressed to a very dense state and fill the entire space inside the plastic bottle. Compact it by using tools made of bamboo or wood (such as bamboo sticks or wood). If you want to make something with this eco-brick, such as making a table, chair, or another object, you can use bottles of the same size, or even the same type and brand, making it easier to set up. If you want a colorful result, the plastic packaging arranged in it can be arranged in such a way that it produces the desired color. You can also wrap a plastic bottle with a colored adhesive. After all plastic bottles are filled with plastic packaging until solid, the plastic bottles are ready to be arranged and combined into other objects such as tables, chairs, even the walls and floors of the stage, room dividers, and others. For the purpose of gluing one bottle to another, adhesive glue or cement/gibs can be used. To hold them firmly, the bottles are tightly tied using rope or twine. The use of raffia rope will provide a good color effect while reducing other types of plastic waste.

Ecobricks are a valuable step forward in the transition to protecting the environment. All technical nutrient cycles are captured by eco-bricks and non-biodegradable materials. Ecobricks can also be used as construction materials such as eco-friendly bricks. Eco-friendly bricks allow craftsmen to get started by shaping cradle-to-cradle designs.

Figure 3. Ecobrick Product Manufacturing

Previous considerations and planning allow for the production of community empowerment products quickly and efficiently or also called eco-brick products (Nurazizah et al., 2021). There are no official licenses, certificates, or tests in making eco-brick products. By making this good and attractive product, it is hoped that it can be valuable from an economic point of view. In addition, in the long term, the use of waste can save human lives from plastic waste. Something has shifted here, where waste, the use of plastic that was previously only processed or handled by certain people such as scavengers, is now changing. Through eco-bricks, more and more people, and more and more groups, regardless of social class, are interested in processing plastic waste, especially those used in everyday life.

That's the target, not just how to manage the plastic that continues to be consumed, not just with the goal of building or shaping something eco-bricked but about reducing plastic consumption and not using it to the fullest. How to build mass awareness, become a community movement on all fronts and paths, because eco-bricking does not require special skills, and is free of charge because it departs from daily consumption of used use, can be done at any time, and can also be done together or alone while doing other daily activities, while filling the time. Not only does it avoid chemicals and make sure to consume everything healthier and more natural, but the reason is that these products are almost always

packaged in plastic wrap. Some ingredients that are difficult to make into eco-brick products include shampoo bottles, toothpaste tubes, liquid soap, and the like.

Plastic does not have to be disposed of or can be treated as well as possible or placed in the right place. Storing plastic is equivalent to reducing the effects of toxins that spread and damage the lives of living things. If stored in a place protected from sunlight, the bottle will last for 300-500 years. Ecobricks allow us to get the idea of changing product lines to slow down pollution. No substances in the product will corrode the plastic over time. The product can be mounted/cut into components that fit a standard bottle with a neck diameter of 22 mm. There are no sharp protrusions/shapes on the product that can pierce from the inside of the person working on the eco-brick when it is packed (e.g. glass, metal). The product does not contain reactive chemicals; if it does, this component is marked as ecobrickable. The product does not contain paper, liquids, or materials other than plastic. The product can be installed on the neck/plane with a diameter or size of 10-20 cm. The results of eco-brick formation provide results that can be used in everyday life.

Plastic is a hard waste that decomposes naturally, and over the years it has become a dilemma (Leria et al., 2020). Scientists, environmentalists, and ecologists have tried to solve the problem of plastic waste in various ways. Ecobricks are creative in handling plastic waste. It does not serve to destroy plastic waste, but it extends the life of such plastic and makes it useful for people in general (Shakir et al., 2013). Ecobrick production in the wider community is still not very popular. Most people still process household-made plastic waste, polluting the environment, and waterways and polluting daily life unknowingly. For this reason, more intensive socialization is needed related to creative efforts to process plastic waste. Starting from household plastic waste. With a little effort, one crucial environmental problem will unravel little by little.

Ecobricking is regularly held once a week or two when there is a lot of plastic waste, that's when awareness and concerns arise, such as: how difficult it is to put a plastic spoon in a bottle, how difficult it is to compact styrofoam from used food wrap, how difficult it is to put mica plastic from used data cable wrap or audio cables, the difficulty of eco-bricks an old toothpaste tube, or some plastic-coated paper bottles such as milk cartons, which even have metal or metal parts on the lid, or a little plastic in the hole.

There is an awareness that some packages are tricky to work with because they contain mixed materials and are difficult to become eco-friendly bricks. At the same time, eco-bricks are the only solution to trapping plastic, so as not to roam the environment and the earth. Or make eco-friendly bricks a new habit. Only then is the awareness of reducing plastic consumption and the need to protect the environment from toxic plastics. Plastic waste must be treated because it does not biodegrade; They are photodegraded. So that the plastic decomposes into small pieces and then seeps into the soil or water. Because the pieces, leaving garbage cans, garbage trucks, and garbage cans, will not have any impact; will end up even more horrifying (Suminto, 2017). Even when trying to recycle, it does nothing more than delay the final arrival of plastic waste to the process of polluting the soil, air, water and plants, forests and food and ourselves and our bodies or pregnant women or newborns, babies about to be born (Khoirina, Opti &Ludwina, 2016). Only from household waste that is used, from there we will be more aware and careful and reduce our plastic consumption.

Arrangement of Environmentally Friendly Social Facilities

Petrochemical plastics are produced but these substances are not ecologically suitable. Scientific studies show that these chemicals are toxic to humans (Apriyani et al., 2020). This is known when the smell of plastic combustion occurs. When these substances dissolve into the soil and water and air over time, they are absorbed in absorbed plants and animals causing damage to the soil, water, and air. Plastic waste that is disseminated, burned, or disposed of produces toxic substances. Even TPST (Integrated Landfill) engineering cannot be a successful solution. These chemicals will eventually enter the biosphere and affect the lives of livestock and humans within ten years or even a hundred years. The documentation of this program can be seen in the Figure 4 and Figure 5.

Figure 4. Land Planning and Decorating the Garden with Ecobrick Products.

Plastics do not biodegrade and will decompose for a long time (Fauzi et al., 2020). So that the plastic decomposes into small pieces and then seeps into the soil or water. Because the pieces are so small, the plants, fish, and animals we eat are easily absorbed. According to research (Singh & Singh, 2022) today the oceans are filled with plastics and other non-biodegradable non-biodegradable materials. Many studies have shown adverse effects on marine animals and the

environment. The researchers found that the effect of cold on the human body is the absorption of chemicals formed from plastic materials into the human body. In the United States and Europe, chemicals such as Biphenyl A and Phalates are now banned. But in the Philippines and in other Asian countries the chemical is still common (Leria et al., 2020). Even a small amount of this chemical causes allergies, hormonal imbalances, cancer, and acute poisoning in humans. These chemicals cause allergies. The parties most susceptible to unfavorable effects are young children. Petrochemicals combine to form dioxins when plastic is burned (Istirokhatun & Nugraha, 2019). Dioxin pollutes the air through smoke and soil and water through the soil. Dioxin is a destructive poison.

Figure 5. Results of Land Arrangement and Garden Decoration Activities Before and After Renovation

At the end of the workshop, the committee urged all participants to realize the land arrangement design using furniture made of eco-bricks (Figure 6). The realization of this land arrangement will be proof that the targets and indicators of the success of the activities carried out have been achieved. Local communities are given a period of one month before the closing ceremony which will be held on December 18, 2022. The closing ceremony will be accompanied by an assessment of the implementation of land management carried out by the community, whether it has reached the target or indicators of the success of the activity as well as reminding the community of the urgency of good and correct waste management and avoiding the accumulation of waste that can harm the environment and public health.

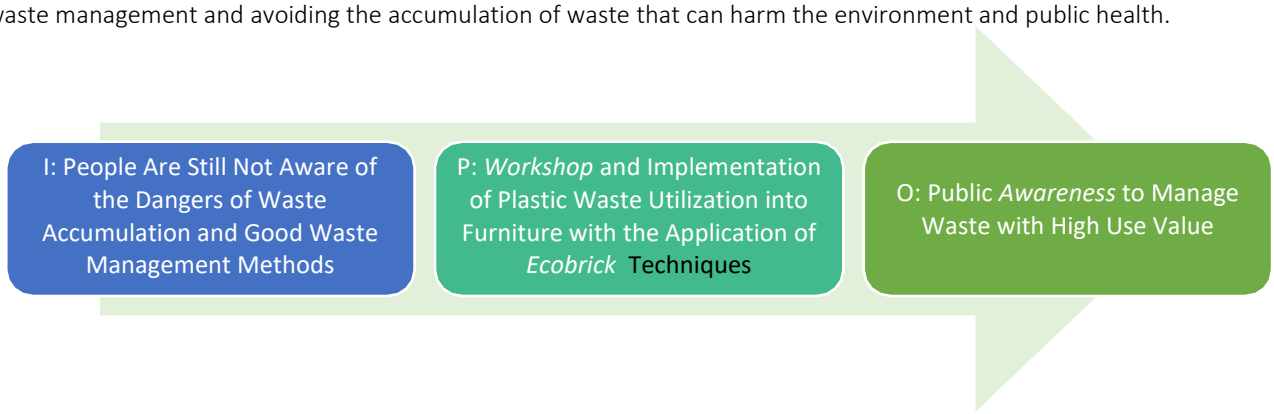

Figure 6. Diagram proses

Input: In terms of number and type, waste is becoming a problem that is increasing day by day as the population grows, activity levels, lifestyles, socioeconomic levels, and technological advances. Plastic waste that is dangerous and difficult to manage is still one of the factors causing environmental damage which is still a big problem for the people of Indonesia. Plastic waste that cannot be decomposed by bacteria is a severe problem for the environment. Environmental factors are one of the determining elements of public health. If there is a change in the environment around humans, there will be changes in the health conditions of the community's environment. Environmental factors and behavioral factors greatly affect public health, so they deserve serious attention. Healthy behavior factors are expected to maintain, improve health and protect themselves from the threat of disease, while a healthy environment is expected to create a conducive, pollution-free residential environment. The urgency of plastic waste management lies in the difficulty of plastic waste to decompose. By not decomposing waste, plastic particles that are classified as toxic will pollute the soil, groundwater, and underground creatures. In addition, plastic waste will disrupt waterways that seep into the soil and decrease soil fertility due to plastic blocking air circulation in the soil. There are several efforts made to tackle waste, one of which is through burning. However, the process of burning waste is increasingly adding to problems in the environment and public health. When plastic particles do not decompose completely, they will become dioxins in the air. Dioxin is a very dangerous compound if inhaled by humans. Dioxin can cause various diseases such as cancer, swelling of the liver, nervous system disorders, hepatitis, and depressive symptoms. Exposure to communities with the impact of plastic waste accumulation is crucial to avoid.

Process: Bulak Timur 04 Village is one of the villages experiencing waste management problems. Garbage is left lying and piled up in one of the sleeping fields that have no function. The accumulated waste greatly affects the health of the community and the environment of the village. The lack of public understanding of the dangers of accumulated waste and the lack of knowledge to manage waste are the main factors in choosing the location of the activity. Through community service by KPP-SKSG UI in this location, it is hoped that it can bring changes for the surrounding community to be able to manage waste into an object that has utilities. In addition, the community wants to use the sleeping land as a public space for the community that has functions such as playgrounds, gathering rooms, or tourist attractions. But unfortunately, they are confused about how to use the sleeping land while there is garbage piled up on it. By utilizing eco-brick techniques in managing waste, people can build furniture that can be used to renew the locus and reduce waste accumulation in Cinangka Village, Depok City.

Output: Through knowledge transfer means, it is hoped that the activities carried out can create a resilient and sustainable society. Some of the program targets/indicators are that the people of Cinangka Village, Depok City are able to apply eco-brick techniques in the creativity of building furniture for the needs of sleeping land that will be processed together into a functioning public space. In addition, the community is expected to increase awareness of how important it is to properly manage waste and use waste as a medium of creativity and has a high utility value. The program will also produce several outputs in the form of activity videos, popular news, product prototypes, and ISBN books as a medium for disseminating knowledge to the audience.

The results of the service activities to the community can be seen from the indicators of the success of the program carried out with a comparison before and after the implementation of the program in Cinangka Village, Sawangan Depok.

Table 2. Targets/Indicators knowledge transfer

No.	Targets/Indicators	Before	After
1	Knowledge of the Dangers of Waste Accumulation	Don't know	Know
2	Able to Apply Ecobrick Techniques in Waste Management	Incapable	Able
3	Able to Create Ecobrick Techniques into Something of Use Value	Incapable	Able
4	Able to Manage Sleeping Land Used for Waste Accumulation into Land that Has a Function	Incapable	Able

Some of the program targets/indicators are that the people of Cinangka Village, Depok City are able to apply eco-brick techniques in the creativity of building furniture for the needs of sleeping land that will be processed together into a functioning public space. In addition, it is hoped that the public will increase awareness of how important it is to properly manage waste and use waste as a medium of creativity and have high utility value.

CONCLUSION

From the results of community service, it can be seen that eco-bricking can be used as a solution to the use of household plastic waste produced by residents of Kampung Cinangka Village, Sawangan Depok. This community empowerment activity can convey the urgency of processing household plastic waste into eco-bricks from the process of transferring knowledge between academics and the community to support regulations that have been echoed by UNEP, and the Ministry of Environment and Forestry to the Depok City Government regarding plastic waste reduction. The emphasis of this community service is to encourage people to understand the usefulness of eco-bricks that are robust in any temperature conditions and reduce negative impacts on the environment and reduce marine pollution. Thus, eco-bricking household plastic waste into eco-bricks adds aesthetic, utility, and economic value and massively reduces plastic consumption.

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Empowerment knowledge of elementary school teachers for supporting green schools

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ABSTRACT

Environmental problems including in this case environmental pollution need to be overcome in various ways. Schools as educational institutions need to be examples and role models for the development of environmental-based schools or green schools. The problems that occurred in one of the schools, namely SDS Darul Amal Jampangkulon Sukabumi West Java showed that information related to green schools was still very minimal. The purpose of this activity is to overcome the problem of the low knowledge of elementary school teachers related to efforts to establish green schools. The implementation method used in this activity is through online seminars using a teleconference application. The results of this community service activity indicate that the knowledge score and teacher attitudes have increased related to green school. The average knowledge score at the beginning was 24.79 and increased to 32.62 and teacher attitudes increased from 82.92 to 86.67 for the topic of green school. Green school activities that can be applied in future activities are to familiarize students with being able to sort waste.

Kata Kunci
Green Schools
Guru
Lingkungan
Pengetahuan
Sikap

Pemberdayaan pengetahuan guru SD untuk mendukung upaya terciptanya green schools. Permasalahan lingkungan hidup termasuk dalam hal ini pencemaran lingkungan perlu diatasi dengan berbagai cara. Sekolah sebagai sebuah institusi Pendidikan perlu menjadi contoh dan *role model* untuk pengembangan sekolah berbasis lingkungan atau *green school*. Permasalahan yang terjadi di salah satu sekolah yaitu SDS Darul Amal Jampangkulon Sukabumi Jawa Barat menunjukkan bahwa informasi terkait dengan *green school* masih sangat sedikit. Tujuan dari kegiatan ini adalah untuk mengatasi masalah rendahnya pengetahuan guru SD terkait dengan upaya pembentukan *green school*. Metode pelaksanaan yang digunakan dalam kegiatan ini adalah melalui seminar secara daring menggunakan aplikasi *teleconference*. Hasil dari kegiatan pengabdian kepada masyarakat ini menunjukkan bahwa skor pengetahuan dan sikap guru mengalami peningkatan terkait dengan *green school*. Rata-rata skor pengetahuan pada awalnya adalah sebesar 24.79 dan mengalami peningkatan menjadi 32.62 dan untuk sikap guru mengalami peningkatan dari 82.92 menjadi 86.67 untuk topik *green school*. Kegiatan *green school* yang bisa diterapkan dalam kegiatan kedepannya adalah dengan membiasakan siswa untuk bisa melakukan pemilahan sampah.

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INTRODUCTION

Environmental education is a subject that fits the needs of sustainable development. Schools that have a green school concept in this case are very appropriate and contextual with the needs of sustainable development that must be carried out by the government and environmental organizations. Environmental education needs to be disseminated to all school members to make it easier to achieve green schools (Shay-Margalit & Rubin, 2017; Zhang et al., 2022). Teachers have an important role in implementing green schools in rural and urban areas. Schools located in rural and urban areas need to get relatively the same topic related to green schools. Even schools in rural areas do not necessarily implement the green

school program. This is because green school is not only related to green land but also related to the behavior of students and teachers in dealing with environmental problems. Green school, one of which is a program that has not been implemented at SDS Darul Amal Jampang Kulon Sukabumi so the community service team of FKIP UMHT provides implementation and information regarding the green school program in a good and clear manner.

A green school is a green school, but not only the physical appearance of the school that is green or shady but the form of a school that has educational programs and activities that lead to awareness and wisdom towards the environment (Cheng & So, 2015; Robina-Ramírez & Cotano-Olivera, 2020; Sucipto & Safitri, 2019). Green school is a school that has a commitment and systematically develops certain programs to internalize environmental values into all school activities. The physical appearance of the school is arranged ecologically so that it becomes a vehicle for learning for all school members to be wise and have environmentally friendly behavior. SDS Darul Amal as an educational institution requires more in-depth socialization related to forming a green school.

The problem faced by SDS Darul Amal is related to the limited information obtained by teachers regarding green schools. This minimal information needs to be developed by the teacher so that it can be conveyed to students. The information shared can be related to the basic concept of green school, green school supporting facilities, constraints related to green school, and development strategies for realizing green school. In general, SDS Darul Amal is located in a green area with a large area of land, so it is very possible to plant trees. The problems faced by this school are related to the behavior of students who still do not show efforts to preserve the environment more regularly. This resulted in efforts to improve the environment to be an urgent matter to be socialized to SDS Darul Amal school residents.

Empowering the knowledge of elementary school teachers in this case is something that can be done to preserve the environment and lead to the realization of a green school. Based on these arguments, it is necessary to carry out an effort to empower knowledge related to green schools for SDS Darul Amal teachers. This is to encourage efforts to form environmentally-minded schools (Goldman et al., 2014; McCullough et al., 2018; Wissinger et al., 2020). Seminar activities in this case can be carried out online or in person. Regarding the effectiveness of the time and location which are classified as far away, seminars that are conducted online can be a solution so that the activities carried out can run effectively and without problems. Based on this description, the purpose of this activity is to empower SDS Darul Amal teachers' knowledge to be able to contribute to the development of green schools. The purpose of this activity is following the objectives of the Sustainable Development Goals (SDGs), namely climate action to prevent the adverse effects of climate change.

METHOD

This community service activity is carried out online using the help of the Zoom teleconference application. The implementation location for this activity is in Jampangkulon Sukabumi, West Java. Participants in this activity were teachers from SDS Darul Amal Jampangkulon. The implementation of this activity was held on August 2022. The topics discussed in this activity are related to green schools and efforts to create schools that are based on the environment. The technical implementation of the activities can be seen in the Figure 1.

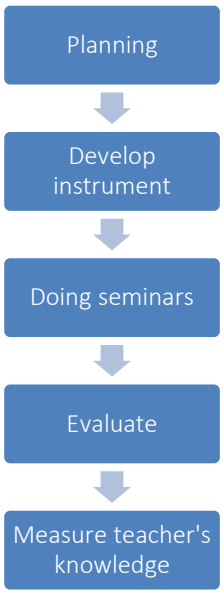

Figure 1. Flow chart of community service activities that have been carried out

The first stage is related to the planning of activities carried out by involving members of the community service team. This activity begins with planning related to teaching topics that need to be prepared, evaluation instruments for community service activities, then technical implementation. This is important to discuss to carry out community service

activities. The second stage is related to instrument development, namely in the form of developing pre-test and post-test questions which function to measure the increase in teacher knowledge related to green school. After the instrument development is carried out, the next step is to carry out seminar activities which are carried out online using the Zoom teleconference application. This seminar activity was carried out for approximately 2 hours and was carried out by delivering topics and discussing of questions and answers with SDS Darul Amal teachers. Evaluation of activities is carried out by giving post-test questions to teachers as seminar participants. The last step is related to measuring the increase in elementary school teachers' knowledge related to green schools. This activity is said to be successful if there is an increase in the scores of teachers' knowledge and attitudes related to green schools. The instrument used to measure teacher knowledge and attitudes is a questionnaire in the form of a pre-test and post-test.

RESULTS AND DISCUSSION

This community service activity was carried out for elementary school teachers at SDS Darul Amal Jampang Kulon Sukabumi (Figure 2)because remembering these teachers play an important role in providing the basis for students to behave environmentally friendly. This behavior needs to be carried out in everyday life for elementary school-age children, it is very important to have a basis for environmentally friendly behavior because this can take root until the child is an adult, and it is hoped that this behavior will not only occur at school but also at home and wherever the student is. (Gietz & McIntosh, 2014; Lai, 2016; Rahmayanti et al., 2018; Simbolon, 2010). Environmentally friendly behavior including cleanliness is also given a topic related to the 1 student 1 waste program and the importance of greenery both in the school environment and in residential areas where students and teachers live. The preparation stage for the activity is carried out by making a poster for the implementation of the activity.

Figure 2. Poster of community service activities

This community service activity regarding green schools has only reached a few participants, namely 10 teachers at the school, but this can start planning for the implementation of green schools at SDS Darul Amal Jampangkulon Sukabumi so that it is hoped that many students will understand and implement environmentally friendly behavior both at school and at home. The community service activities carried out in general went smoothly without significant obstacles. This shows that community service activities carried out online can run without significant obstacles. Activities that have been carried out in the form of online seminars for seminar participants can be seen in Figure 3.

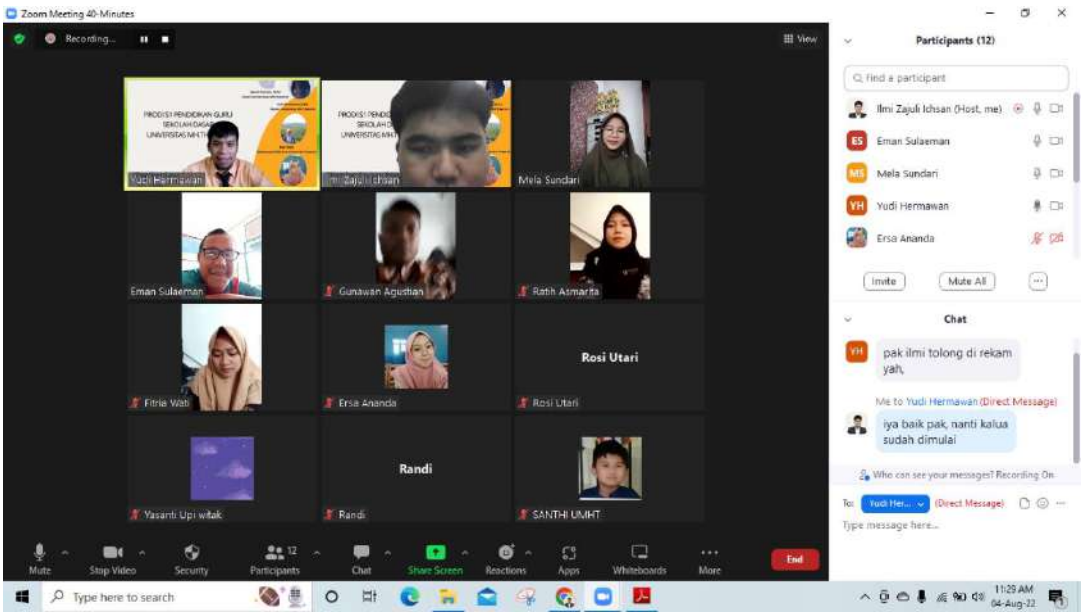

Figure 3. Implementation of community service activities online

Submission of topic about green schools is intended to open participants' insights about the implementation of green schools which can be started simply. Activities carried out do not have to be paid for but can be started with what is already in their respective schools. Then take advantage of the potential that exists on the part of teachers, students, and all other school members by starting from behavior in everyday life. Some examples of environmentally friendly behavior such as arranging existing plants and utilizing and treating all existing facilities and infrastructure with routine activities (Bissinger & Bogner, 2018; Jonell et al., 2016; Kaiser & Wilson, 2004; Seebauer et al., 2017; Truelove & Gillis, 2018). This can be learned by looking at the opportunities, advantages, and constraints in its application in schools.

From the activities carried out it can be observed that the teachers are enthusiastic about participating in this community service activity both in the delivery of topic and in the question and answer session, this can be seen from the many questions about green school. The obstacles faced by teachers at SDS Darul Amal. In Sukabumi, there is limited time to integrate local content related to this green school because the topic is already dense, so through this community service teachers want to try to apply the importance of a green school based on environmentally friendly behavior to all school members. The magnitude of the increase in the elementary school teacher's knowledge score related to green school can be seen in the graph in Figure 4.

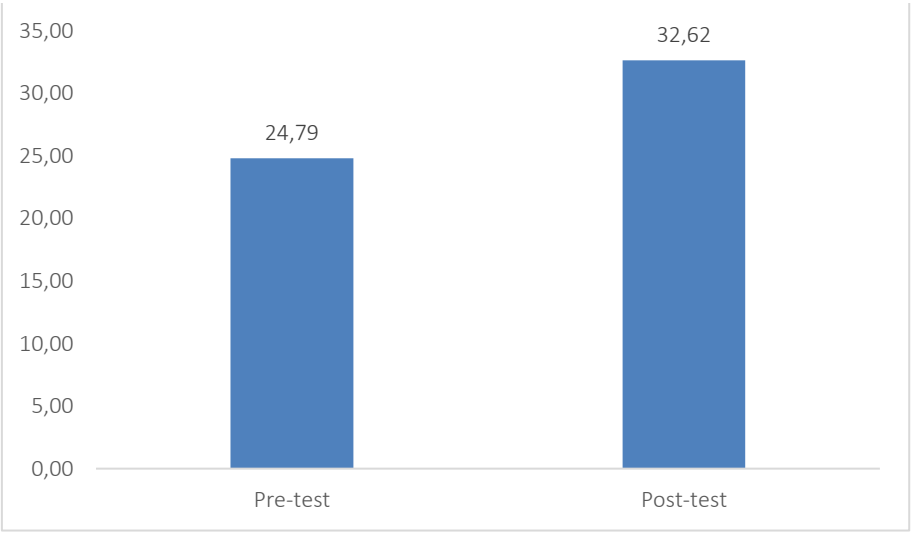

Figure 4. Average pre-test and post-test scores related to teacher knowledge about green school

The results of this activity showed an increase in the knowledge score from 24.79 to 32.62 for elementary school teachers' knowledge related to green school. As for the increase, it shows that the seminar activities took place smoothly and could increase elementary school teachers' knowledge related to green schools. Meanwhile, the attitude scores of elementary school teachers related to green school development efforts can be seen in Figure 5.

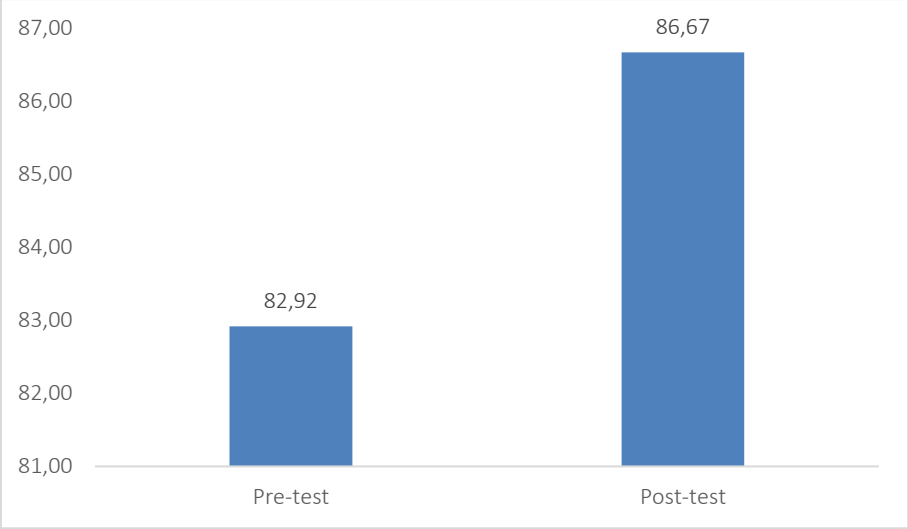

Figure 5. Average pre-test and post-test scores related to teachers' attitudes about green school

The results of this service activity show that seminars can increase the knowledge and attitudes of SDS Darul Amal teachers to form a green school. Teachers in this case must be able to provide examples to students related to various environmentally friendly behaviors in forming a green school. Behaviors such as saving energy by turning off lights when not in use are included in activities that support the green school. In addition, behavior related to using environmentally friendly containers is also a form of implementation of environmentally friendly activities. The formation of a green school needs to be supported by various existing components including students and school principals. Joint efforts to realize environmentally friendly schools need to be carried out to create an environment that is oriented towards sustainable development (Kabadayi & Altinsoy, 2019; Voulvoulis & Burgman, 2019; Zhao et al., 2013).

CONCLUSION

Based on the results of the community service activities that have been carried out, it can be concluded that seminar activities can increase teachers' knowledge and attitudes related to green schools. The recommendation for future community service activities is to develop ideas to be able to implement programs that have been implemented this year. The activities carried out in the future are expected to have a positive and direct impact on the community at large. The limitations of this community service activity are related to the still limited range of activity locations which are too far away making it difficult to carry out activities directly. This limitation can be overcome by activities carried out online.

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Assistance in designing STEM-based learning at the Muhammadiyah 1 Paiton research-based elementary school

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Teacher competence

ABSTRACT

STEM learning has now become the main approach applied in various schools in many countries. One of the obstacles faced by various schools in Indonesia in implementing STEM is the lack of understanding and experience of teachers about STEM-based learning. The purpose of this service program was to assist SD Muhammadiyah 1 Paiton Probolinggo in preparing and implementing STEM learning. The solution to the problems offered is socialization and assistance in designing STEM learning. The order of these community service activities was: 1) Matching Perceptions between the Community Service Team and Partner Schools; 2) Presentation of Series 1 Material: Innovative and STEM Learning Models; 3) Presentation of Series 2 Material: Lesson Study and Learning Community; and 4) STEM learning workshops. After carrying out community service activities at SD Muhammadiyah 1 Paiton, there has been a significant and large increase in teacher knowledge regarding STEM learning from before (M = 63.3, SD = 14.9) to after the service program (M = 95.6, SD = 6), t(11) = 6.6, p < .001, d = 1.91. Even though this service program has shown satisfactory results, this program needs to continue so that the learning community of teachers who able to optimize the design so that the implementation of STEM learning can be realized optimally.

Kata kunci
Kompetensi guru
Lesson study
Pembelajaran STEM
Pengetahuan STEM
Sekolah berbasis riset

Pendampingan perancangan pembelajaran berbasis STEM di SD berbasis Riset Muhammadiyah 1 Paiton. Pembelajaran STEM kini telah menjadi pendekatan utama yang diterapkan di berbagai sekolah di banyak negara. Salah satu kendala yang dihadapi oleh berbagai sekolah di Indonesia dalam menerapkan STEM adalah kurangnya pemahaman dan pengalaman para guru tentang pembelajaran berbasis STEM. Tujuan program pengabdian ini adalah untuk membantu SD Muhammadiyah 1 Paiton Probolinggo dalam mempersiapkan dan melaksanakan pembelajaran STEM. Solusi dari permasalahan yang ditawarkan adalah sosialisasi dan pendampingan dalam merancang pembelajaran STEM. Urutan kegiatan pengabdian masyarakat ini adalah: 1) Penyamaan Persepsi antara Tim Pengabdian dengan Sekolah Mitra; 2) Pemaparan Materi Seri 1: Model Pembelajaran Inovatif dan STEM; 3) Pemaparan Materi Seri 2: Lesson Study and Learning Community; dan 4) lokakarya pembelajaran STEM. Setelah melaksanakan kegiatan pengabdian kepada masyarakat di SD Muhammadiyah 1 Paiton, terjadi peningkatan pengetahuan guru yang signifikan dan besar mengenai pembelajaran STEM dari sebelum (M = 63,3, SD = 14,9) hingga setelah program pengabdian (M = 95,6, SD = 6), t(11) = 6.6, p < .001, d = 1.91. Meskipun program pengabdian ini telah menunjukkan hasil yang memuaskan, namun program ini perlu dilanjutkan agar komunitas belajar para guru yang mampu mengoptimalkan desain sehingga implementasi pembelajaran STEM dapat terwujud secara optimal.

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INTRODUCTION

Over the last decade, STEM (Science, Technology, Engineering, and Mathematics) is a learning form that has become a major topic of discussion in the education field. In STEM learning, teachers integrate content and empower specific skills related to science, technology, engineering, and mathematics (Martín - Páez et al., 2019). STEM was developed to answer the challenges of the 21st Century (Barcelona, 2014; Kennedy & Odell, 2014) which requires students to use their thinking skills (Reeve, 2016). In line with this statement, STEM is reported could to improve problem solving skills (Şahin, 2021; Topsakal et al., 2022) and students' critical thinking skills (Hacioğlu & Gülhan, 2021; Rosana et al., 2021). The application of STEM also has a positive effect on student achievement at school (Yildirim, 2016) to their attitudes towards STEM-related disciplines (Baran et al., 2019; Hacioğlu & Gülhan, 2021) and careers (Shahali et al., 2016). Not surprisingly, STEM education has become a priority in many countries (Freeman et al., 2019), in line with the increasing trend of research in the STEM field (Li et al., 2020).

Although the application of STEM is reported have a positive impact, various barriers in applying this learning also need to be considered. Some of these barriers are not only from curriculum aspects but to structural and pedagogical aspects (Margot & Kettler, 2019). The lack of available teachers with STEM education backgrounds is also a barrier to implementing STEM in schools (Ejiwale, 2013). One of the main challenges identified is the teacher's STEM knowledge. Integrating STEM in learning requires basic knowledge of how to contextualize and incorporate STEM concepts in learning (Nadelson & Seifert, 2017). Low knowledge related to STEM will reduce teacher confidence to apply this learning. Therefore, it is necessary to increase STEM-related knowledge because increased teacher confidence will increase the effectiveness of integrating STEM activities (Margot & Kettler, 2019).

Di Indonesia, penerapan STEM di Indonesia juga belum optimal. Various obstacles and problems are factors causing the low implementation of STEM in various schools in Indonesia. One of the schools that has experienced this condition is SD Muhammadiyah 1 Paiton, Probolinggo Regency. In these schools, many teachers do not understand STEM-based learning. This is in line with previous researchers who reported that there are still many teachers who do not understand STEM in Indonesia (Diana & Turmudi, 2021). The lack of STEM training for teachers and schools is another factor that has hindered teachers at SD Muhammadiyah 1 Paiton from learning STEM. Furthermore, as a school that has only been established for four years, this SD still has several obstacles in developing its learning. Regardless of the obstacles faced, SD Muhammadiyah 1 Paiton remains motivated to be able to apply STEM learning. In addition, STEM is very appropriate to be developed at this elementary school because SD Muhammadiyah 1 Paiton is a research school. Therefore, related to the obstacles faced and the school's enthusiasm to develop better, assistance in designing and implementing STEM-based learning by academics from universities needs to be held.

Community service activities that focus on STEM learning have been reported in several previous publications. Some of these programs, such as the introduction of STEM learning (Izzati et al., 2019), training in developing STEM-based learning tools (Nugraheni et al., 2022) and teaching materials (Hamimah et al., 2022), to training in the application of STEM learning (Busyairi et al., 2022). However, a community service program involving the socialization of lesson study for learning communities as an effort to optimize STEM realization has never been carried out. In addition, many community service programs have not involved teachers to directly simulate project completion in STEM learning. Therefore, the purpose of the Community Service program reported in this paper is to increase the competence of teachers at SD Muhammadiyah 1 Paiton in designing STEM-based learning by involving the socialization of the learning community and direct experience implementing STEM projects.

The implementation of STEM learning in schools will support the achievement of the Sustainable Development Goals (SDG's), especially the fourth goal on quality education. If STEM learning at SD Muhammadiyah 1 Paiton can also be implemented optimally, students' knowledge and attitudes towards STEM will also increase (Baran et al., 2019; Hacioğlu & Gülhan, 2021; Shahali et al., 2016). This condition will encourage them to increase career opportunities in the future which requires a person to have a positive attitude towards STEM and STEM-oriented thinking skills. Increased career opportunities will support economic growth in line with the eighth goal. In addition, good STEM learning is project-based STEM learning that raises contextual issues that are relevant to global issues (Ling et al., 2019). In this lesson, students will also be trained to solve various problems in the environment around them, such as environmental, health, and nutrition problems. Thus, in the long term, the benefits of this service program will also produce alumni who help achieve several other SDG's goals, such as the second goal (zero hunger), third (good health and well-being), and thirteenth (climate action) (Hák et al., 2016; Mitlin, 1992; Robert et al., 2005).

METHOD

There are three main components involved in this community service program. First, the lecturer team consists of one chairman and one member. The team leader is a lecturer in the biology education study program who is an expert in the fields of education, methodology, and data analysis and has participated in an international short course on STEM held by the State University of Malang. One member of the team is a lecturer in the biology education study program who is an expert in the field of education who has attended short course activities on lesson study in Japan and STEM in Indonesia and Singapore. The second component is a student service team consisting of five biology education students. The third component is SD Muhammadiyah 1 Paiton as a partner for this community service program.

SD Muhammadiyah 1 Paiton is an educational unit with an elementary level in Sumberanyar, Kec. Paiton, Kab. Probolinggo, East Java. The location of the school is presented in Figure 1. In carrying out its activities, SD Muhammadiyah 1 is under the auspices of the Ministry of Education and Culture. SD Muhammadiyah 1 is located at Jl. Surabaya - Situbondo, Sumberanyar, Kec. Paiton, Kab. Probolinggo, East Java, with zip code 67291. This school designs its educational process on a research basis so that STEM implementation is in line with the school's vision. Participation of partners in this service activity, namely the provision of meeting rooms for the implementation of activities that are offline. In addition, the school will condition that each teacher is able to participate as the main subject in community service activities.

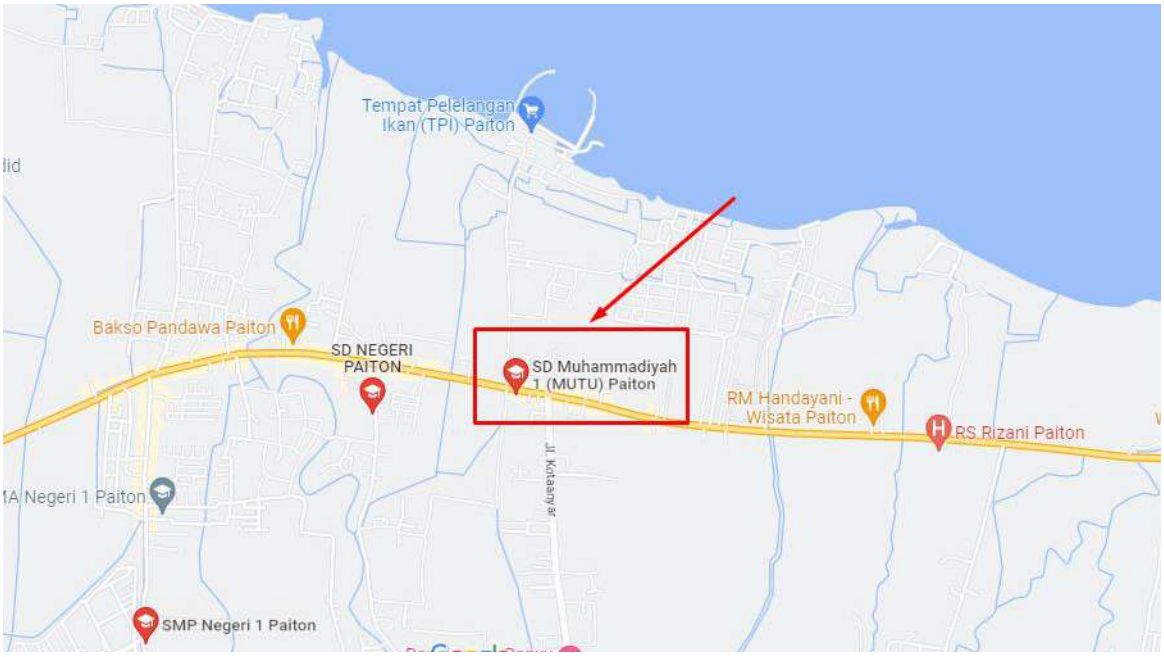

Figure 1. Map of SD Muhammadiyah 1 Paiton location

The school, which consists of teachers and principals as well as the service team agree that the problems that need to be prioritized to be resolved are 1) STEM-oriented learning socialization, and 2) STEM learning design. Based on the focus of these problems, the methods for implementing community service activities include discussion, outreach, and workshop methods. In detail, the sequence of community service activities is: 1) Equalization of Perceptions between the Community Service Team and Partner Schools; 2) Presentation of Series 1 Material: Innovative and STEM Learning Models; 3) Presentation of Series 2 Material: Lesson Study and Learning Community; and 4) STEM learning workshops.

Evaluation of program implementation is carried out periodically through phase 1 evaluation monitoring during implementation through observation activities. Data collection on teacher knowledge related to STEM was also carried out at the beginning (pretest) and at the end of the activity (posttest). The data collection instrument used was a questionnaire consisting of 10 items that access knowledge about innovative learning, higher-order thinking skills, lesson study, and the principles of STEM application in learning. The response choices for each statement were: really don't know, don't know, know a bit, and already know. The knowledge data was then analyzed using the mean and standard deviation to see a description of the teacher's level of knowledge about STEM. Furthermore, N-gain analysis is used to see the increase in knowledge. Finally, paired t-test analysis and effect size calculations were carried out to analyze whether there is a significant effect of the service program and how much influence this service program has on teacher knowledge.

RESULTS AND DISCUSSION

The first activity carried out with partner schools was the equalization of perceptions of community service activities and the finalization of service schedules, both online and offline service schedules. Equalization of this perception is done online through the Google Meet platform. Furthermore, on August 13 2022 the first material presentation activity was carried out (Figure 2). The material presented in this activity is related to innovative and STEM learning models. Material presentation activities are carried out online using the Google Meet platform. Then, on September 9 2022 the second material presentation activity was carried out (Figure 3). The material presented in this activity is the importance of learning community. This material presentation activity was also carried out online using the Google Meet platform.

Figure 2. Documentation of the 1st series material presentation activities

Figure 3. Documentation of the 2nd series material presentation activities

Before carrying out face-to-face service activities in Probolinggo, the Community Service team conducted a leveling of perceptions and debriefing with the student service team who joined this community service program (Figure 4). After that, in November 2022, a STEM learning design workshop was held. This activity was carried out at SD Muhammadiyah 1 Paiton. The workshop was held face-to-face by involving a team of lecturers, student teams, as well as partner school teachers and administrative staff (Figure 5).

Figure 4. Documentation of debriefing activities with student teams

Figure 5. Documentation of STEM learning design workshop activities

To determine the usefulness of the community service activities that have been carried out, the Community Service team has collected data on teachers' knowledge about STEM learning, both before and after participating in community service activities. Table 1 presents the pretest and posttest scores of the teachers involved in this program. After the knowledge data before and after the community service activities are collected, a gain score analysis is carried out to find out how much the teacher's knowledge has increased. The score is also presented in Table 1.

Table 1. Teacher's pretest and posttest scores and their N-Gain scores

Teacher	Pretest	Posttest	Gain
1	72.5	100	1.00
2	62.5	90	0.73
3	87.5	100	1.00
4	52.5	90	0.79
5	55	95	0.89
6	57.5	100	1.00
7	62.5	100	1.00
8	80	82.5	0.13
9	30	100	1.00
10	65	90	0.71
11	75	100	1.00
12	60	100	1.00
	Gain		**0.85**

In addition to analyzing the data using N-gain, a paired t test was also carried out to determine whether there was a significant increase in knowledge. The results of the paired t test showed that there was a significant difference between before (M = 63.3, SD = 14.9) and after the service program (M = 95.6, SD = 6), $t(11) = 6.6$, $p < .001$. Furthermore, to ascertain how much influence the service program has, effect size calculations are also carried out. As a result, the resulting effect size is in the large category, $d = 1.91$. This shows that the magnitude of the difference between the average difference and the expected average difference is large.

Based on pretest data, at SD Muhammadiyah 1 Paiton, many teachers do not understand STEM properly. This is in line with previous researchers who reported that there are still many teachers who do not understand STEM in Indonesia (Diana & Turmudi, 2021). The experience of the teachers is also another obstacle that causes them difficulty designing STEM lessons. The lack of STEM training for teachers and schools is another factor that has hindered teachers at SD Muhammadiyah 1 Paiton from learning STEM. However, the results of the analysis show that community service activities can have a positive impact on teacher knowledge.

Teacher knowledge about STEM is a priority that needs attention. Knowledge will increase teacher confidence in implementing STEM learning. High self-confidence will increase the effectiveness of STEM learning applied by teachers (Margot & Kettler, 2019). With the effective application of STEM, it is hoped that the benefits of STEM learning can be obtained, such as increasing student achievement at school (Yildirim, 2016) to students' critical thinking skills (Hacioğlu & Gülhan, 2021; Rosana et al., 2021). In addition, the application of STEM will also empower students' science process skills or research skills. These competencies will support the vision of SD Muhammadiyah 1 Paiton as a research-based elementary school.

Several publications indicate that the development of STEM learning needs to be done in stages and continuously. This statement is based on several community service activities aimed at providing STEM learning assistance, such as in Bandung Regency (Sukmana & Nurhayati, 2019), Yogyakarta (Richardo et al., 2021), Madiun (Setiawan et al., 2020), as well as Bojonegoro (Imaduddin et al., 2021). Learning planning needs to be carried out in stages and continuously because new learning designs such as STEM are challenges as well as problems that need to be addressed in a sustainable manner (Hill et al., 2020). Furthermore, STEM is not only related to lesson plans, but also its implementation and follow-up. The Community Service Team believes that optimizing STEM learning cannot develop if consistent and sustainable efforts are not made. On the other hand, the success of efforts and changes made need to be grown through an adaptive environment. Change efforts that are carried out partially often encounter various obstacles that will slow down the achievement of success. Conversely, efforts made collaboratively are indicated to be able to minimize the handicap faced. In this case, efforts need to be made collaboratively at the school level so as to create an atmosphere that teaches and strengthens one another. Therefore, it is deemed necessary to initiate learning communities and apply lesson study in subsequent programs at this school.

The existence of a learning community that aims to facilitate teachers to learn together is an urgent step to optimize the planning and implementation of learning (Owen, 2014). The existence of this learning community will also have a significant effect on increasing knowledge building among teachers (Popp & Goldman, 2016). It is hoped that this learning community will not only consist of teachers, but also university lecturers. In line with this statement, previous publications said that collaboration with peers, district support, to professional development programs will enhance teachers' efforts to implement STEM-based learning (Margot & Kettler, 2019). Furthermore, professional development programs are seen as important in facilitating teachers to follow trends in STEM implementation and training them to design effective STEM teaching (Ejiwale, 2013). In addition, with the application of lesson study, the quality of planning and implementation of learning will increase from one meeting to the next. Through collaborative activities in planning

lessons that pay attention to evaluation of previous learning, lesson study activities will be able to improve the quality of learning implemented by the teacher (Ming Cheung & Yee Wong, 2014).

CONCLUSION

This paper has reported community service activities carried out at SD Muhammadiyah 1 Paiton, Probolinggo. Discussion, outreach, and workshop activities have been carried out to help these research-based schools understand and initiate STEM-based learning. After carrying out community service activities at Muhammadiyah 1 Paiton Elementary School, there has been a significant increase in teacher knowledge regarding STEM learning from before participating in community service activities to after participating in community service activities. In addition, the teacher learning community will begin to be initiated after this service activity runs. As a follow-up effort to the suggestion program to optimize service activities is to remain active in providing assistance at Muhammadiyah 1 Paiton Elementary School so that the design and implementation of STEM-based learning activities can continue. Assistance activities can also be carried out through online discussion forums or continuing offline activities to Paiton.

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Developing guidelines for early detection of child and adolescent mental health problems

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ABSTRACT

Children, like adults, can suffer from various mental health issues, but they are rarely recognized. This research aims to create early detection guidelines that can be used by those closest to children, such as parents and teachers in schools. The methods used by the team were narrative review, data analysis, preparation of guidelines, expert judgment, and dissemination. Three experts carried out the preparation of the guide. Furthermore, the dissemination was carried out at SDN Girimoyo 02 Karangploso, Malang Regency. The guideline contains six points, namely 1) definition of mental health, 2) description of the child's mental health issues, 3) description of instruments that can be used for screening or early detection, 4) various considerations that need to be considered when conducting screening or early detection, 5) referral system and flow, and 6) the role of teachers in schools and their urgency. Furthermore, the result of the dissemination activity is the increased understanding of teachers in schools regarding the early detection of student's mental health problems so that teachers can be more sensitive to the conditions of their students.

Kata Kunci
Kesehatan mental anak
Lingkungan sekolah
Peran guru

Menyusun pedoman deteksi dini masalah kesehatan jiwa anak dan remaja. Tidak hanya orang dewasa tetapi anak juga dapat mengalami berbagai isu kesehatan mental, tetapi jarang untuk dapat dideteksi. Pengabdian ini bertujuan untuk menyusun panduan deteksi dini yang dapat digunakan oleh orang-orang terdekat anak seperti orangtua dan guru yang berbasis di sekolah. Metode yang digunakan tim adalah narrative review, analisis data, penyusunan panduan, expert judgement, dan diseminasi. Penyusunan panduan dilakukan oleh tiga orang ahli. Selanjutnya diseminasi dilakukan di SDN Girimoyo 02 Karangploso Kabupaten Malang. Panduan yang disusun berisi enam poin yaitu: 1) definisi kesehatan mental, 2) gambaran isu kesehatan mental anak, 3) gambaran instrumen yang dapat digunakan untuk melakukan skrining atau deteksi dini, 4) berbagai pertimbangan yang perlu diperhatikan saat melakukan skrining atau deteksi dini, 5) sistem dan alur rujukan, serta 6) peran guru di sekolah dan urgensinya. Selanjutnya hasil dari kegiatan diseminasi adalah bertambahnya pemahaman guru disekolah terkait deteksi dini masalah kesehatan mental peserta didik sehingga guru bisa lebih peka terhadap kondisi siswanya.

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INTRODUCTION

Every day, millions of people worldwide face mental health issues, including children. A previous study has asserted that adults and children under 16 years of age potentially face mental health issues (Koning et al., 2019). Children's mental health issues may be reflected by their maladaptive behaviors and violation of social values. However, children's mental health issues receive relatively small attention from their surroundings, possibly due to a lack of understanding of these

issues. When left unattended, children's mental health may likely become more serious and turn into criminal or other far more concerning behaviors.

Children's delinquency is one of the indicators of poorly addressed mental issues. Data published by the Supreme Court of the Republic of Indonesia reported that in 2020, there were 6509 criminal cases involving children as perpetrators (Ministry of Women Empowerment and Child Protection, 2020). These cases were relatively serious and harmed various parties, and potentially become more severe when perpetrators become an adult.

Children suffering from mental health issues relatively find it difficult to address their problems properly. In this regard, adult people's presence is believed to be significantly helpful in understanding their conditions. Parents and teachers are responsible for being aware of their children's issues and helping them address the problems (Boman et al., 2015). They need to have initial problem screening and early detection skills to optimally help their children cope with the problems. Early detection of a problem will allow parents and teachers to understand children condition and ensure proper help seeking efforts (Kim et al., 2022).

Taking children's mental health issues and adequate understanding into considerations, it is necessary to develop a brief guideline for the early detection of children's mental health, which could be utilized by parents or teachers. Thus, this effort is congruent with the Sustainable Development Goals (SDGs) program number 3, good health and well-being. This study is expected to provide parents and teachers with a guideline for understanding children's mental health condition and its identification, as well as how to seek help.

METHOD

This study was conducted in SDN Girimoyo 02, Karangploso District, Malang Regency. It comprised five stages as presented in Figure 1.

Figure 1. Research Stages

Narrative review

Narrative review is a method for collecting data from the literature on certain topics (Wiles, Crow, & Pain, 2001). The primary sources of the narrative review were national and international journal articles on children's mental health issues and their relevance with the school environment.

Data Analysis

The data were analyzed by critically reviewing and linking relevant literature to obtain specific, dominant themes (Wiles et al., 2011).

Guideline Development

Topics obtained from the data analysis and narrative review were compiled by the research team into a complete guideline.

Expert Judgment

To ensure valid and reliable product, the research team discussed the points that should be involved in the guideline.

Dissemination

In the dissemination stage, the developed guideline was presented to teachers and individuals frequently interacting with children in order to enhance their understanding and awareness of children's condition. Thus, they could properly address children's condition.

RESULTS AND DISCUSSION

The Development of the Guideline for Early Detection of Children's and Adolescent's Mental Health Issues. The guideline was developed in two months, from March to April 2021. It consisted of six main points, which are described in the following section.

1. Mental Health Defined
2. Definition of mental health varies

   The World Health Organization (2004) defines it as individual's well-being, a state in which an individual possesses self-understanding, is able to cope with life pressures, works in a productive manner, and contributes to the

community. This definition implies that mentally healthy individuals are completely free from mental issues. However, such individuals could address difficult situations while having positive feelings and functions to cope with the problems. Similarly, Galderisi and associates (2015) assert that mentally healthy individuals may occasionally suffer from sadness and anger, yet they view such conditions as normal consequence of life.

3. Overview of Children's and Adolescents' Mental health issues

Children and Adolescents' mental health issues commonly deal with emotional and behavioral problems. These problems may hinder their optimal development, causing Cognitive problems, learning difficulties, concentration difficulties, poor memory, and socially maladaptive behaviors, among others. Mental health issues are responsible for the increase in criminality and delinquency cases and, when failed to be properly addressed, potentially result in greater damages when they reach adulthood stages. Children and adolescents with emotional and behavioral problems tend to be discriminated by their surroundings, including teachers at school, parents at home, and their friends. This condition potentially leads to greater damage.

Although the data on prevalence of Indonesian children's mental health issues are relatively limited, their impacts are quite significant. One of the cases was reported on okezone.com, where an elementary school student in Sleman Regeny committed suicide (Sukardi, 2021). Furthermore, National Commission for Child Protection (KPAI) states that there were approximately 6500 cases of child delinquency, including physical and psychological violence, murder, theft, traffic accident, sharp weapon possession, sexual assault, abortion, and terrorism, among others. Of these cases, 1314 cases occurred in 2016, 1403 cases in 2017, 1434 cases in 2018, 1251 cases in 2019, and 1098 cases in 2020 (KPAI, 2021). These cases clearly indicate serious mental health issues that fail to be immediately addressed, thus implying the urgency of early detection efforts.

Signs of mental health issues may arise in early childhood, although some disorders may develop in the adolescence. Diagnoses are often made during the school age and sometimes earlier. However, some children with mental health problems receive minimal attention due to illiteracy and a lack of understanding of early screening and detection.

Mental health issues in children and adolescents are commonly manageable. A range of evidence-based therapies are currently available, demanding parents, doctors, and other parties, such as teachers, trainers, therapist, and family members, to work together to treat their children. Early diagnosis and proper service for children and their families may significantly improve the quality of life of children with mental issues and help them be aware of the boundaries between normal and abnormal behaviors in children's development. The following table presents the risk and protective factors for anticipating the development of children's and adolescents' mental health problems.

Table 1. Protective and risk factors

Risk factors	Bullying (including cyber bullying)
	Discrimination
	Poor relationship with friends
	The effect of peers' maladaptive behaviors
	Peer pressure
	Peer violence
	Poor relationship with teaches/ school staffs.
The Protective Factor	Implementation of policies and regulations on intimidating and bullying behaviors.
	Ethical codes for school staffs
	Open, friendly policies for children to solve their problems
	School elements' awareness of promoting mental health in the school environment
	Good student-teacher/staff relationship
	Positive class management
	Students' and teachers' sense of belonging
	Positive peer influence
	Positive relationship with friends
	Effective policies and procedures for child protection
	Effective early aid-process
	Adequate understanding of each school element's roles.
	Clear, accurate, understandable procedure in handling and referring the case.

4. Early Detection Screening Instrument for elementary school students.

Children's and adolescents' mental health screening and assessment set developed in this study examined depression, anxiety, and behavioral problems. Such an instrument is commonly used by doctors, psychiatrist, and psychologist to screen and trace children indicating mental health problems. Some instruments presented in the following table are deemed suitable for children, parents, and teachers.

They are useful screening tools for early detection and mapping of children's mental health problems.

Table 2. Early Detection Instrument of Mental Health Problems

Instrument	Description	Child's age	Administrator
Systematic Screening for Behavior Disorders (SSBD)[19]	Exploring externalizing and internalizing behavior. Distributed in two phases	3-15 years of age	Teacher
BASC–3 Behavioral and Emotional Screening System (BESS)[18]	Exploring behavioral and emotional strengths and weaknesses Available in 25 to 30-item version	3-18 years of age	Student, parents, teachers
Pediatric Symptom Checklist (PSC)[20]	Exploring behavioral and emotional problems Available in 35-item, illustrated version, and 17-item version.	3-18 years of age	Students or parents
Strengths and Difficulties Questionnaire (SDQ)[21]	Exploring emotional, behavioral, and social dimensions Available in 25 to 34-item version	3-16 years of age	Student, parents, teachers
Social, Academic, and Emotional Behavior Risk Screener (SAEBRS)[22]	Exploring students' social, academic, and emotional behaviors, including the risk and protective factors. 19-item	5-18 years of age	Teacher
Student Risk Screening Scale (SRSS)[23]	Exploring externalizing and internalizing behavior. Available in six to seven item-version	5-18 years of age	Teacher

This study focused on the Strengths and Difficulties Questionnaire (SDQ) because it is free access and available in 40 languages, including Indonesia.

Strengths and Difficulties Questionnaire (SDQ) is a brief screening questionnaire suitable for children 3-16 years of age. It consisted of several aspects that are suitable with its users, such as researchers, physician, and teachers. To be more specific, it measures emotional symptoms, conduct problems, hyperactivity-inattention, peer problem, and prosocial behaviors.

The use of SDQ for the screening instrument is detailed as follows:

a. Parents or teachers with children 4-17 years of age
   Instruction: For each statement, give a mark in the box of Not True, Somewhat True, and True. It would be helpful for us if your are willing to respond to all statements although you are not certain. Give your answer based on children's behavior in the last six months or during this academic year.

Table 3. Instrument for parents or teachers with children 4-17 years of age

No	Statement item	Not True	Somewhat True	Correct
1	Considerate of other peoples feelings			
2	Restless, overactive, cannot stay still for long			
3	Often complains of headaches, stomach-aches or sickness			
4	Shares readily with other children, for example toys, treats, pencils			
5	Often has temper tantrums or hot tempers			
6	Rather solitary, prefers to play alone			
7	Generally obedient, usually does what adults request			
8	Many worries, often seems worried			
9	Helpful if someone is hurt, upset or feeling ill			
10	Constantly fidgeting or squirming			
11	Has at least one good friend			
12	Often fights with other children or bullies them			
13	Often unhappy, down-hearted or tearful			
14	Generally liked by other children			
15	Easily distracted, concentration wanders			
16	Nervous or clingy in new situations, easily loses confidence			
17	Kind to younger children			
18	Often lies or cheats			
19	Picked on or bullied by other children			
20	Often volunteers to help others (parents, teachers, other children)			
21	Thinks things out before acting			
22	Steals from home, school or elsewhere			
23	Gets on better with adults than with other children			
24	Many fears, easily scared			
25	Sees tasks through to the end, good attention span			

b. Children and Adolescent 4-17 years of age

Instruction: For each statement, give a mark in the box of Not True, Somewhat True, and True It would be helpful for us if your are willing to respond to all statements although you are not certain. Please answer according to what happened to you for six months.

Table 4. Instrument for children and adolescent at 4-17 years of age

No	Statement Items	Not True	Somewhat True	True
1	I try to be nice to other people. I care about their feelings			
2	I am restless, I cannot stay still for long			
3	I get a lot of headaches, stomach-aches or sickness			
4	I usually share with others (food, games, pens etc.)			
5	I get very angry and often lose my temper			
6	I am usually on my own. I generally play alone or keep to myself			
7	I usually do as I am told			
8	I worry a lot			
9	I am helpful if someone is hurt, upset or feeling ill			
10	I am constantly fidgeting or squirming			
11	I have one good friend or more			
12	I fight a lot. I can make other people do what I want			
13	I am often unhappy, down-hearted or tearful			
14	Other people my age generally like me			
15	I am easily distracted, I find it difficult to concentrate			
16	I am nervous in new situations. I easily lose confidence			
17	I am kind to younger children			
18	I am often accused of lying or cheating			
19	Other children or young people pick on me or bully me			
20	I often volunteer to help others (parents, teachers, children)			
21	I think before I do things			
22	I take things that are not mine from home, school or elsewhere			
23	I get on better with adults than with people my own age			
24	I have many fears, I am easily scared			
25	I finish the work I'm doing. My attention is good			

c. SDQ Scoring Instruction

Table 5. Instrument for SDQ Scoring Instruction

	Not True	Somewhat True	True
Emotional problems			
ITEM 3	0	1	2
ITEM 8	0	1	2
ITEM 13	0	1	2
ITEM 16	0	1	2
ITEM 24	0	1	2
Conduct problems			
ITEM 5	0	1	2
ITEM 7	2	1	0
ITEM 12	0	1	2
ITEM 18	0	1	2
ITEM 22	0	1	2
Hyperactivity			
ITEM 2	0	1	2
ITEM 10	0	1	2
ITEM 15	0	1	2
ITEM 21	2	1	0
ITEM 25	2	1	0
Peer problems			
ITEM 6	0	1	2
ITEM 11	2	1	0
ITEM 14	2	1	0
ITEM 19	0	1	2
ITEM 23	0	1	2
Prosocial			

	Not True	Somewhat True	True
ITEM 1	0	1	2
ITEM 4	0	1	2
ITEM 9	0	1	2
ITEM 17	0	1	2
ITEM 20	0	1	2

d. Score tabulation

Table 6. Score tabulation

Aspect	Items	Normal	Borderline	Abnormal
Parent completed SDQ	Total difficulties score	0-13	14-16	17-40
	Emotional problems score	0-3	4	5-10
	Conduct problems score	0-2	3	4-10
	Hyperactivity score	0-5	6	7-10
	Peer problems score	0-2	3	4-10
	Prosocial score	6-10	5	0-4
	Impact score	0	1	2-10
Teacher completed SDQ	Total difficulties score	0-11	12-15	16-40
	Emotional problems score	0-4	5	6-10
	Conduct problems score	0-2	3	4-10
	Hyperactivity score	0-5	6	7-10
	Peer problems score	0-3	4	5-10
	Prosocial score	0-3	5	0-4
	Impact score	0	1	2-6
Self-completed SDQ	Total difficulties score	0-15	0-15	20-40
	Emotional problems score	0-5	6	7-10
	Conduct problems score	0-3	4	5-10
	Hyperactivity score	0-5	6	7-10
	Peer problems score	0-3	4-5	6-10
	Prosocial score	6-10	5	0-4
	Impact score	0	1	2-10

5. Considerations for Conducting Screening

According to Dowdy et al. (2010) there are five points to be considered to ensure optimal screening process:

Table 7. List of considerations for conducting screening

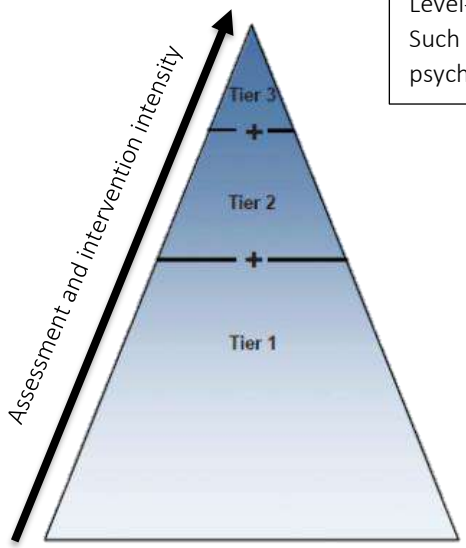
Establishing planning and executing teams	Identification of the main stakeholders capable of supporting the screening process, referral flow, and decision making, namely: Teachers, public health professionals, parents, and students, 2) Integration with existing teams (e.g., school safety team) Assigning roles for each team member.
Determine the reasons and purposes of screening	There are several questions to identify the reasons and purposes of screening: 1) What is the screening purpose? 2) What results are expected? 3) What about the school and community comfort in doing this task? 4) What to do with the gathered information? 5) What services are available to solve problems? 6) What is the focus of population-based need assessment and/or screening for identifying individuals? 7) What is the focus of the assessment, mental health, wellbeing, or both? 8) In what way will the screening be helpful for students, staffs, schools, and/or the community?
Resource Identification	Identifying data, resource, and existing services at school and in the community by: Designing a screening program that suits the current capacity while working on building capacities for future needs. Increasing the budget for screening. Evaluating and making decision on screening instrumentation based on the goal, technical adequacy, and usefulness. Identifying data, resources, and additional services that are possibly needed.
Procedures and screening implementation	The screening is scheduled by taking the following considerations: 1) Individuals involved in the data collection process (teachers, parents, and students), 2) The frequency and time of screening, 3) Parents permit and consent for individual child's identification process, 4) Time and place for data collection, 5) The screening method for students, staffs, parents, and the community.

Follow-up	The follow-up aims to communicate the screening result. This stage included: 1) determining how to distribute information to students, families, teachers/staffs, and the public, 2) determining the accessible facility and referral path regarding the screening result and intervention services.

By taking the five points in Table 7, the screening process is expected to be more structured and systematic according to the purpose and the functions

6. Referral System and Flow

The referral flow for mental health commonly used multi-tier supporting framework. This multi-tier system aims primarily to provide continuous support to students.



Level-3 support covers intervention for more significant mental health-related needs. Such an intervention is usually individual in nature and conducted in person by a psychiatrist.

Level-2 support encompasses intervention for students with mild or emerging mental health issues and usually administered in a small group with certain time limits. For instance, a school-based mental health program service provider may lead an evidence-based attention session in a small group of 8 to 10 students for ten 30-minute session every week.

Level-1 support is designed to reach all students in general educational context and usually focus on preventive efforts. One of the examples of this service could be in the form of evidence-based social and emotional learning program presented in all classes as a preventive strategy.

Figure 2. Multi-tier system model for promoting mental health at school

The following key stages are important to be considered when designing a mental health referral path in the local community:

a. Developing a dedicated team responsible for addressing problems and referral path.
b. Determining procedures for managing referral path.
c. Developing a system that allows team to collect data on students' background.
d. Developing a safe students record management system
e. Mapping available resources and intervention
f. Making decisions for determining proper interventions based on students' current condition
g. Developing systems for monitoring and evaluating the intervention effectiveness (in line with Stage 4).

In order to optimize the students' mental health problems, schools need to build relations and cooperation with relevant parties, such as subject teachers, school counselors, and professionals, including doctor, psychiatrist, psychologist, students' family, and other relevant institutions, including KPAI.

7. Teachers' roles at school and their urgency

Teachers play a central role because they interact with children for 6-8 hours per day at school. Therefore, it is important to identify the extent to which a teacher could play his/her crucial roles, from practices to potential training to equip them with skills needed to address students' problems. Teachers plays the most crucial roles in addressing students' mental health among other professions due to their portion of interactions with students (Moor et al., 2007). In order to optimize their roles, a collaboration with parents and relevant professionals are important.

Dissemination of Guideline for Early Detection of Children's and Adolescent's Mental Health Issues

The guideline was disseminated in two days, on Saturday 12 June 2021 and Tuesday 15 June 2021. During the first meeting, the agenda was focused on socialization by presenting two materials online. The materials were the development of guidance and counseling program for elementary school and identification of students' psychological problems. During the second session (i.e., on Tuesday, 15 June 2021), teachers were directly assisted at school on how to fill the SDQ.

The dissemination enriched teachers' insight and knowledge of early detection and management of various psychological problems faced by students. As Marin-Gonzalez et al. (2017) assert, dissemination aims to ensure that the

public is informed about the important findings of scientific process. Dissemination activity could be done in various means, such as through article review, scientific conference, workshops, seminars, and other activities that facilitates public access to and understanding of the research result. The research team in this study applied an easily accessible and simple programs.

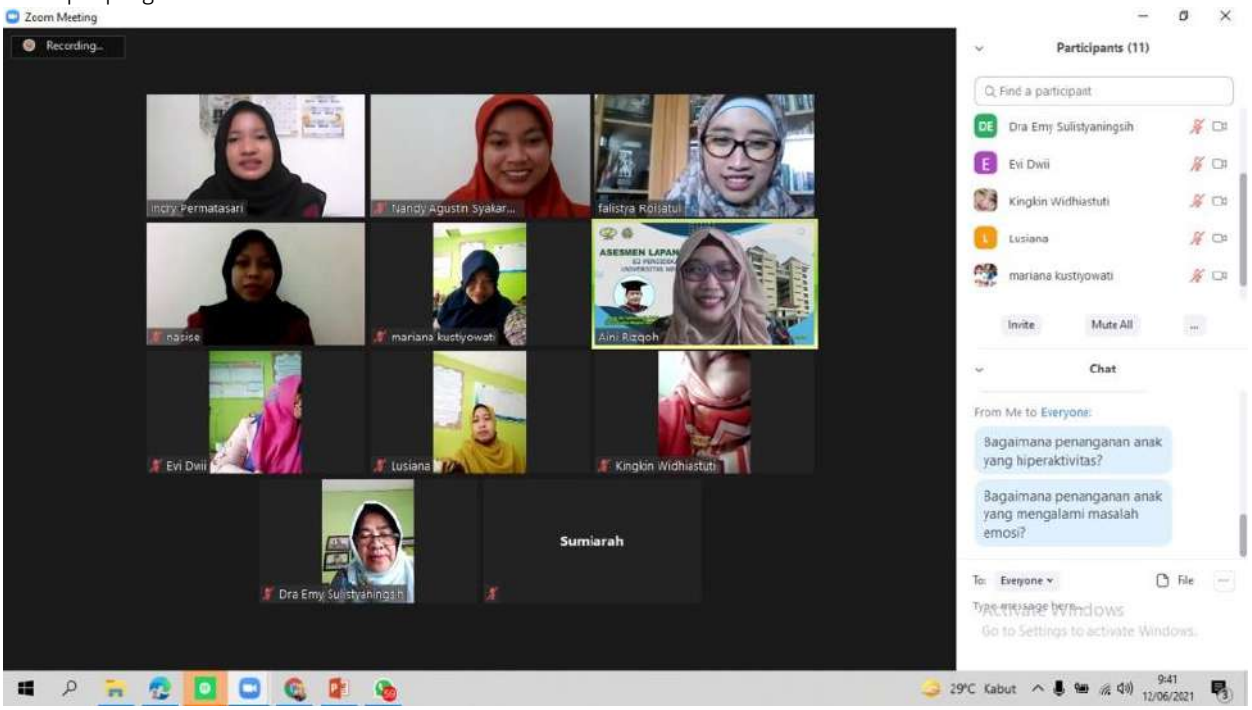


Figure 3. Online dissemination program in SDN Girimoyo 02, Karangploso District, Malang Regency

Figure 4. Participants were listening to the online presentation in SDN Girimoyo 02, Karangploso District, Malang Regency

Figure 5. Assistance for teachers in filling SDQ instruments by the field research team.

CONCLUSION

This paper presents the community service conducted in two stages, i.e., designing and disseminating the guideline for early detection of children and adolescent mental health in SDN Girimoyo 02, Karangploso District, Malang Regency. This community service produced a guideline draft for early detection of children mental health, which was disseminated to teachers at school, enriching their knowledge and understanding for implementing the guideline. In general, teachers participating in this community service welcomed the activities and stated that the activities were helpful in supporting their duties of educating students at school. The developed guideline is expected to have a significant impact and help teachers to better understand the students' condition.

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Improving the quality of learning through lesson plan preparation workshops for an independent learning model

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ABSTRACT

Making lesson plans is still difficult for some teachers. The lesson plan has too many components, so it takes a long time to design one learning activity. Lesson plan one sheet is the solution to this problem. However, there are still teachers who do not understand how to make a one-sheet lesson plan that suits the needs of students. The purpose of this service activity is to increase the teacher's understanding of the one-sheet lesson plan, so that the teacher can increase the effectiveness of his learning. Therefore, a workshop on making lesson plans was held for Islamic Elementary School teachers in Baki District, Sukoharjo, at Islamic Elementary School 4 Sukoharjo. Previously, a needs analysis was carried out for Islamic Elementary School teachers in Baki District, Sukoharjo. The survey results show that teachers have not consistently made lesson plans. Teachers also have not adapted them to student needs and are only used as administrative requirements in the learning process, so that lesson plans do not have much impact on helping teachers. However, the teacher knows that making lesson plans is the teacher's obligation and feels not burdened. After attending the workshop, the teacher began understanding the independent learning curriculum and designing a one-sheet lesson plan based on student needs. Islamic Elementary School teachers in Baki District, Sukoharjo, feel that a one-sheet lesson plan is more efficient than a regular lesson plan. Through the one-sheet Lesson plan, it is hoped that teachers will be more effective in preparing student learning activities and focus more on the learning process and evaluation to improve the quality of their learning.

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Kualitas pembelajaran
Pembelajaran mandiri
Pengabdian masyarakat
RPP

Peningkatan kualitas pembelajaran melalui lokakarya penyusunan RPP untuk model pembelajaran mandiri. Membuat RPP masih sulit bagi sebagian guru. RPP memiliki komponen yang terlalu banyak, sehingga membutuhkan waktu yang lama untuk merancang satu kegiatan pembelajaran. Rencana pelajaran satu lembar adalah solusi untuk masalah ini. Namun, masih ada guru yang belum memahami cara membuat RPP satu lembar yang sesuai dengan kebutuhan siswa. Tujuan dari kegiatan pengabdian ini adalah untuk meningkatkan pemahaman guru terhadap RPP satu lembar, sehingga guru dapat meningkatkan keefektifan pembelajarannya. Oleh karena itu diadakan workshop pembuatan RPP bagi guru-guru Madrasah Ibtidaiyah se-Kecamatan Baki, Sukoharjo, di Madrasah Ibtidaiyah 4 Sukoharjo. Sebelumnya telah dilakukan analisis kebutuhan terhadap guru Madrasah Ibtidaiyah di Kecamatan Baki Sukoharjo. Hasil survei menunjukkan bahwa guru belum konsisten membuat RPP. Guru juga belum menyesuaikannya dengan kebutuhan siswa dan hanya digunakan sebagai persyaratan administrasi dalam proses pembelajaran, sehingga RPP tidak banyak berdampak membantu guru. Namun, guru mengetahui bahwa membuat RPP adalah kewajiban guru dan merasa tidak terbebani. Setelah mengikuti workshop, guru mulai memahami kurikulum belajar mandiri dan merancang RPP satu lembar berdasarkan kebutuhan siswa. Guru Madrasah Ibtidaiyah di Kecamatan Baki, Sukoharjo, merasa bahwa RPP satu lembar lebih efisien dibandingkan dengan RPP biasa. Melalui RPP satu lembar ini diharapkan guru lebih efektif dalam mempersiapkan kegiatan belajar siswa dan lebih fokus pada proses pembelajaran dan evaluasi untuk meningkatkan kualitas pembelajarannya.

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INTRODUCTION

The 21st century is marked by the development of technology and information that affect various aspects of life (Susanto & Meiryani, 2019). Quality human resources influence the development of technology and information in the 21st century (Joy, 2020; Susanto & Meiryani, 2019). Education produces quality human resources (Hasibuan & Prastowo, 2019; Jacobs, 2010; Jedaman et al., 2020). Teacher competence is determined by improving the quality of education, as stated in the Minister of National Education Regulation Number 16 of 2007 (Haryono et al., 2019; Jufni et al., 2020; Sumiati & Ahmad, 2021). Besides being competent in the teaching process, educators must be skilled in designing learning (König et al., 2020; Maba & Mantra, 2018).

The skill of designing learning is a competency that professional educators must possess because, with careful planning, educators can adjust material with suitable methods, strategies, models, and learning media to achieve learning goals. So that standards in the curriculum can be achieved following the competencies that students must possess in the 21st century (Nesari & Heidari, 2014). Competency demands that students must have in the 21st century oblige teachers to be more creative in creating quality learning activities (Haryati et al., 2021). Quality, interesting, fun, and meaningful learning activities can be pre-designed by the teacher in the form of a good and structured lesson plan according to the learning steps (Haryati et al., 2021; Iqbal et al., 2021). Lesson Plan is a guide used by teachers to tell what to do from the beginning to the end of learning and move from one step to another smoothly so that it keeps students focused and concentrated while learning (Bin-Hady & Abdulsafi, 2018). Lesson Plan is a systematic process used by teachers to decide what and how students should learn (Alanazi, 2019).

Previous research has shown that a well-structured lesson plan can improve the quality of learning (Hamid et al., 2018; Suarto, 2017). In addition, teachers can improve the quality of learning by designing learning activities based on reflections on their teaching practices (Uştuk & Costa, 2021). Lesson Plan can help teachers manage time during the learning process and carry out learning efficiently according to a predetermined time (Bin-Hady & Abdulsafi, 2018). The lesson plan can help teachers adapt learning to curriculum content, increase confidence when teaching in class, make teachers more focused on learning material, make the learning process smoother and more comfortable, and predict problems that can occur during learning (Taskin, 2017). The lesson plan is the key to success in the learning process. A lesson plan can improve the quality of material, student skills, and students' social attitudes, accommodate various learning methods according to student needs, and organize classes during the learning process so that students can learn effectively and achieve competence (Alanazi, 2019). Suppose the lesson plan is of good quality. In that case, the time spent during the learning process is efficient, no time is wasted, students participate in learning in an organized manner, and the work done by the teacher in class becomes efficient.

Making lesson plans must pay attention to several things so that they can have a positive impact on students. The teacher must read teaching materials such as teacher books, student books, and other learning resources such as videos, textbooks, or references to determine what material students will learn and what methods and procedures will be used (Bin-Hady & Abdulsafi, 2018). A good Lesson plan contains at least three components: learning objectives, learning activities, and assessment. Learning objectives contain objectives to be achieved through learning activities in the classroom. Learning objectives must refer to core competencies, basic competencies, and indicators, including audience, behavior, condition, and degree elements. Learning activities contain teacher and student activities from the beginning to the end of the learning process. Learning activities refer to learning objectives, models, approaches, and learning methods which consist of a preliminary, core, and closing activities. The assessment contains what aspects will be assessed and what instrument will be used.

However, so far, teachers find it challenging to design and develop lesson plans because they find it difficult to develop indicators following the Basic Competency of the curriculum. In addition, teachers do not understand the application of a scientific approach, and teachers find it challenging to choose learning resources and media, especially technology-based media (Jasmi, 2014; Nurfitri et al., 2020; Srihidayanti et al., 2015). Based on the analysis in the field, the Lesson plan format is considered too rigid and detailed, has too many components, and takes much time to design one learning activity (Jasmi, 2014). Based on the Ministry of Education and Culture's policy contained in the Ministry of Education and Culture circular letter No. 14 of 2019 explaining that there is a simplification of the Lesson plan into an active learning-based independent learning lesson plan or known as a one-sheet lesson plan. The simplification of the Lesson plan aims to be more efficient, effective, and student-oriented. It is hoped that a one-sheet lesson plan can be used to reflect and improve teaching plans for teachers (Audina & Harahap, 2022; Sari et al., 2020). However, based on the observations in Baki District, many teachers still have not implemented the one-sheet lesson plan and do not understand the components of the one-sheet lesson plan.

Previous research shows that teacher competence in designing learning can be increased through participatory training (Rintayanti et al., 2020) and workshop (Fitria & Fidesrinur, 2021). So that there is a need for participatory activities and workshops to understand teachers how to design a one-sheet lesson plan for the Islamic Elementary Education Teacher working group. In addition, it is necessary to explore the teacher's experience in designing while teaching at school. The contributions of this community service activity are (1) encouraging the improvement of the quality of teacher learning through designing appropriate learning activities; (2) encouraging the increased implementation of the

independent learning program at Islamic Elementary Education; (3) increasing teacher competence according to the Regulation of the Minister of Education of the Republic of Indonesia No. 16 of 2007; (4) encourage the achievement of SDG's goal number 4, in realizing quality education, the role of quality and professional teachers is needed.

SDGs goal number 4 has 10 targets consisting of several aspects (seven targets which are expected results and three targets which are means to achieve these targets) (UNESCO, 2015). The ten targets include those related to primary education, namely target number one "universal primary and secondary education". In detail, this target ensures that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes. To achieve this goal there are several existing means. The first tool is to establish effective learning environments. This goal is to build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all. The second tool is to improve the quality of teachers. This facility is carried out by increasing the supply of qualified teachers (UNESCO, 2015).

This community service activity aims to understand and assist Islamic Elementary School Teachers regarding the problems encountered in designing learning activities for the one-sheet Lesson plan model (free learning lesson plan). Kegiatan ini dilakukan untuk meningkatkan kualitas pembelajaran dan guru sesuai target yang ada di dalam SDG's. At the end of this activity, we hope the quality of teacher learning can improve by designing appropriate learning activities because teacher professionals are skilled in teaching and evaluating learning and can also design learning.

METHOD

Community service activities were carried out at Islamic Elementary School 4 Sukoharjo, Baki District, Sukoharjo Regency, on September 22nd-28th, 2022, with the target of working groups for Madrasah Ibtidaiyah Teachers in the Baki District. There were 18 teachers participated in this comuniti service activity. This activity is a workshop on designing a Lesson Plan and how to compile/design a Lesson Plan for independent learning based on active learning / Lesson Plan 1 sheet. In this service activity, a questionnaire was also carried out to find out the teacher's experience in designing Lesson Plans before holding the workshop. The steps for this community service activity are 1) needs analysis, starting with the preparation of workshop activities by coordinating with the school and the Madrasah Ibtidaiyah Teacher working group regarding the goals to be achieved; 2) implementation of activities in the form of workshops consisting of delivering material related to the concept of independent learning, the importance of skills in designing learning activities, differences between the old Lesson Plan and Lesson Plan 1 sheet, how to prepare a Lesson Plan with various learning models according to the syntax, question, and answer, and continue with designing Lesson Plan independent learning model; 3) surveying the Madrasah Ibtidaiyah Teacher working group to explore teacher experiences related to designing Lesson Plans. The survey consists of seven questions that each teacher must answer. Each question relates to the number of Lesson Plans made by the teacher in one semester, the resources used in making Lesson Plans, the contribution of students' needs in making Lesson Plans, the reasons for making Lesson Plans, the benefits of Lesson Plans, the teacher's feelings when making Lesson Plans, and the teacher's opinion regarding Lesson Plan one page. The data obtained from the survey will be analyzed quantitatively and descriptively.

RESULTS AND DISCUSSION

Through structured planning, teaching and learning activities can be carried out well to achieve learning objectives. This activity consists of 3 stages: needs analysis, independent learning model lesson plan workshop, and survey. In detail, the results of the workshop activities are described in the description below.

Need Analysis

Needs analysis activities were conducted to obtain information through interview techniques regarding the problems faced by the principal and the Islamic Elementary School teacher working group in the Sukoharjo. Based on the results of the interviews, it was found that teachers find it challenging to understand the concept of an independent learning curriculum. These difficulties include designing learning activities, developing indicators based on essential competencies, lacking innovation in applying various learning strategies/models in optimizing 21st-century skills (communication, creativity, critical thinking, and collaboration), and difficulty choosing technology-based media. From the problems stated above, workshop activities are needed by presenting material related to the concept of independent learning and how to design a one-sheet lesson plan model, as well as various innovative learning and how to evaluate it.

Workshop

Training activities in designing learning can help teachers design appropriate lesson plans (Spooner et al., 2007). Workshop activities begin with the delivery of material related to the duties of professional teachers who are not only required to be skilled in teaching but must be skilled in evaluating and designing lessons. So far, learning design is considered only an administrative task, while implementation in the field does not follow the teacher's lesson plan. This condition will impact the student learning process and the achievement of learning objectives and competencies that

students must have (Iqbal et al., 2021). Apart from being seen as mere administration, Lesson plans with many components and a rigid format cause teachers to feel they are wasting too much time designing learning activities rather than preparing and evaluating the learning process. This condition causes a change in the Lesson plan design to become a Lesson plan one-sheet of an independent learning model based on active learning. The difference between the old Lesson plan and the Lesson plan one-sheet lies in its accessible format. It consists of three components from the previous 13 components to make learning activities more efficient, effective, and student-oriented. The three components of the independent learning model Lesson plan consist of learning objectives, learning activities, and assessment assessments, so one sheet is enough to design. Workshop activities are shown in Figure 1.

Figure 1. Workshop on the Development of the Lesson Plan for the independent learning model

Furthermore, the presenter explained how to formulate indicators and learning objectives and apply various innovative learning models to develop student competence. Some of the innovative learning models are problem-based learning, project-based learning, discovery learning, and STEM. Previously learning models were chosen because these learning models can improve high-level thinking competencies and students' 21st-century skills (critical thinking, creativity skills, communication, and collaboration) (Darhim et al., 2020; Guo et al., 2020; Purwaningsih et al., 2020). So far, teachers have not understood the differences in the innovative learning models suggested in the Indonesian curriculum. The difference from the learning model lies in the learning steps. The workshop activities ended with the division of groups to design lesson plans for independent learning and evaluation models. This activity is beneficial for the teacher. The enthusiasm for questions and answers during the workshop activities showed these results. Some questions asked by the teacher are:

Respondent 1

"Why do we have to study various innovative learning models? In my opinion, the demand to study many different learning models is ineffective because looking at the old education system with the lecture method alone proves that many successful students can still achieve their goals!"

The speaker's response

Nowadays, times have changed, marked by the development of technology, which causes job competition to become increasingly stringent. So that we as educators must prepare quality human resources so that when students graduate, students can survive and compete in the world of work in the future. If students are only required to memorize, how can they adapt when they are already at work? Inevitably, we, as educators, are required to optimize our students' abilities. Teachers must also want to learn to keep up with the times. We train students so they can communicate well, think and collaborate.

Respondent 2

"The changing times have caused many students today who do not have bad character. How to deal with these students?"

The speaker's response

The development of the era also impacts the development of information technology, students today and students in the past are very different. In the 21st century, many students have been spoiled with technology that helps them. In the 21st century, many students have been spoiled with various kinds of technology that help them. This condition causes students and parents to be less cooperative/communicative. As a result, students cannot observe social life in their environment. Students are more dominant in observing social media/the virtual world. The role of the school is significant, providing a good example, giving appreciation/awards to students so that students feel valued, and inserting moral

messages/experiences that can motivate students so that students are more sensitive to their social environment. Never use violence against students because today's students are in an online world, so those who pay attention to them are also their online friends. And that can be a boomerang for teachers/schools. We as educators must also be firm, which means not spoiling/ignoring if students make mistakes. For example, cheating on exams, being late for school, and others. So that students know which behavior is good and which is not good, and students can learn to be responsible for themselves.

Respondent 3

"In the current curriculum, there is a demand for skilled literacy. How is it different from learning in the past which memorized?"

The speaker's response

Literacy and memorization are different. Literacy is not just reading and then memorizing but also processing and understanding information. If memorizing is the ability to remember, memorizing is not necessarily understanding. Students only rely on memorization during tests/exams, so if they retake the exam with the same questions, they will not be able to do it because their ability to remember is short-term memory. Different if students can understand the information. If the student understands, he can relate/analyze one problem with another problem so that the student can solve their problem.

Survey after the Community Service Activity

Survey activities were carried out to explore teacher experiences in designing lesson plans. The survey results relating to the number of lesson plans made by teachers in one semester are shown in Figure 2.

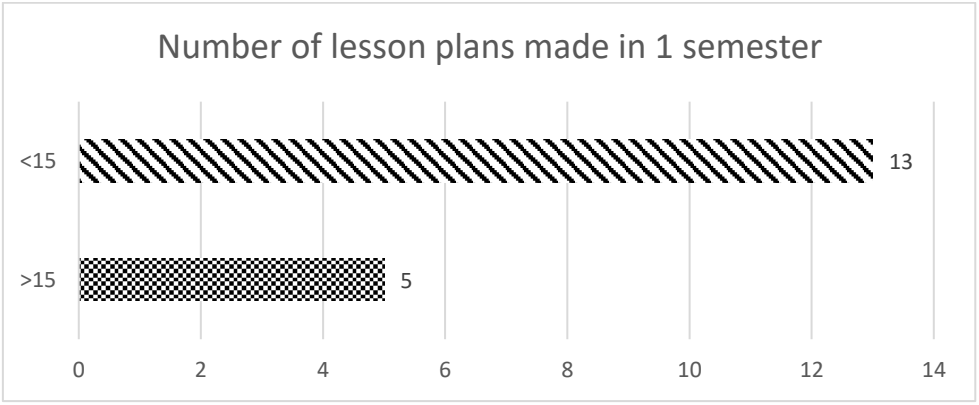

Figure 2. Number of lesson plans made in 1 semester

The survey results showed that, on average, 13 respondents had taught for more than ten years, four respondents had taught for more than five years, and one respondent had taught for less than three years. This result shows that most teachers are experienced in carrying out the learning process and know the characteristics of their students and infrastructure. Based on a survey of Madrasah Ibtidaiyah teachers in Baki District, 13 respondents compiled lesson plans for more than 15 lessons plans in one semester. In comparison, five respondents compiled Lesson plans less than 15 lesson plans. Furthermore, teacher independence in designing lesson plans is shown in Figure 3.

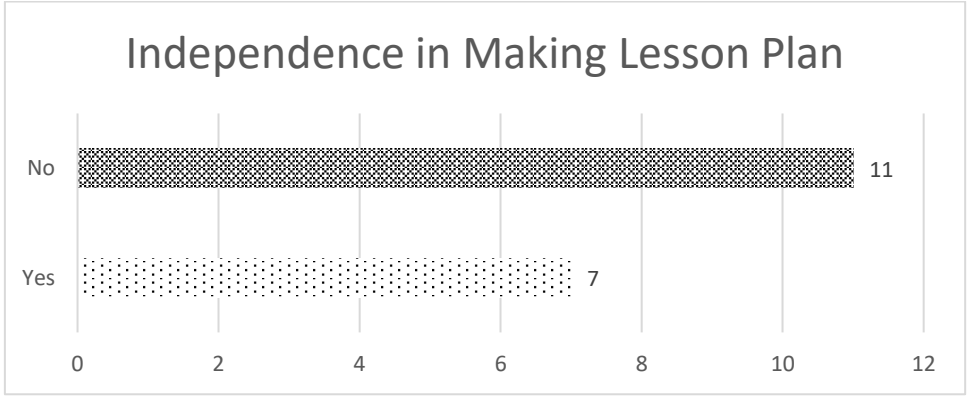

Figure 3. Independence in Making Lesson Plan

Based on Figure 3, 11 respondents stated that they had never made a lesson plan independently but looked for it from other sources. This situation will impact the lesson plan's suitability for the characteristics of students and their environment. Teachers must have the skills to make lesson plans independently. The importance of skills in preparing lesson plans is due to the needs of students, the characteristics of student learning, and the other infrastructure in each school (R. Garrett et al., 2019; T. Garrett, 2008). So, the teacher must adjust the demands of achieving learning objectives with different learning strategies. The next question is a follow-up to the previous question, the teacher who answered was not asked to determine where the lesson plan was obtained. In more detail, the Lesson plan sources used by teachers are shown in Figure 4.

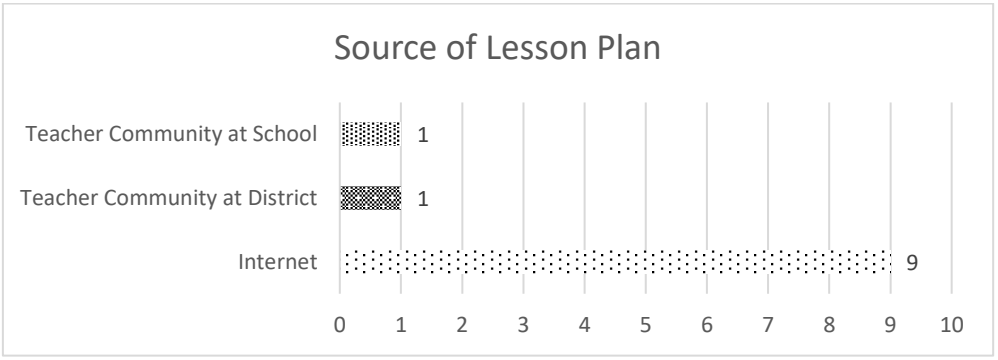

Figure 4. Lesson Plan Sources

Based on the survey results, the Lesson plans prepared by dominant respondents came from the internet (9 people), while one respondent was Teacher Community at School and Teacher Community in District. The next question is to dig up information about the teacher's awareness in making lesson plans. The teacher's reasons for making Lesson plans are shown in Figure 5.

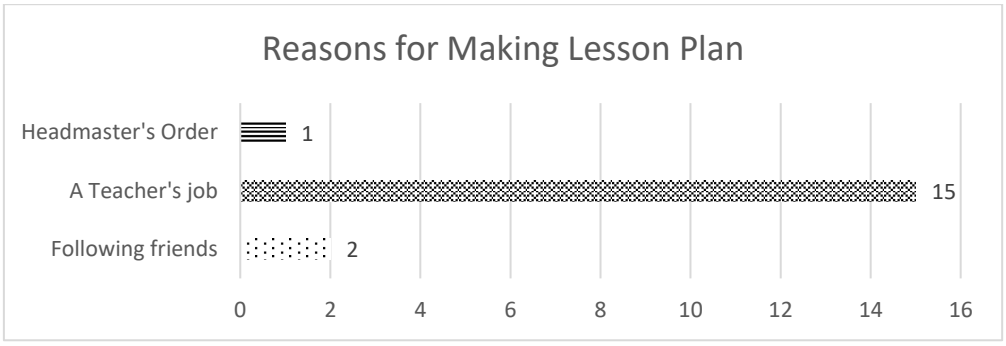

Figure 5. Reason for Making Lesson Plan

As many as 15 teachers answered that making a lesson plan is a teacher's job. The teacher realizes that making a lesson plan is something the teacher must do before carrying out the learning process. Volunteering to make lesson plans will determine the quality of lesson plans made by the teacher (Iqbal et al., 2021). One teacher believed that making lesson plans was an order from the principal. Two other teachers thought about making Lesson plans because they followed other teacher friends. The next question is about the contribution of the lesson plan made by the teacher in achieving the learning objectives. The results of the teacher's answers are shown in Figure 6.

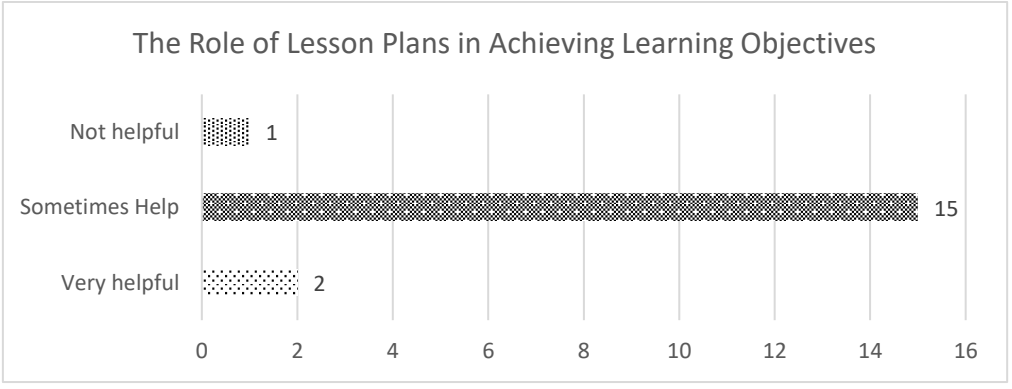

Figure 6. The Role of Lesson Plans in Achieving Learning Objectives

Based on Figure 6, as many as 15 teachers said that their lesson plans did not always help achieve the learning objectives. More seriously, one teacher stated that his lesson plan did not help achieve the learning objectives. The teacher's lesson plan cannot achieve the learning objectives because, so far, the teacher has not designed learning based on student characteristics and the conditions in their school. Lesson plans that are not following the characteristics of students will find it challenging to achieve learning objectives (Sesiorina, 2014). Besides that, based on the results of the teacher interviews, they also do not understand various innovative learning models and have not been able to formulate learning indicators. The achievement of learning objectives can be achieved if designing learning activities according to learning characteristics, infrastructure, and student learning needs (Bin-Hady & Abdulsafi, 2018; Milkova, 2005).

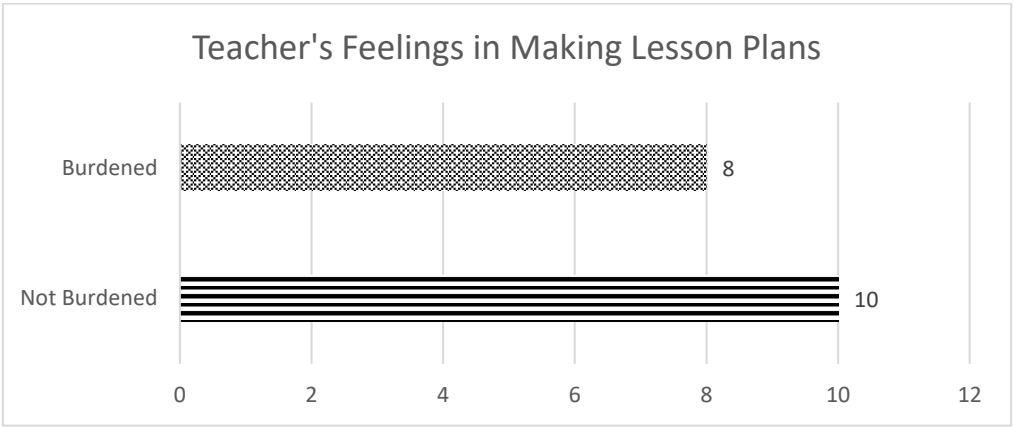

Figure 7. Teacher's Feelings in Making Lesson Plans

The survey results related to teachers' feelings in designing lesson plans showed that nine respondents said they were not burdened with making lesson plans, and eight respondents felt burdened. As many as eight respondents stated they were burdened because they felt they wasted much time designing the lesson plan. In the last question, the teacher was asked about the latest policy regarding the one-sheet lesson plan. The results of this question are shown in Figure 8.

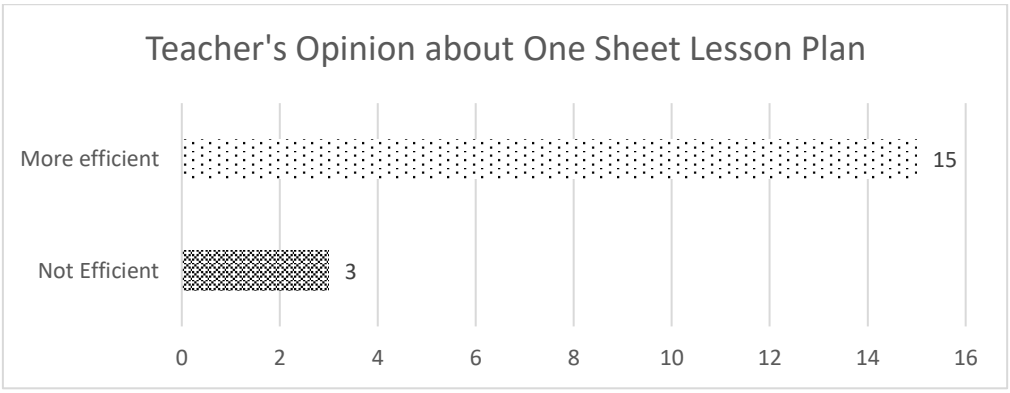

Figure 8. Teacher's Opinion about One Sheet Lesson Plan

Based on the survey data, according to one sheet Lesson plan is more efficient and effective than the 2013 curriculum, which is too complex (consisting of 13 components). Based on the results of interviews during the needs analysis, teachers cannot design their learning tools because there are too many components in the curriculum that waste a lot of teachers' time. So far, teacher plans have come from the internet.

After carrying out this community service activity, the teacher is assisted in understanding the independent learning curriculum and designing the lesson plan. So far, the lesson plan has only been considered the teacher's administrative task, so the teacher does not design a lesson plan based on student needs. Through the independent learning model lesson plan, it is hoped that teachers will be more independent in preparing student learning activities and focus more on the learning process and evaluation to improve the quality of their learning. A more straightforward lesson plan also helps teachers make innovations in their learning. Innovative learning can improve learning outcomes and student skills (Carter & Kurtts, 2019; Choi & Walters, 2018; Diniyyah et al., 2022).

This learning activity is in line with one of the 4th SDG's focuses, namely the development of innovative learning. Teachers are trained to make one-sheet lesson plans so they have the opportunity to develop their innovations in learning. Learning innovations developed by teachers will make learning more effective (Lee, 2011). Effective learning is one of the 10 more detailed focuses of this 4th goal (UNESCO, 2015). Learning effectiveness means changes in the

knowledge, skills and attitudes of students after the learning activities have been completed (Gaziel, 1997). Learning effectiveness will be influenced by learning style, course design, teaching and other factors (Lee, 2011).

CONCLUSION

The lesson plan is the teacher's reference in the learning process. The teacher is expected to be able to make a good Lesson plan so that it can have a positive impact on students. The old lesson plan format, which consisted of 13 components, has changed to a new format lesson plan or one sheet, consisting of three components: learning objectives, learning activities, and assessment. Based on the needs analysis, several Islamic Elementary School teachers in Baki District, Sukoharjo, still find it challenging to create a new lesson plan format. The survey results show that in 1 semester, some teachers have made more than 15 Lesson plans. The sources used in making Lesson plans come from the internet. An analysis of student needs was not done before making a lesson plan. In other words, the lesson plan is only used as a requirement for the administration of the learning process. The teacher already realizes that making a lesson plan is something the teacher must do before carrying out the learning process. However, the teacher feels that the Lesson plan is not very helpful. This condition is because it is not adapted to the needs of students. The teacher is not burdened with making lesson plans and believes that one sheet lesson plan is more efficient than the old format lesson plan. After the workshop, teachers began to be able to understand the independent learning curriculum and design a new lesson plan format based on students' needs. The following recommendation is to train teachers to form a Professional Learning Community (PLC) to improve the quality of learning conducted by teachers.

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The implementation of effective computerized financial reporting procedure at a school foundation in South Jakarta, Indonesia

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ABSTRACT

Yayasan Pendidikan Daya Dutika Cenderawasih (YPDDC) is a school foundation in South Jakarta, Indonesia, that oversees six schools including two elementary schools, two junior high schools, and two senior high schools in three different areas, namely Cipete (South Jakarta), Cilandak (South Jakarta), and Pondok Aren (South Tangerang). YPDDC did not have an effective financial reporting. This caused financial managers at the YPDDC to experience difficulties in monitoring and evaluating the schools' financial reports. The objective of this community service was to provide an assistance in computerized financial reporting, which was implemented by making Standard Operating Procedures (SOP) for computerized financial reporting in all YPDDC schools. The benefit of. The method applied in this community service program is assistance which carried out in several stages, including: 1) the interview and observation stage; 2) the implementation stage; 3) the socialization stage; 4) the implementation and evaluation stage. The result of this assistance was there is an improvement at skills of the administrative officers and central financial officer about how to do computerized financial reporting by following the SOP. The results of this assistance program was the creation of SOP for computerized financial reporting which was ready to be implemented.

Kata Kunci
Standar operasional prosedur
Laporan keuangan
Sekolah
Yayasan

Implementasi prosedur pelaporan keuangan terkomputerisasi yang efektif pada yayasan sekolah di Jakarta Selatan, Indonesia. Yayasan Pendidikan Daya Dutika Cenderawasih (YPDDC) adalah sebuah yayasan sekolah di Jakarta Selatan, Indonesia, yang menaungi enam sekolah yang meliputi dua SD, dua SMP, dan dua SMA di tiga wilayah berbeda, yaitu Cipete (Jakarta Selatan), Cilandak (Jakarta Selatan), dan Pondok Aren (Tangerang Selatan). YPDDC tidak memiliki pelaporan keuangan yang efektif. Hal ini menyebabkan pengelola keuangan di YPDDC mengalami kesulitan dalam memantau dan mengevaluasi laporan keuangan sekolah. Pengabdian masyarakat ini bertujuan untuk memberikan pendampingan pelaporan keuangan terkomputerisasi yang dilaksanakan dengan membuat Standar Operasional Prosedur (SOP) pelaporan keuangan terkomputerisasi di seluruh sekolah YPDDC. Metode yang diterapkan dalam program pengabdian masyarakat ini adalah pendampingan yang dilakukan dalam beberapa tahap, antara lain: 1) tahap wawancara dan observasi; 2) tahap implementasi; 3) tahap sosialisasi; 4) tahap implementasi dan evaluasi. Hasil dari pendampingan ini adalah adanya peningkatan keterampilan petugas administrasi dan petugas keuangan pusat tentang bagaimana melakukan komputerisasi pelaporan keuangan dengan mengikuti SOP. Hasil dari program pendampingan ini adalah terciptanya SOP pelaporan keuangan terkomputerisasi yang siap diimplementasikan.

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INTRODUCTION

Information systems and technology are currently developing very rapidly in all fields, including in the field of education, especially schools. The use of information technology can provide various benefits in school operational and financial activities. In terms of finance, the use of information technology can be realized through financial reporting using a computer, so that financial reporting can be done more quickly and accurately (Nugraha & Setiawan, 2016). This makes the school financial reporting system more up to date, effective and efficient. With effective and efficient financial reporting, the decision-making process can also be carried out more quickly and precisely.

The financial system that is assisted by information technology, especially computers, should have become a system that is commonly implemented by schools at this time, starting from budgeting, financial recording, to reporting. One of the important things in implementing a computer-assisted financial system is data processing (Purnama & Estiyanti, 2021). Data processing in this case includes activities carried out to transform inputs into outputs. These activities must be carried out consistently in order to produce the expected output, so there must be a standard rule to control activities. These standard rules are formulated in the form of a Standard Operating Procedure (SOP). This SOP can be a planning tool, implementation guide, and control of data processing activities (Purnama & Estiyanti, 2021). This is important to keep activities running well and smoothly.

Computer-assisted financial management in schools is important, including in schools under the auspices of the Ministry of Foreign Affairs' Daya Dutika Cenderawasih Education Foundation (YPDDC). Even though schools are non profit-oriented institutions, financial management needs to be carried out properly as a form of accountability for the funds received, both from students' parents and from government grants and donations. Apart from that, funding for school programs also requires funds, which must be managed so that there is no deficit in the end. Financial management activities are also carried out in schools at YPDDC.

YPDDC is a foundation founded by Dharma Wanita Ministry of Foreign Affairs of the Republic of Indonesia. YPDDC houses six schools, including: 1) Cenderawasih I Elementary School located in Iskandarsyah, South Jakarta; 2) Cenderawasih III Elementary School located in Pondok Aren, South Tangerang; 3) Cenderawasih I Junior High School located in Cipete, South Jakarta; 4) Cenderawasih II Junior High School located in Pondok Aren, South Tangerang; 5) Cenderawasih I High School located in Cilandak, South Jakarta; and 6) Cenderawasih II High School which is located in Pondok Aren, South Tangerang.

YPDDC has a vision, namely "To become a school that excels in the formation of young individuals who have noble character, are physically and mentally healthy, excel in the use of information technology, have a national and international perspective, and become a center for the development of various intelligence potentials (multiple intelligence) with creative learning approaches and innovative". As of the change in YPDDC management in 2018, a revolution had been carried out in the financial management of each school. Prior to 2018, the financial reporting system at YPDDC schools was not only done manually, but there were also inconsistencies in the process of financial planning, recording and reporting. This was due to the absence of an effective control system from the center so that the financial reporting system can be carried out more routinely and consistently. Some schools did not even have records of cash income and disbursements because all cash obtained from student school fee payments was managed by the school principals, so the administrative officer of each schools did not know anything about financials and did not keep records.

Previously, the format for recording school finances was also not uniform, making it difficult for YPDDC to obtain periodic school financial reports. This also hindered YPDDC from compiling the foundation's financial statements. In addition, YPDDC also experienced difficulties in making decisions related to school finances. This had created a stigma among foundation administrators and supervisors that the financial reporting system in schools was not transparent and allowed fraud to occur. Beside of that, financial reporting in schools was carried out autonomously in each school so that the foundation could not directly monitor the flow of funds. Moreover, there was one school that did not routinely record inflows and outflows so that when the foundation requests financial reports, it only reported cash balances at the time of reporting.

Several types of funds managed by schools include funds from school fees/tuition fees, School Operational Assistance (Bantuan Operasional Sekolah/BOS) funds, School Committee funds, and grants/donations. With so many types of funds that must be managed, computer-assisted financial management is needed in order to avoid errors and abuse if it is done in a transparent manner. In 2018, a centralized financial management system was implemented by reporting school funds in real time to the foundation. SPP fund receipts from students were directly deposited into the foundation's financial officer to be allocated according to school programs that had been planned and proposed.

However, this had also not been implemented consistently because there was no SOP that had been agreed upon and enforced in YPDDC schools. To address this, YPDDC required standard rules in the form of SOPs for computer-assisted financial management. This SOP previously did not exist because all financial activities at YPDDC had been running without any written guidelines and rules that applied to all financial administration departments at YPDDC schools. Seeing this need, assistance is needed for making SOPs for effective financial reporting. The general objective of this assistance is to create SOPs for financial reporting at YPDDC, and specific objectives include: 1) providing assistance in preparing SOPs and flowcharts for computer-assisted financial management processes at YPDDC; 2) provide assistance in preparing financial

report formats at YPDDC. It is hoped that in the future YPDDC will have good and standard financial management and financial recording procedures, so that YPDDC accountability will also improve.

Assistance programs in school and foundation financial management had been successfully carried out at SMK Yafalah regarding the development of a financial information system (Fauzan, 2019); at the Islamic University in South Kalimantan regarding school financial management (Rinawati, 2021); at Sekolah Dasar (SD) Muhammadiyah 1 Krian, Sidoarjo regarding school financial management and at Taman Pendidikan Quran (TPQ) the Bintaro Jaya Grand Mosque Foundation regarding financial SOPs (Biswan et al., 2018). In addition, financial training has been carried out in terms of financial management and administration at Aisyiyah Kindergarten, South Tangerang (Dewi & Aminah, 2018) while in terms of financial planning, assistance has been carried out in preparing the school budget at the Muhammadiyah School (Indrasari & Putra, 2020; Putra, 2021). In terms of financial reporting, assistance was also carried out at Sekolah Menengah Kejuruan (SMK) Werdhi Sila Kumara Badung, Bali (Purnama & Estiyanti, 2021).

Based on the assistance that has been done before, it can be concluded that in financial management assistance is needed starting from planning, implementing financial management, to reporting. It is also important to be supported by computer-based financial management assistance. The importance of this assistance, one of which aims to increase the accountability of school financial administration (Nazaruddin & Putra, 2021). The objective of this community service program generally is providing an assistance in developing SOP of financial reporting in YPDDC. Specifically, the community service program aimed at giving assistance in arranging SOP of computerized financial reporting based on flow chart of the computer-assisted financial management and providing assitance in preparation of financial reports. Hopefully, after the assistance program, YPDDC have a proper financial management and a formal financial recording, so that YPDDC can improve its public accountability.

This accountability provided by YPDDC as a nonprofit oriented public organisation can support Sustainable Development Goals (SDGs). The implementation of SDGs nowadays are very important (Agrawal et al., 2022). SDGs was adopted by United Nation in 2015, which oriented in improvement of human lives, environment, and economic welfare simultaneously (Bose & Khan, 2022; Chauhan et al., 2022; Parmentola et al., 2022; Shayan et al., 2022; Voola et al., 2022; Zakari et al., 2022). Olabi et al. (2022) valued the purpose of SDGs implementation, namely providing information to decision makers, increasing and measuring sustainability performance, and improving data management and reporting practices. Meanwhile, previous studies (Aly et al., 2022; Ameli et al., 2023; Tetteh et al., 2022) showed that accountability must be revisited by strengthen the discussion or communication with stakeholders. Therefore, accountability has an important role in SDGs implementation.

According to Lauwo et al. (2022) who conducted a research in Tanzania as a developing country, the SDGs implementation is focused on development plan. Different from Tanzania, this community service program was focused on improving financial accountability through sustainability reporting. Meanwhile, studies regarding the implementation of SDGs in Asia are lack of clarity and the impact on accountability is limited (De Silva et al., 2022). Thus, the team of this community service program provided an assistance to a school foundation's financial reporting, which can contribute to accountability as an effort to improve the implementation of SDGs in Indonesia.

METHOD

The program was planned through coordination between the community service team and the YPDDC management to discuss the program details and the schedule of the series of activities. The subjects in this program were managers who works at YPDDC located in Cilandak District, South Jakarta (Figure 1). The method applied in this community service program is assistance. This assistance was carried out in several stages, including: 1) the interview and observation stage related to the process of financial management and document observation; 2) the implementation stage of assistance in the preparation of SOPs and financial report formats; 3) SOP and financial report format socialization stage; 4) the implementation and evaluation stage of SOP and financial report format. This assistance program focused on subject involvement in a series of problem mapping processes, formulating solutions, and preparing SOPs.

The partner in this community service program is Yayasan Pendidikan Daya Dutika Cenderawasih (YPDDC), led by Ms. Rikha Indah Sari as the head of the foundation. The headquarter of YPDDC is located at Kompleks Deplu Gandaria Jl. Cendrawasih, Gandaria Selatan, Cilandak District, Jakarta Selatan, Special Region of Jakarta. The assistance program was attended by 7 participants from the headquarter for each stages and 12 participants from the whole schools for each stages. The assistance activity was carried out for 4 months starting from the interview stage to the implementation and evaluation.

Source: Google Map

Figure 1. The Location of Yayasan Pendidikan Daya Dutika Cenderawasih

RESULTS AND DISCUSSION

The results obtained in this community service activity are in the form of well-executed assistance. Apart from that, in this activity, the community service team also succeeded in creating the participation of YPDDC managers in formulating solutions to the constraints faced in financial management. The activities of assistance in this community service program is described specifically in 4 stages below.

Stage 1: Interview and observation

The interview phase was conducted with YPDDC employees who were related to the foundation's financial management, payroll processing, receipt of school fees, and financial reporting, especially the YPDDC central financial officer and administrative officer in all YPDDC schools. Based on the interview, there is one general financial management activity, two specific financial activites (payroll management and school fee management), and reporting activities. The general financial management process can be described in Figure 2.

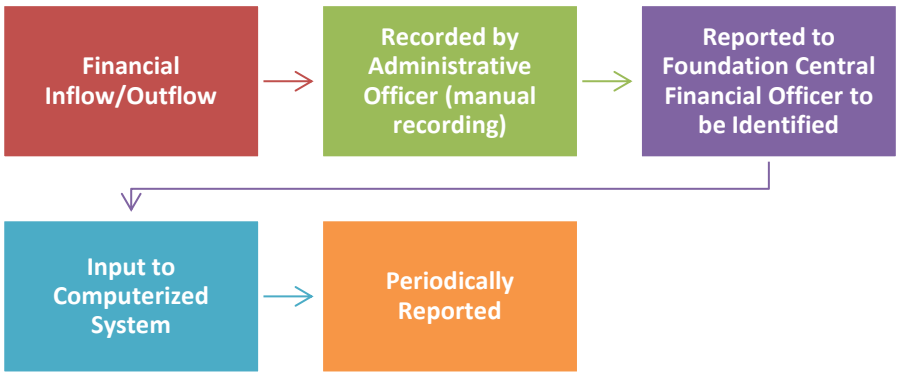


Figure 2. Prior Process of Financial Management

In general, financial inflows and outflows were recorded by the schools' administrative officers manually and then it is reported to the YPDDC central financial officer to be identified and being input to a computerized system for periodic reporting. This system is good if it can be implemented consistently, even though the recording by the school adiministrative officers was still done manually. However, the problem lied in recording and reporting which were not routinely and consistently carried out by schools. The results of this interview also alluded to the payroll processing and school fees processing which was also done manually by YPDDC schools.

The sources of financial income to YPDDC include deposits from schools originating from school fees paid by students and donations from external parties. As for the schools themselves, there were incoming funds from the government, namely School Operational Assistance/Bantuan Operasional Sekolah (BOS) funds. Meanwhile, the allocation of expenditure from YPDDC is for operational and personnel expenses, while school expenditure is for school operations and activities. Subsequent interviews were conducted to identify the payroll process. In payroll system, the process started with fixing personnel data which is done manually using Microsoft Excel, followed by dividing and distributing salary money in cash using envelopes (not transferred). This manual process raises the potential for calculation errors. For more details, it can be seen in Figure 3.

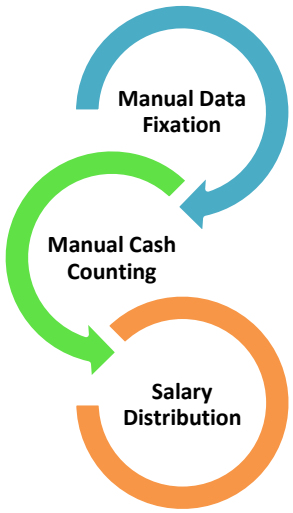


Figure 3. Prior Process of Payroll System

Furthermore, interviews were conducted to get an overview of the process of receiving school fees from students. The process of receiving school fees by each schools in YPDDC was done manually using a book. Students paid the school fee (cash) to the administrative officer and it was recorded using a book manually, including students' name, students' identification number, and the amount of payment. The foundation also allowed students to make payment in installments. The large number of students who made school payments in installments and the manual recording process made administrative officers find it difficult to make a final recap of school fees receipts for reporting to the YPDDC central financial officer. The flows of process in the management of school fees depicted in Figure 4. Cash inflow or outflow from students were recorded by administrative officer manually. Cash was managed by the school and reported to the central financial officer at foundation periodically. The foundation then made a recap of incoming/outgoing cash using MS Access to be processed into financial reports. After that, the financial reports were evaluated by the foundation and the foundation provided feedback to schools for improvement.

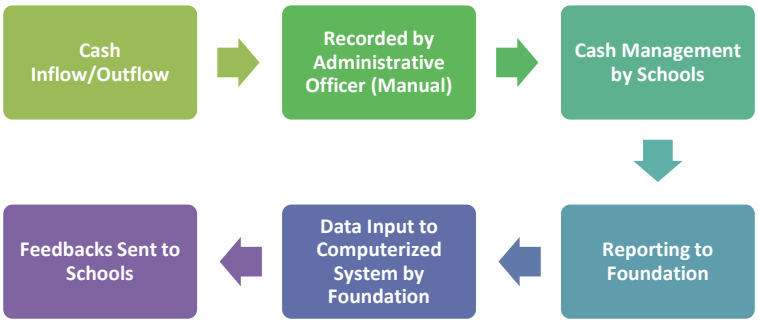


Figure 4. Prior Process of School Fees Management

Finally, interviews were conducted to gather information regarding the financial reporting process at YPDDC. The problem faced in financial reporting is that reporting from schools have not done regularly, so that foundations could not know a clear and up-to-date financial position. Overall, the results of interviews regarding the process of financial management concluded that several problems were identified, including: 1) the process of recording financials was not routine and consistent; 2) financial management used a manual system that has the potential to cause errors; 3) the foundation's lack of ability to exercise financial control in YPDDC schools. The stage after the interview process was

document observation. The documents observed were financial record documents, payroll records, contract documents, and the rules used in carrying out financial management. Based on the results of observations, YPDDC required standard SOPs so that financial management can be carried out properly. The prior process of financial reporting at YPDDC is presented in Figure 5. Then Figure 6 describes the urgency of what matters in the financial management at YPDDC.

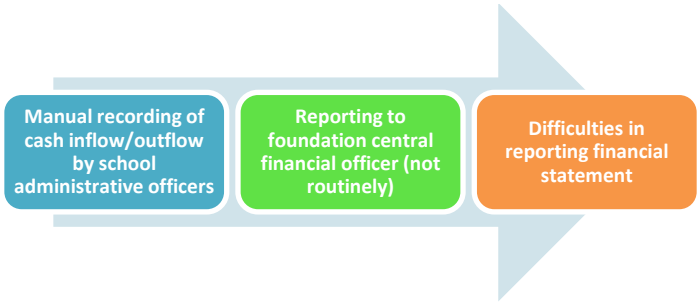


Fig. 5. Prior Reporting Process

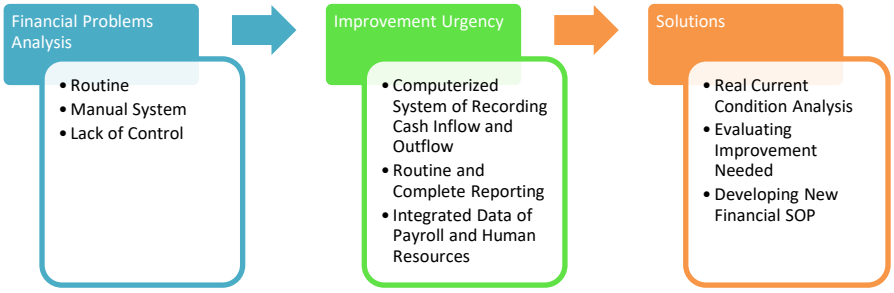
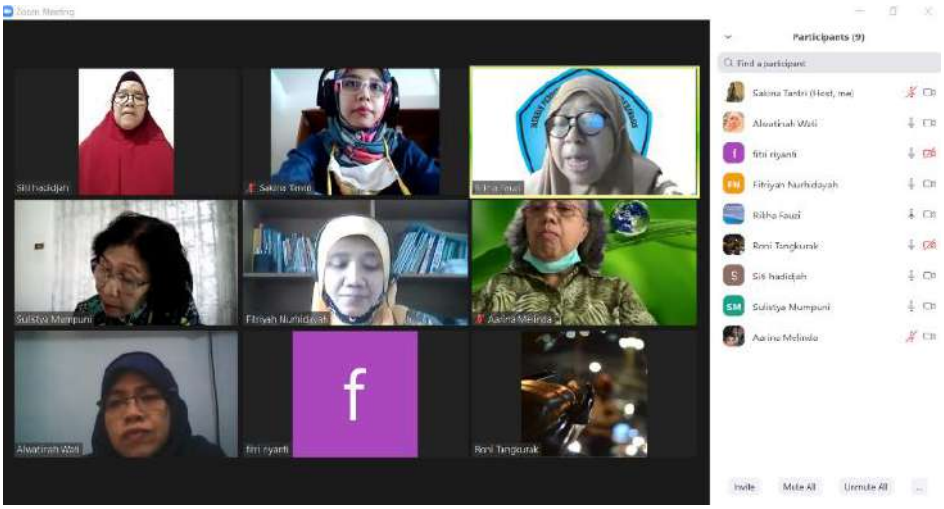


Figure 6. Urgency to Improve Financial Management

Stage 2: Implementation of mentoring

Assistance was carried out online (via Zoom Meeting), related to assistance in preparing SOPs and preparing standard financial report formats. The implementation of this assistance was attended by the community service team and YPDDC managers, namely the chairman, central financial officer, human resource departmen, and the facilities/infrastructure department, as well as the foundation supervisor.



Figue 7. Stage of Implementation of Online Assistance

The assistance was carried out for 5 (five days). The assistance process was carried out by prioritizing the activity of YPDDC managers in expressing ideas and determining what kind of financial management process flow is ideal for implementation at YPDDC, taking into account its applicability. SOP preparation was done by compiling a narrative and drawing a flow chart using MS Visio. Meanwhile, the preparation of financial report formats was carried out using MS Excel which was interconnected between the sheets for being used by school administrative officers. Meanwhile, financial reporting at the YPDDC central level was done using MS Access.

Stage 3: Socialization of SOP

The socialization stage was carried out to disseminate SOPs and financial report formats to schools in YPDDC. This socialization stage was carried out for one day. This socialization was attended by all YPDDC managers and the administrative divisions of YPDDC school administration. This event ran smoothly and all participants were able to understand financial management SOPs and were able to practice standard financial report formats. The standard financial report format prepared by YPDDC for school financial reporting consists of: 1) A database of types of incoming and outgoing funds; 2) Daily cash; 3) Monthly and annual financial recap; 4) Monthly and annual ending cash flow reports. All sheets were interconnected using Excel formulas to make it easier to input financial data and avoid errors in data input. The data obtained using MS Excel is reported by the school administrative officer to the YPDDC central financial officer at the end of each month and at the end of the year. The central financial officer inputs MS Excel into MS Access to create year-end consolidated financial reports.

Fig. 8. SOP Socialization Stage

Stage 4: Implementation and Evaluation

During the implementation and evaluation stage, monitoring and evaluation were carried out for approximately one month to see the implementation of the SOP and the implementation of the standard financial report format. This implementation phase included the following activities. The first activity was inputting all financial transactions in schools into the computer system in real time and synchronizing cash and records no later than once a week. Second, most of the cash in the treasury was deposited into the school's bank account to minimize the risk of cash misuse. The third step was implementation of a centralized financial system at the Foundation using a single account. The last step was changing the manual to automatic payroll system using the transfer method from the YPDDC single account to the personal accounts of employees (teachers and employees). Meanwhile, a centralized financial system was applied among others to: 1) manage tuition fees and other incoming funds from students; 2) manage funds received from the government (eg BOS funds); 3) manage funds received from other parties; 4) manage structured financial records by the Foundation based on reports from the school. After the SOP implementation phase and the standard financial report format have been consistent, an evaluation is carried out to find out the constraints and a solution plan for improvement in the following month. For more details, the mapping of constraints and the solution plan in this stage can be seen in the following table.

Table 1. The Implementation and Evaluation of SOP

Activities	Constraint	Follow-Up Plan
Human Resource Data Integration	Employees are reluctant to create personal bank accounts	The process of creating an account was simplified, in which the bank was presented to schools
SOP Implementation	The level of acceptance of SOP is not optimal	Conduct hearings and improvement plans gradually
Preparation for the new school year		Increasing the consistency and commitment of managers in improving and implementing SOPs

Based on the identification of the problems at YPDDC, the ideal financial flow starting from incoming and outgoing cash is to be processed at the school administrative records section using the MS Excel format via a computer. The designed financial flow can be seen in the Figure 9. It can be seen that the process of financial management is generally

shorter and more effective to be implemented in YPDDC. It can reduce human error and the length of time needed for information update.

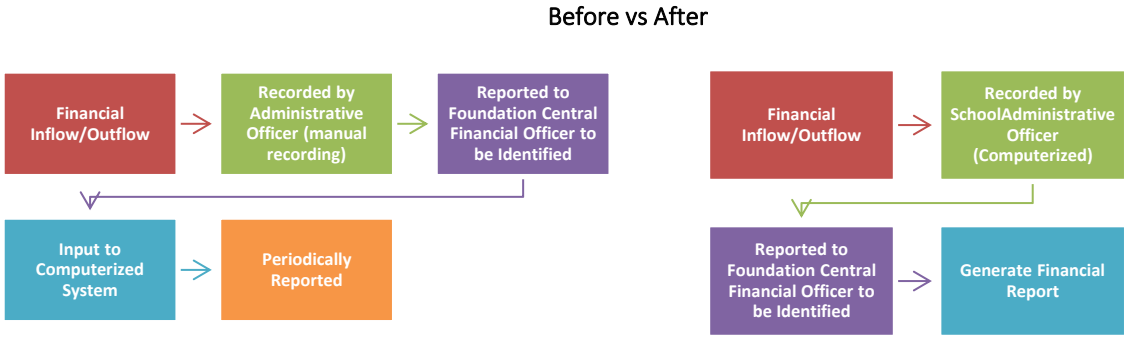


Figure 9. Prior and Current Design of Financial Management Process

The community service team also assisted YPDDC in developing SOPs regarding the management of school fees. Previously, school fee was given in cash and recorded manually. The assisting team suggested creating a centralized system using single bank accounts, thereby reducing the potential for fraud and errors. Thus, the assisting team recommended the foundation a new SOP which involves four entities, namely Students, Bank, School Administrative Officer, and Foundation. School fees originating from students are directly transferred to a single account owned by the foundation through a bank teller or can also be made via transfers between accounts/between banks. Then, two copies of the payment receipt are received by the students. The copy of payment receipt is submitted to the central financial officer of YPDDC, while the original receipt is saved by the students. YPDDC's central financial officer inputs school fee payments into the computer system using a special format for the tuition book to then generate student payment data. The payment data then being generated to student payment report. The report then is being input to students' database. Meanwhile, the administrative officer of the school gets the report of students' payment generated by central financial officer of YPDDC.

The students' payment report that contains reports to students is used as proof that students have paid their school fees on a certain date and amount. For more details, this series of activities can be seen in Figure 10.

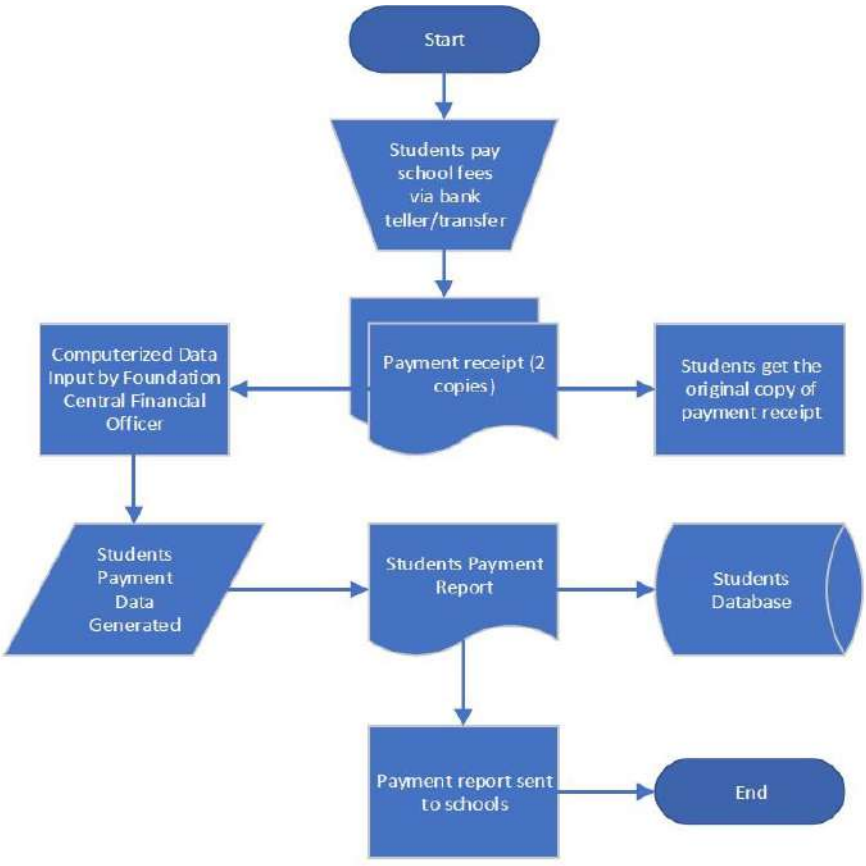


Figure 10. Flowchart of School Fees Payment Process

In the payroll system, the assisting team recommended stages which were segmented into four parts, namely schools, foundations, banks, and employees. Schools update data at least once a month and transfer data to the foundation. The foundation makes payroll decisions based on employee data and creates two copies of employee payroll documents. The salary list in the payroll documents contains a set of employee names, grades, years of service, and salary amount. The first copy of payroll document is archived by human resources department, the second copy is transferred to the bank appointed by YPDDC to transfer salaries to employee accounts. Proof of salary transfer in the form of bank transfer receipt from the bank is fully submitted to YPDDC and being processed further. Employees who have received salary transfers through their respective bank accounts receive pay slips sent by YPDDC through the school administrative officers. Figure 11 shows a recommendation for the management of the payroll system at YPDDC.

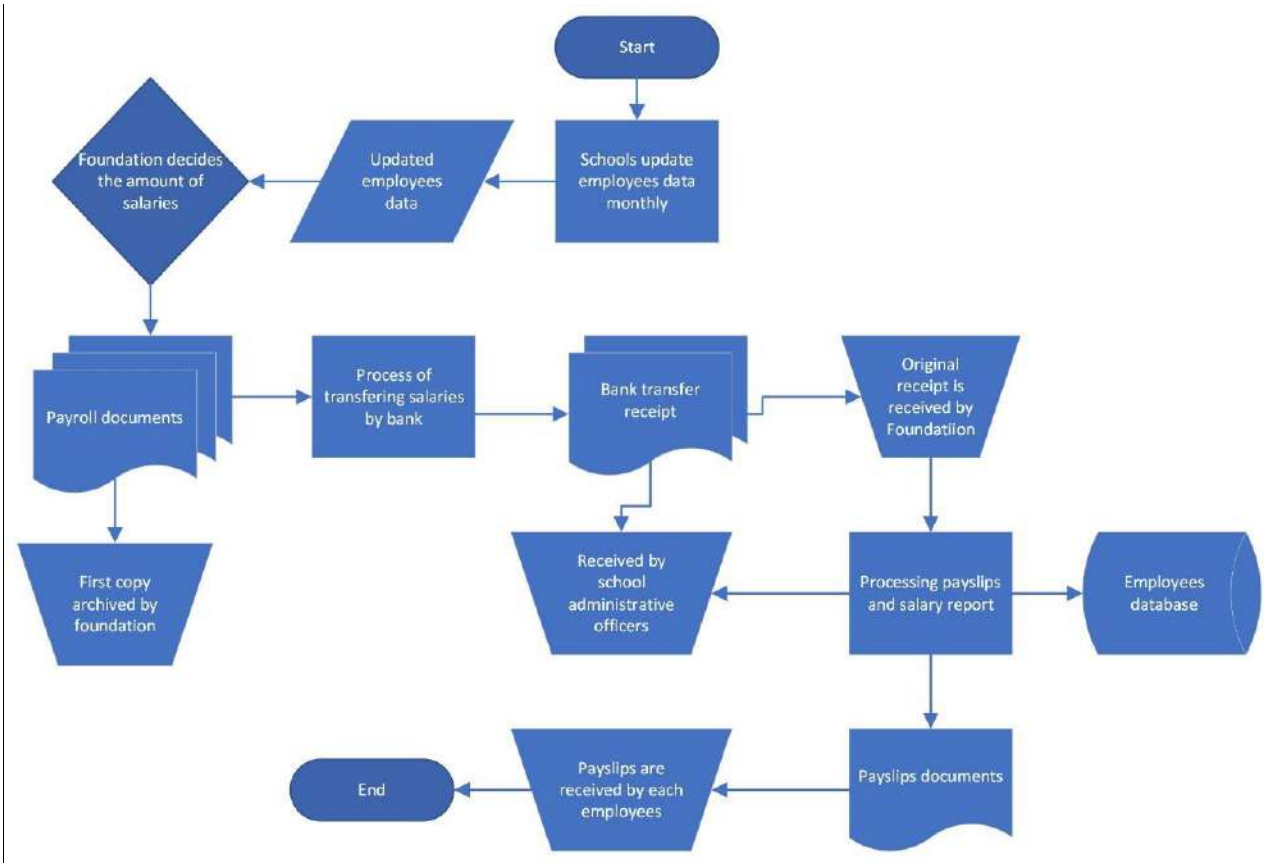


Figure 11. Payroll System Via Bank Account

In general, according to the team, the school financial reporting process at YPDDC was good, but it was not carried out routinely and consistently, causing difficulties for YPDDC leaders and managers in making decisions. The recommended flow of school financial reporting includes several stages, including the school budget planning stage which is sent to the foundation for one year, recording receipts and expenditures, reporting accountability for school activities, and preparing financial reports. YPDDC receives a school budget plan then creates a global plan for the entire school. Furthermore, YPDDC mapped out the allocation of revenue and use of funds.

In the current year and forward, YPDDC must request a school cash report at least once a month, and receive an accountability report on school activities and school financial reports no later than November of the current year so that the foundation's year-end financial statements can be prepared. YPDDC's financial reporting process has been carried out in accordance with the Financial Accounting Standards for non-profit entities. In accordance with the results achieved in the assistance program, the next program is developed into several follow-up steps, namely assistance to develop a timeline of activities that can be carried out together; assistance to carry out the strategies that have been prepared by YPDDC internal parties and support programs to improve the foundation's financial management; and assistance to YPDDC schools in carrying out periodic evaluations of the sustainability of the school financial management program.

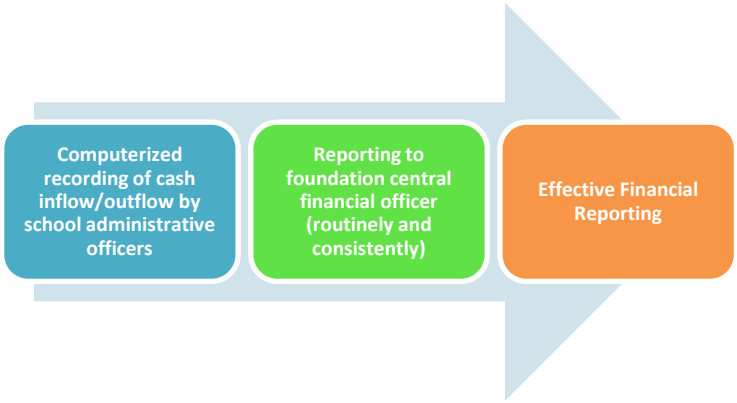


Figure 12. Effective Financial Reporting

During the implementation and evaluation period, obstacles were found, namely the lack of maximum acceptance of computer-based financial SOPs in general among schools. This can be explained using the theory of technological acceptance. Technology Acceptance Model (TAM) is a model that is widely accepted in various technologies, especially for predicting and explaining behavior (Zahra et al., 2019). Research on TAM found that TAM was able to explain the proportions in interest and behavior to utilize technology. The TAM construction (Venkatesh et al., 2003) shows that individual interest and behavior in using technology is influenced by: 1) perceived usefulness, namely the belief that by using technology, performance will increase; 2) ease of use (perceived ease of use), that is, someone believes that using technology does not require any effort.

TAM also concluded that the effect of external variables (eg system/technology characteristics, development process, training) on intention to use a new technology system is mediated by perceived usefulness and perceived ease of use. According to TAM, perceived usefulness is also influenced by perceived ease of use because the easier a system is to use, the more useful the system will be (Venkatesh, 2000). The TAM theory can be related to the acceptance of SOP in schools that is less than optimal. This can be explained that there is a tendency for employees at school to be comfortable with the existing system, so that when a new system appears, employees are still reluctant to accept it because they have not fully felt the benefits (usefulness) and ease of use (ease of use). Within one month, there is a possibility that employees are still in the process of adapting to the new SOP. It is necessary to carry out further studies related to perceptions of usefulness and perceived convenience according to employees of this new system and SOP.

CONCLUSION

Based on the process and implementation of community service that has been carried out, namely assistance in the financial reporting system at YPDDC, it can be concluded that the program has been going well according to the plans that have been set. This is evident from the enthusiasm of the participants in participating in the training. The implication of the series of mentoring activities that have been carried out is that not all new things, including new systems and SOPs at YPDDC, immediately receive maximum acceptance at all levels of staff. Even though YPDDC administrators already have a strong commitment and high consistency in the implementation of this new SOP, stronger commitment is still needed from all levels of staff in YPDDC schools so that the SOP can be implemented properly.

YPDDC needs to create a positive atmosphere in the process of adapting new SOPs in schools and communicate intensely regarding the obstacles to implementing this SOP with implementing parties in schools so that there is useful input for evaluation and improvement. Suggestions for improving this program are that the next program will provide more in-depth and comprehensive assistance regarding SOP improvement and the second stage of evaluation. The evaluation process can involve surveys of school and YPDDC employees using the TAM instrument to draw conclusions regarding the usefulness and convenience of the new system and SOP.

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Implementation of agricultural technology urban farming agrivoltaic based system to increase productivity and empowerment of farmer women's community

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ABSTRACT

The need for food and the need for community empowerment, the fulfillment of new and renewable energy and productive economic activity continue to increase in line with the explosive rate of population growth, this is also what underlies the joint targets of the SDGs in points 2, 5, 7 and 8. The Cemara Hijau Farm (KWT CHF) Farmer Women's Group located in the urban area of Malang city needs solving problems in the form of land expansion, access to sustainable irrigation, and optimum irradiation of crops. In this technology implementation activity, it is carried out to increase the active role of women and increase the agricultural productivity of KWT CHF with various limitations owned. Urban Farming with the vertical concept of agrivoltaic hydroponics can maximize land use in urban areas and photovoltaic-powered LED growlight irradiation can maximize energy and reduce operational costs. Implementation is carried out with the stages of Socialization, Installation, Collaboration, Training, Monitoring and Evaluation. The results of this activity are (1) agrivoltaic technology with a capacity of 1.35 kWh, (2) planting point capacity that can be created 476 points on an area of 8 m2, (3) utilization of circulation tubs as fish farming ponds covering an area of 6 m2 with a capacity of 60 fish, and (4) a 24-hour irradiation system with LED growlight. This community service program can increase the agricultural productivity of KWT CHF, provide added value activities, and reduce agricultural operational costs so that it has a positive impact on sustainable economic value for KWT CHF. For further development, a broader follow-up implementation is needed by involving many regional points by making pilot projects at KWT CHF as pilots for other regions.

Kata Kunci
Agrivoltaik
Pemberdayaan
Perkotaan
Pertanian
Produktifitas

Implementasi teknologi pertanian urban farming berbasis agrivoltaic untuk meningkatan produktivitas dan pemberdayaan kelompok wanita tani. Kebutuhan pangan dan kebutuhan akan pemberdayaan masyarakat, pemenuhan energi baru terbarukan dan aktivitas ekonomi yang produktif terus meningkat seiring dengan laju ledakan pertumbuhan penduduk, hal tersebut juga yang mendasari target bersama SDGs pada poin 2, 5, 7 dan 8. Kelompok Wanita Tani Cemara Hijau Farm (KWT CHF) berada di kawasan urban kota Malang membutuhkan pemecahan permasalahan berupa perluasan lahan, akses pengairan berkelanjutan, dan penyinaran tanaman optimum. Pada kegiatan implementasi teknologi ini dilakukan untuk meningkatkan peran aktif kaum perempuan serta meningkatkan produktivitas pertanian dari KWT CHF dengan berbagai keterbatasan yang dimiliki. Urban Farming dengan konsep vertikal hidroponik agrivoltaic dapat memaksimalkan penggunaan lahan di area urban serta penyinaran LED growlight bertenaga photovoltaic dapat memaksimalkan energi dan mengurangi biaya operasional. Implementasi dilakukan dengan tahapan Sosialisasi, Instalasi, Kolaborasi, Pelatihan, Monitoring dan Evaluasi. Hasil dari kegiatan ini adalah (1)teknologi agrivoltaic berkapasitas 1.35 kWh, (2) kapasitas titik tanam yang dapat diciptakan 476 titik pada lahan seluas 8 m2, (3)pemanfaatan bak sirkulasi sebagai kolam budidaya ikan seluas 6 m2 dengan kapasitas 60 ikan, dan (4)sistem penyinaran 24 jam dengan LED growlight. Program pengabdian masyarakat ini dapat meningkatkan produktivitas pertanian KWT CHF, memberikan nilai tambah kegiatan, dan mengurangi biaya operasional pertanian sehingga berdampak positif pada nilai ekonomis yang berkelanjutan untuk KWT CHF. Untuk pengembangan selanjutnya diperlukan tindak lanjut implementasi yang lebih luas lagi dengan melibatkan banya titik wilayah dengan menjadikan pilot project di KWT CHF sebagai percontohan.

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INTRODUCTION

The population explosion and the challenges to the problems of urban society are some of the problems that always arise in urban areas. It is estimated that by 2050 the world's population will increase to 9.7 billion people, based on BPS data it is estimated that >56% of Indonesia's population lives in urban areas (BPS, 2023; Tripathi et al., 2019). The size of the urban population is expected to continue to increase so that the phenomenon becomes a public concern and even a concern in the development of sustainable development goals globally at points 2, 5, 7, and 8. In particular, this issue has also received special attention from the urban community of Malang City, precisely in the Bukit Cemara Tidar Sukun Housing Complex, Malang City, some of these issues include (1) zero hunger, (2) empowerment of women's roles, (3) clean and affordable energy, and (4) decent work and economic growth.

Perumahan Bukit Cemara Tidar Malang is one of the urban areas that has economic and strategic potential geographically, with environmental conditions that support the development of food crops, this potential is realized by the local community with the existence of the Cemara Hijau Farm (KWT CHF) farmer women's group which is engaged in women's empowerment and is engaged in the agricultural and plantation MSME sector which has an important role in improving economy and food needs of the community (Muhammad, 2022). In carrying out its business and commercial activities, KWT CHF is limited to using unkempt land in residential areas which of course has no more than 1/4 ha available, even though land is one of the key components of productivity in sustainable agriculture in addition to that it must also pay attention to the limited energy and water resources components (Khan et al., 2021). The activities of MSMEs in agriculture are indeed potential in urban areas, but there are challenges in agricultural activities in urban areas, namely limited land, water access, and less optimal irradiation access. This urges science to find the best solution, one of the solutions is the application of agrivoltaic (Choi et al., 2021).

Agrivoltaic systems are technologies that can achieve the sustainable development goals, by reducing competition of land for food and land for electricity. Agrivoltaic systems are at the center of the relationship between electricity production, crop production, and irrigation water saving (Toledo & Scognamiglio, 2021). The working principle of agrivoltaic is the combination of agricultural land or plantations with solar panels (agriculture + photovoltaic). There are several models in the development of agrovoltaics. The first model is solar panels installed between rows of vacant land plants. The second model uses a green house, the top of which is plus solar panels with a certain distance. This distance is made so that sunlight can reach the plants (Walston et al., 2022).

In previous programs and activities several activities and efforts to involve local communities in agricultural activities have been carried out. The use of vertical farming technology in some places and communities is implemented to provide benefits for resilience to community citizens. However, some programs only focus on the implementation of agricultural technology and food security produced, without specifically involving women, the integration of the fisheries sector and aspects of new and renewable energy(David et al., 2022; Rahma Sari et al., 2022; Septya et al., 2022; Sukunora, 2022). In further application, automation technology supported by new renewable energy from solar panels has been implemented proving that the cost of electricity needed for the consumption of pumps and electronic equipment can be comprehensively reduced on a small scale. With this implementation, it is explained that it effectively has a significant cost efficiency impact, but its application is not specific to women's communities and is limited to small-scale farms that do not consume much electrical energy or use less than 1kWh per day and there has been no economic maximization of the use of nutrient ponds with other productive activities.(Arizona et al., 2022; Pamuji et al., 2022; Renreng et al., 2022). So that based on the description of the needs of KWT CHF partners and the evaluation of several implementations of similar activities in several regions, an integrated technology implementation between agricultural cultivation and automatic technology is needed supported by an independent energy supply from new and renewable energy here

In bukit cemara tidar housing, there is one productive community group engaged in agriculture, namely Kelompok Wanita Tani Cemara Hijau Farm (KWT CHF), which is a farmer group consisting of women from the surrounding community. Currently, the activities of the partner group are limited to carrying out organic farming of vegetables such as green spinach, red spinach, pakchoi, caisim, and kailan with a productivity of 7 kg per week. This is due to limited land, access to irrigation, and irradiation of plants. So that urban farming with the vertical concept of agrivoltaic hydroponics is a suitable solution to this problem. The vertical use of hydroponics maximizes land use in urban areas and maximizes access to sustainable irrigation with circultative water use and the use of photovoltaic-powered LED growlight irradiation can maximize energy use and reduce operational costs. So that it can increase the agricultural productivity of KWT CHF.

Based on this background description, in this program the implementation of urban agrivoltaic agricultural technology has been implemented through a training and mentoring approach accompanied by the manufacture of completeness of the technology used. This program is carried out to improve the food security program of urban communities in limited areas, increase the role of women in social development and public activities with economic impacts, support for new entrepreneurs to ensure the opening of job opportunities and the use of new renewable energy in carrying out productive activities. The training and assistance carried out includes aspects of digital technology management and marketing management in order to increase the reach and level of recognition of partner business products to consumers. In addition, it is also to realize the creation of food availability and security, women's gender empowerment, the use of new and renewable energy, and to decent work and economic growth community.

METHOD

Partner Profile

The Cemara Hijau Farm Farmer Women's Community or in Indonesia called Kelompok Wanita Tani Cemara Hijau Farm (KWT CHF) was located in Karang Besuki Village, Sukun District, Malang City, East Java Province is a Sustainable Food House Area (KRPL). The strategic location of KWT CHF was about 5 km from the State University of Malang as can be described in Figure 1 and no more than 10 km from several other well-known public campuses in Malang City. KWT CHF accommodates 30 active members of the surrounding household/community group. The productive resources and food crop land owned by KWT CHF have the potential to be developed as a high-value agribusiness business. However, because it is in an urban area that has narrow land and limited water supply. In addition, KWT CHF so far still uses a manual agricultural technology system or is run manually on limited land. The development of an urban farming system with the vertical concept of agrivoltaic hydroponics is a suitable solution to this problem. The vertical use of hydroponics maximizes land use in urban areas and maximizes access to sustainable irrigation with circulative use of water. Then the use of LED growlight can be used to provide irradiation to plants when there is no sun or can even be irradiated for 24 hours with photovoltaic power can maximize energy use and reduce operational costs.

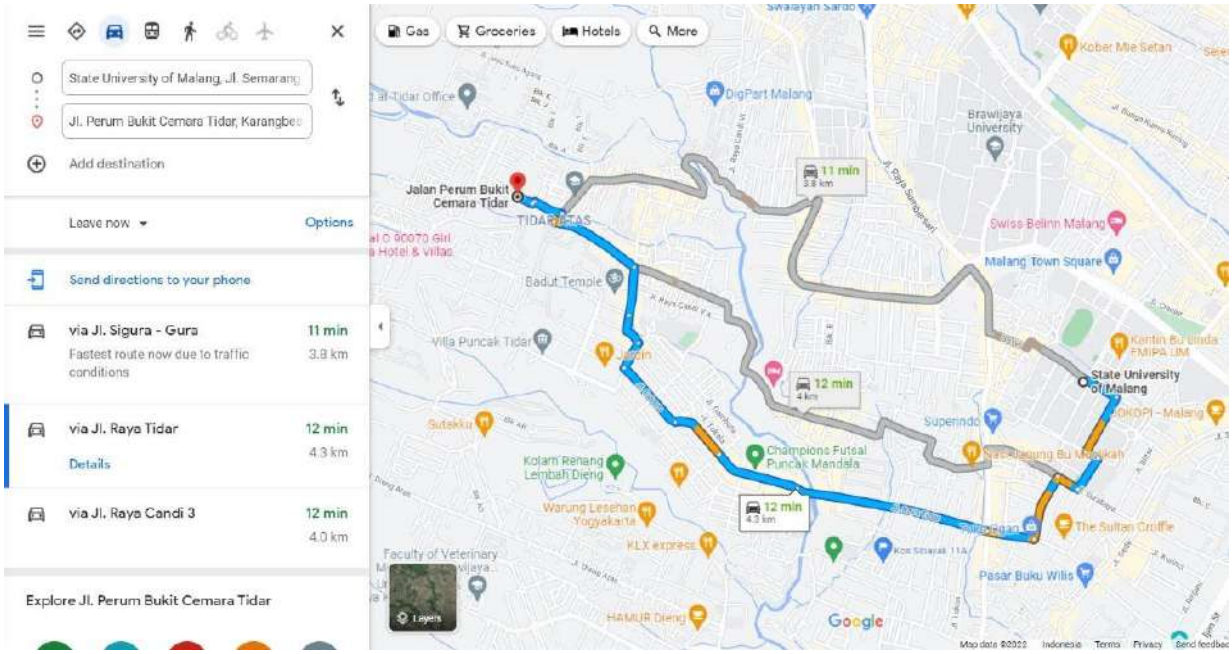

Figure 1. Map of the location of the partner area and its distance from the State University of Malang

Implementation methods

In general, the concept of Smart Urban Agrivoltaic Farming is a combined agricultural concept of vertical farming systems in a limited area accompanied by agricultural automation using electronic technology in the form of monitoring agricultural conditions, irrigation systems, 24-hour irradiation assistance with LED growlights and nutrient delivery which is carried out automatically by smart devices (Trommsdorff et al., 2021). All activities automatically carried out by the system require sufficient energy so that to minimize energy costs and energy burdens on PLN, energy sources in the form of new renewable energy are used, namely by integrating the agricultural system with the solar power generation system (Zheng et al., 2021). This agricultural concept is an agricultural concept resulting from research and development of science and technology, State University of Malang.

Agrivoltaic farming is a farm that combines the concept of agriculture that integrates indoor and outdoor agriculture with energy harvesting devices installed on the farm area regularly with a certain distance and plotting. The advantage of agrivoltaic farming is that it can be done agriculture as well as for electrical energy generation, where the electrical energy obtained in the future can be used to power agricultural systems and power LED growlights which can be used to irradiate plants when there is no sun or can even be irradiated for 24 hours. This agrivoltaic farming concept can also be integrated with other technologies such as smart farming with intelligent electronic control and urban farming (Reasoner & Ghosh, 2022).

Preparatory Stage

This preparatory stage aims to prepare and identify problems and needs in carrying out community service activities for the Cemara Hijau Farm Farmer Women's Group (KWT CHF). In preparing for implementation, several stages of preparation are carried out, namely there are 5 stages. The first stage was Identification of partner problems, carried out to obtain information on the characteristics, habits, ways of working, and needs of KWT CHF which will be used for problem analysis and making partner solutions. Second stages was prepare training materials and scenarios, compiled

based on the data obtained from the previous step. With this training scenario, the training implementation process will run in a structured manner and in accordance with the targets that have been set previously. The thrid stage was preparing supporting equipment, before the training is carried out, the equipment needed for training is first prepared, especially the completeness of the smart urban agrivoltaic agricultural system. This will facilitate the implementation of installation-training and shorten the installation and training time for KWT CHF. For the fourth stage was preparing materials, Before the training is carried out, the materials needed for training are first prepared, especially the materials of the smart urban agrivoltaic agricultural system. This will facilitate the implementation of installation-training and shorten the installation and training time for KWT CHF. And the last preparation stage was prepare guidelines for the use of technology, these guidelines will be useful to help KWT CHF to operationalize Smart Urban Agrivoltaic Farming during the training implementation process.

Implementation Phase

The implementation of this service is carried out with 3 major agenda groups. The first stage begun with Socialization of Service, The first step in the implementation of this service starts from the initial socialization of the service program that will involve KWT CHF. This socialization aims to equalize the perception between the service team and the KWT CHF in Karangbesuki Sukun, Malang City. Socialization will involve lecturers, students and members of KWT CHF. The second action was Installation, Furthermore, the installation process is carried out at partner locations in the form of vertical agricultural infrastructure, electronic device systems, and new renewable energy systems which will later be used to increase productivity and as equipment in training. The installation process will be carried out by students accompanied by professionals and under the supervision of lecturers. And the last implementation phase was Training and Assistance, the training activities carried out include assistance in the use and operational training of Smart Urban Agrivoltaic Farming with irrigation and automation technology systems. During this activity, it will involve students and lecturers who have competence in their fields. The training and assistance participants are members of KWT CHF and representatives of residents of Bukit Cemara Tidar Malang Housing.

Evaluation and Analysis Phase

Evaluation and analysis are carried out on the basis of observation and retrieval of data obtained before and after implementation. Changes in partner behavior, needs, and productivity are carried out by comparing the initial data obtained through interviews and observations before implementation to partners and then compared with the final data obtained through measuring the use of electrical energy, measuring electrical energy that has been successfully generated, measuring agricultural productivity variables, and observing the partner's ability to carry out training and mentoring results. The analysis is then performed by comparing the overall data before and after the implementation

RESULTS AND DISCUSSION

Urban Farming Agrivoltaic Kelompok Wanita Tani Cemara Hijau Farm (KWT CHF)

Agrivoltaic farming is a system that combines energy harvesting technology with agriculture. This kind of technology model is widely used in open land farms, but the disadvantage of open field farming systems in conventional agrivoltaic is that it requires a large area of land. The use of agrivoltaic also offers a new direction of development model, namely its use in closed agricultural systems such as indoor farming or agriculture on limited land in urban areas. Urban agrivoltaic farming itself in its sense is an agricultural and harvesting of solar energy in urban areas by using an urban farming model or vertical farming combined with harvesting electrical energy with solar panels placed on the nearest building to a certain height to obtain sufficient irradiation so that the energy produced can be used for operations from urban farming, conceptually it can be depicted in Figure 2 (Campana et al., 2021). The use of the urban farming concept itself is not without obstacles but has some limitations in irradiating sunlight to plants so that irradiation assistance is needed to accelerate productivity. The concept of agrovoltaic urban farming when combined with the use of ultaviolet LED Growlight can optimize plant productivity and growth.

LED grow lights used in this farm are LED grow lights with ultraviolet spectrum on a spectrum with a wavelength of 100-400 nm which is the best spectrum to increase the rate of photosynthesis and plant growth, so that this reason underlies the application of LED Growlight in urban agrivoltaic farming (Hartikainen et al., 2020). This increase in the rate of photosynthesis and plant growth is a factor in increasing the productivity of partners. In general, plants use sunlight to carry out photosynthesis, where plants will carry out metabolic reactions, namely catabolism and anabolism, in this case the energy derived from LED Growlight light is used to carry out photosynthetic anabolism reactions. The amount of intensity received by plants can affect the rate of photosynthesis of plants, so the use of LED Growligh which is implemented at night or in low solar lighting conditions can maximize and increase the effective time of photosynthesis rate in plants (Matysiak, 2021; Rahman et al., 2021). The photosynthetic reaction that occurs in the use of UV LED Growlight light is as an illustration in figure 3. With the help of LED growlight, anabolism in plants to carry out growth can be carried out in full, this is what spurs the acceleration of the growth and harvest period of plants(Ma et al., 2021).

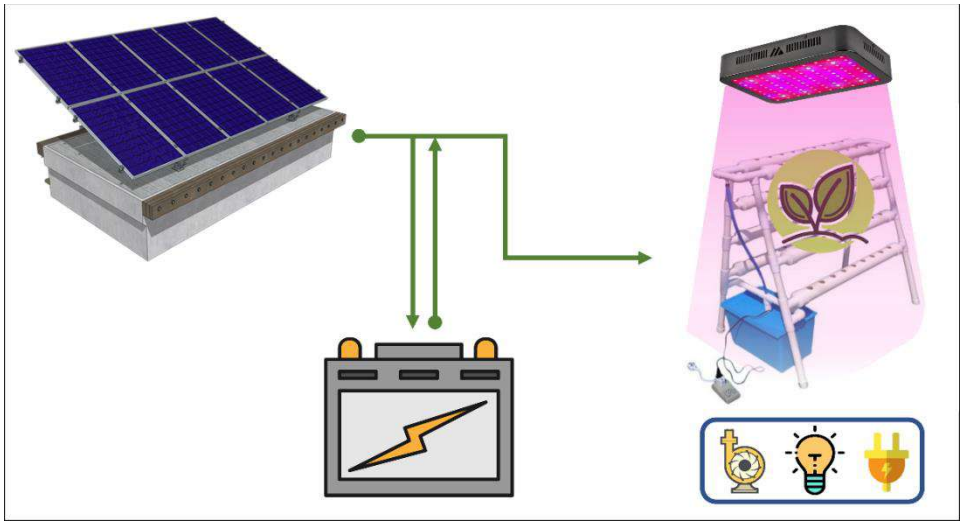

Figure 2. Urban Vertical Agrivoltaic Farming Technology Scheme

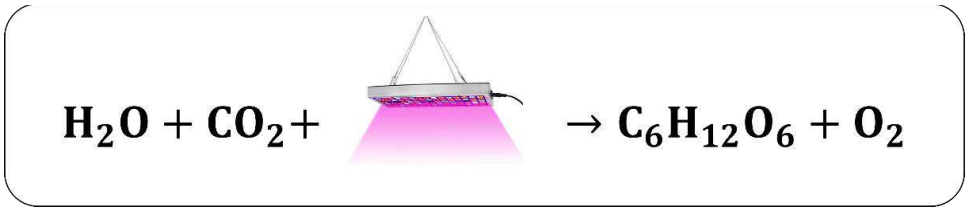

Figure 3. Photosynthesis reaction scheme with the help of LED Growlight

Other electronic devices besides LED grow light are circulation pond pumps, the use of electrical energy independently has an impact on reducing production costs and cost time on agricultural systems in the long term. The electrical energy created comes from the use of solar cells installed on the roof area of the urban farming area. In urban agriculture, the implementation of solar cells is advantageous because there are already high-rise buildings around the area that can be used for solar cell installation without creating new tall buildings. The solar cell installation in urban agrivoltaic farming KWT CHF is installed on the roof of the KWT CHF secretariat where the area is not used for buildings and has a sufficient open area and is far from shade so as not to interfere with sunlight irradiation. The installation set installed at the solar power plant includes solar charge controllers, inverters, batteries, mcb, power distributors, and cables.

The agricultural model implemented in urban agriculture is to use a hydroponic farming model with the DFT type, this model was chosen because of its simple installation, minimal land use, water saving, easy to modify, electricity saving and durable. The use of hydroponics is also combined with fish farming in ponds, so it can be said to be aquaponics. The pond used is a 120 L barrel which is a water circulation pond as well as a fish farming pond. With this agrivoltaic urban farming system, KWT CHF as a user gets a practical and effective agricultural system used for limited land and agriculture with an independent energy system so as to increase production capacity and reduce agricultural costs.

With the application of vertical agricultural technology equipped with automatic technology, especially in urban areas and supported by the use of new renewable energy, it has created a new pilot activity for local communities in maximizing vacant land in residential areas. As is the case with KWT CHF accompanied by a team from Universitas Negeri Malang, it can maximize the abandoned area next to the house to be used as a productive area in realizing new jobs and new sources of income for urban women's communities in malang city. This is in line with the spirit of the SDGs target in point 8 on productive economic activity to realize jobs through maximizing the latest technology to be implemented in small and micro business units (UMKM).

Training and Mentoring

The main focus of training and mentoring activities is for the operational use of tools and training on technical marketing management as well as training in hydroponic organic farming with vertical systems. The training involved KWT CHF members and the surrounding community while the assistance was carried out by involving KWT CHF members in small groups intensively. Figure 4 shows documentation at the time of training and mentoring. The training and mentoring materials carried out are Traning which includes (1). Vertical Hydroponic Farming, (2) Biopesticides for Vertical Hydroponic Agriculture, (3). Organic Fertilizer for Vertical Hydroponic Farming. And the last one is mentoring with the concept of Mentoring in the form of (1). Social Media Marketing, (2). Marketing Through Online Market Place, (3). Marketing Management and Business Model Canvas

Figure 4 shows the activities of Universitas Negeri Malang's team with the women's community in bukit cemara tidar housing in carrying out demonstrations, workshops and assistance in the implementation of agrivoltaic and automated

technology programs on agriculture at KWT CHF. By cooperating with the community, PKK mothers or women's communities can involve and realize women in building productive activities in the immediate environment that can have an impact on food security and economic activity. 21 women were successfully involved in this implementation activity and actively and enthusiastically implemented the program, so that in the implementation of the program can be described efforts to realize one of the SDGs values in point 5 on gender equality, increasing and strengthening the role of women in public activities.

Figure 4. Training and mentoring documentation

Realization of Urban Farming Agrivoltaic KWT CHF Technology

The realization of this program is the installation of the Urban Farming Agrivoltaic system in the form of hydroponic sets, circulation pool sets, solar power plant sets, and LED growlight installations. The various installations are used as a unit to increase productivity and lower the production costs of the urban farming system as presented in Figure 5. Figure 5 shows the actual condition of the implemented tool installation consisting of solar panels, vertical farm sets, automation and LED GrowthLight technology. The technical specifications of solar power plants used for the main energy source of urban agricultural systems are as table 1 solar power plants with these specifications can be practically suitable to be implemented in urban areas on roofs of houses or roofs with limited dimensions, and generally built or buildings in settlements have a tendency for roofs to experience direct irradiation without shady obstacles so that the application of solar power plants in urban areas is very suitable for installation on the roofs of buildings. In addition to having benefits for generating electrical energy, the installation of solar power plants on the roof is also structurally beneficial for buildings in providing shade impacts on the roof so that the building can have a lower temperature.

With the implementation of this technology, several areas can be maximized their usefulness for more productive activities without disturbing other activities. The use of new renewable energy, vertical farming that maximizes narrow land, fish farming activities by utilizing hydroponic ponds and tubs, as well as the use of automation technology equipped with the use of artificial irradiation with LED growthlight can effectively reduce production costs and maximize profits (Chae et al., 2022; Pollard et al., 2017).

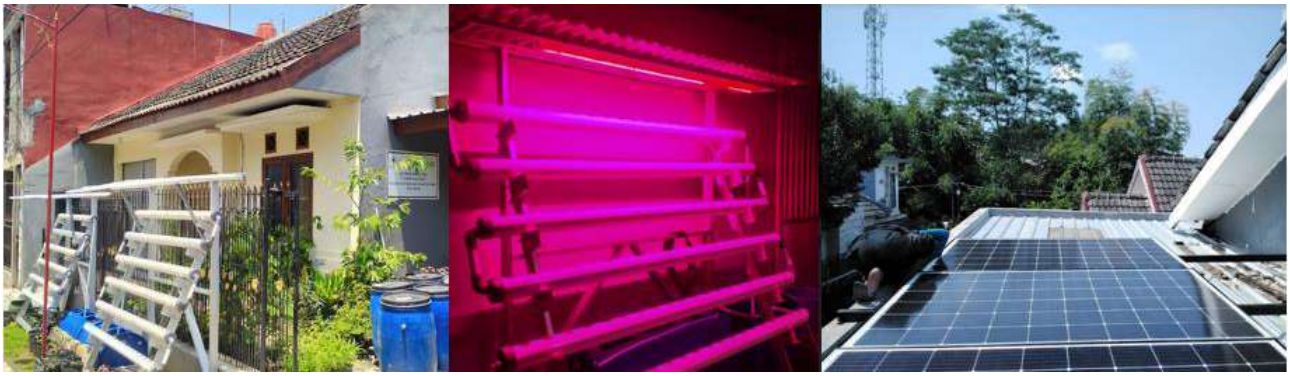

Figure 5. Documentation of the realization of the urban vertical agrivoltaic farming system

Agrivoltaic System Implementation Set and Specification

To realize the agrivoltaic system, first a hydroponic set is made and installed according to the desired capacity, by identifying non-productive partner land, the results of observation of 2 potential locations for hydroponic establishment, namely around or on the outside of the fence of the KWT CHF secretariat. The araea was not previously planted with any commodities because of its location above the ditch and it was not possible to plant it as productive land. On the basis of this potential, hydroponics is suitable for installation and establishment in the area because technically hydroponics can be installed vertically without disturbing the water alkali in the trench. Hydroponics is installed in 4 sets with specifications as table 1. The total planting capacity that can be installed is as many as 480 planting points, in addition to using these 4 sets is also followed by the installation of circulation ponds which are also used as aquaponic systems, the total installed ponds are 4 ponds with a capacity of 9-18 fish per pond or a total of 36-72 fish. The installed hydroponic installation is equipped with 4 circulation pumps and 1 balancing pump to perform water refill from the circulation pool.

Table 1. Specifics of hydroponic installations

Description	Qty	Unit
Hydroponic Set Height	190	cm
Hydroponic Set Length	200	cm
Hydroponic Set Wide	86	cm
Number of Planting Points	120	Point/set
Number of Shelving Tiers	6	Tiers
Fish Pond Type 1 Size	180	Litre
Fish Pond type 1 Capacity	18	Fish
Fish Pond Type 2 Size	90	Litre
Fish Pond type 2 Capacity	9	Fish

Hydroponic installations with the addition of LED Growlight have a large enough power consumption of up to 357 Wh with details as in table 3, to meet these needs the installation is not connected to the PLN grid but is supplied independently by using an offgrid solar grid system with a peak power of 1350 watt peak. The solar power plant is installed on the roof of the KWT CHF secretariat office with total specification as table 2.

Table 2. Technical specifications of PLTS offgrid KWT CHF

Description	Spec.	Unit
Max. Volatage	124.12	Volt
Max. Curent	13.16	Ampere
Max. Power	1350	WP
Length Dimension	3402	mm
Wide Dimension	1909	mm
Height Dimension	35	mm
Battery Capacity	5400	Wh
Instalation Potition	413	cm above ground

Tabel 3. Details of system power consumption load

Load Device	Technical Spec. (Watt)	Real Power (Watt)	Number of Installation	Total (Real Power x Nol)
Pump Type 1	50	37	2	74
Pump Type 2	35	23	3	69
LED Growthlight	50	24	9	214
Chopping machine	570	1390	1	1390

System Monitoring Results

The use of new renewable energy sourced from solar energy is carried out by installing solar panel energy generation installations on the roof of the KWT CHF secretariat house, the use of solar energy is aimed at supplying all electrical energy consumption needed by technological installations is also aimed at realizing one of the implementations of SDGs point 7 on the massive use of new and renewable energy. The use of new renewable energy in the productive sector can directly impact society and other productive economic activities. So that on target this implementation can be a pilot roject and a pilot for other communities. The advantage of using solar panels and new renewable energy is that this installation has low maintenance costs and can generate energy quickly for free (Jakhongir Turakul Ugli, 2019). In evaluating and testing the system that has been implemented, measurements and monitoring of the installation are carried out successively for 3 days.

To ensure the normal running of the system, monitoring of the power used by the system is carried out for 3 days, namely on September 27, 28 and 29, 2022. The recorded data shows the conversion of solar energy into electricity by the solar power plant system from 6 am to 6 pm with varying weather conditions. The highest optimum power was obtained up to 6806.55 Watts in scorching irradiation weather conditions and optimum power of 4400.61 during rainy conditions throughout the morning. Graph 5 shows the power data that has been converted each time, the peak power recorded when the highest scorching irradiation conditions are 1197 Wh and the optimum average time of exposure is when the sun has been at 10 a.m. to 2 p.m.

The electrical energy that is successfully converted is then used to power the electronic completeness of the system as shown in table 4 as long as the system is run with stable power consumption. In ensuring that the system can run normally by comparing supply and demand by solar power plants and electronic devices as shown in figure 5 with figure 6 and table 4 with table 5, a comparison is obtained that the power converted every day is sufficient to use to turn on the electrical device for 1 day running with the offgrid system. The use of this offgrid solar power plant system can have a direct impact on the cost of partner electricity for agriculture now to 0 rupiah.

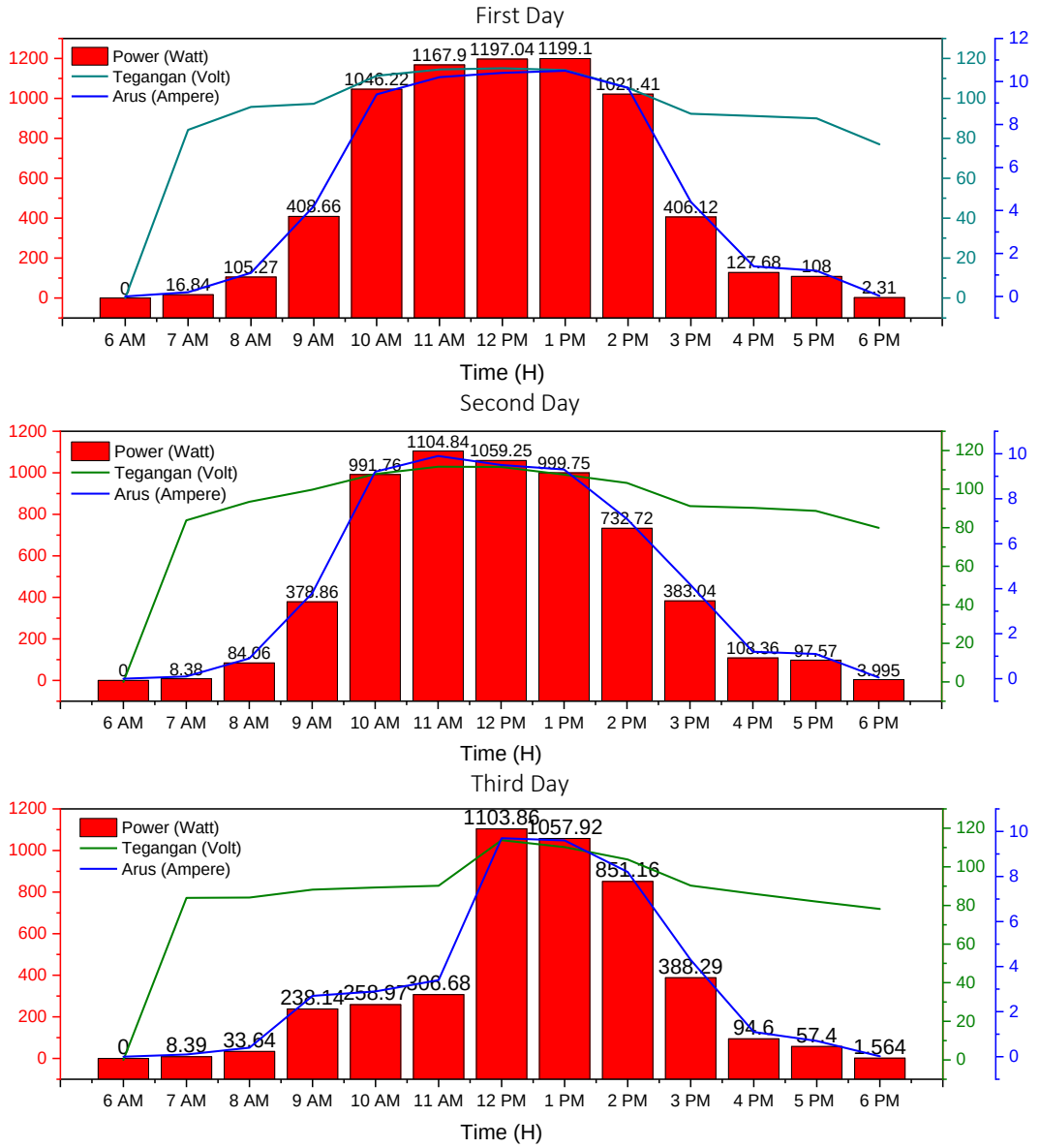

Figure 5. Solar power monitoring chart for 3 days from 06.00 – 18.00

Table 4. Total energy successfully converted by solar power plants

Day	Total energy generated (watts)
Day I	6806.55
Day II	5952.59
Day III	4400.61

Figure 5 and table 4 show the results of monitoring that has been carried out with different environmental conditions, namely rain, cloudy, and sunny. The amount of electrical energy that can be harvested or generated depends largely on the weather that is happening. So that the use of batteries with sufficient capacity plays a role in providing energy when the system lacks power from harvesting solar energy.

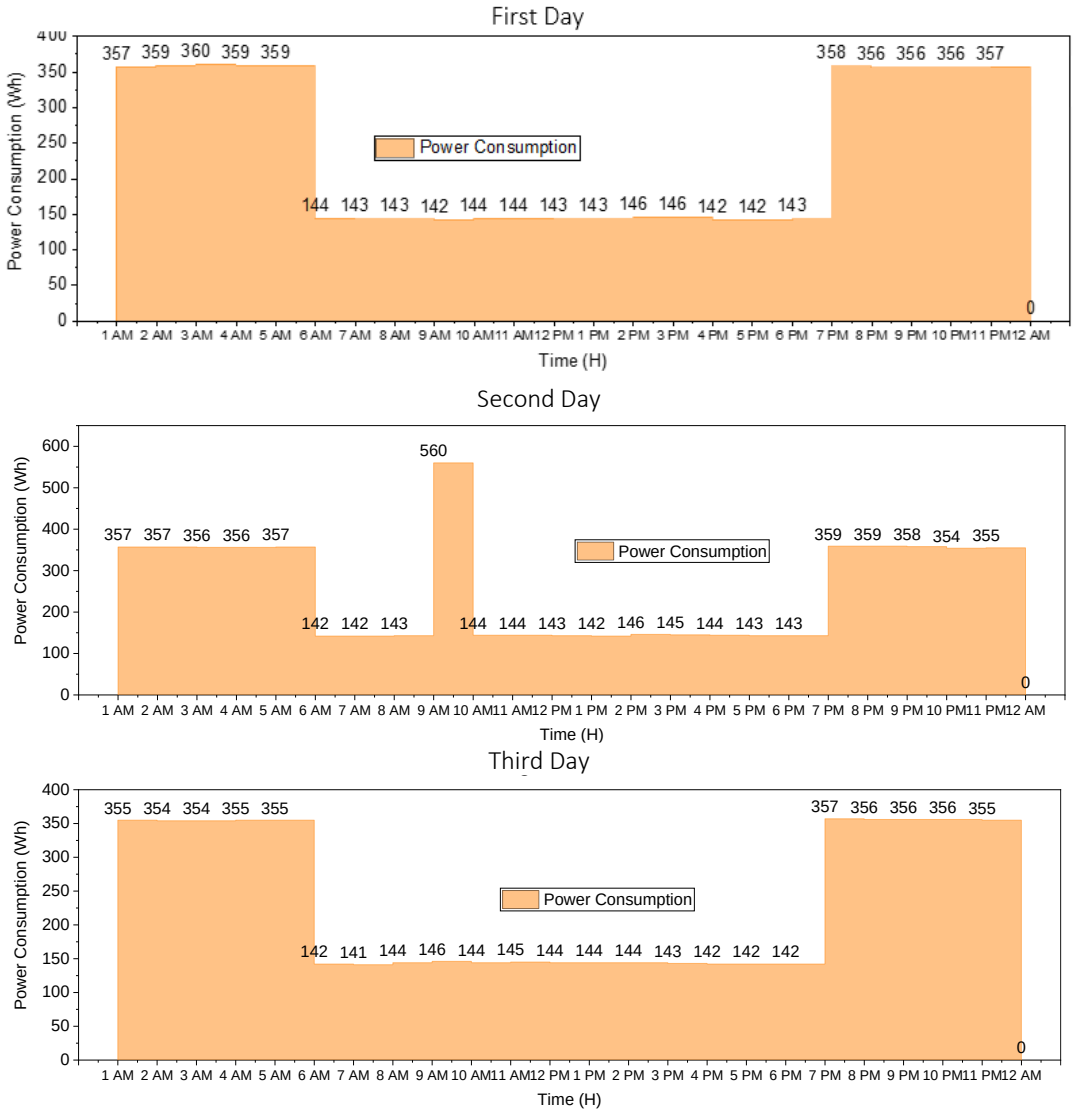

Figure 6. Graph of power consumption by the system for 3 days

Table 5. Total energy consumed by the system

Day	Total Energy Consumed (Wh)
Day I	5442
Day II	5843
Day III	5416

Figure 6 and table 5 summarize the average total energy required by the system to power the various electronic devices that are complete. A high level of energy consumption affects the energy reserves that can be stored by the battery for some time to come. Automated systems also play a role in this stage to save energy and ensure batteries and systems are protected from damage.

Increasing Agricultural Productivity of Partner Communities

Productivity is one of the important aspects in this community service program, there are several ways to increase productivity, including increasing the production aspect. The aspects of production that are the main focus in agriculture are land area and harvest speed. In realizing this, land expansion and efforts to accelerate plant growth are carried out. Land expansion is carried out by creating new productive planting points by taking advantage of existing limitations, the solution is the use of vertical farming. The use of vertical farming is carried out on several critical lands owned by

partners, with this strategy can be implemented and installed vertical farming system above the trench which was previously only enough for 75 planting points is now enough for 476 planting points, as for the description of the location of the installed capacity as shown in figure 7. As a result of the addition of land, it has implications for an increase in the number of crops that can be planted and an increase in the choice of diversity of crops that can be planted, so that agricultural productivity can increase significantly. As for the yields that have been successfully carried out by partners, there is an increase as described in table 6, the increase that occurs ranges from 5-10 Kg on the same land area using red spinach and pak choi vegetable commodities.

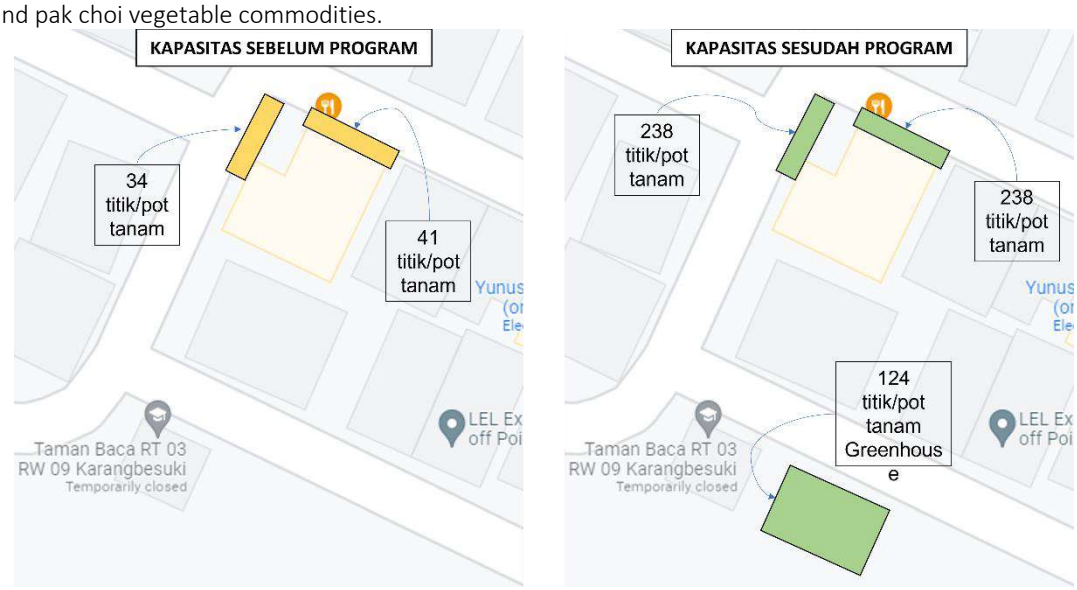

Figure 7. Location map and changes in partner land capacity before and after implementation

Table 6. Comparison of partner productivity at the same specific point / location of land before and after implementation

Before	After (Harvest I)	After (Harvest II)
1,2 Kg	7,5 Kg	8,2 Kg

Based on the results of the implementation of technology carried out for several weeks, it shows a significant increase in the productivity of agriculture on very limited land. This productivity is proven to be obtained through the increase in productive active areas using vertical farming breakthroughs and the use of LED GrowthLight in helping to accelerate the growth of food crops. With this food productivity, it can prove that to realize point 2 of the SDGs can be initiated and started from the environment and nearby places through the implementation of the latest agricultural technology as shown in table 6 and figure 7.

CONCLUSION

The community service program that has been implemented produces the installation of a vertical agricultural system with an agrivoltaic concept, namely the concept of agriculture assisted by UV light irradiation and with energy sources coming from offgrid solar power plants. The application of the agrivoltaic vertical farming system to partners of the Cemara Hijau Farm (CHF) Farmer Women's Group obtained results in the form of changes in partner performance, namely an increase in the number of productive land from partners at the same specific location from 75 to 476 points, an increase in productivity at a specific location from 1.2 Kg to 7.5 Kg in the first harvest and 8.5 Kg in the second harvest. Training and mentoring were successfully carried out to improve the skills and abilities of partners to operationalize Agrivoltaic system devices containing hydroponic systems, solar power plants, and vertical farming. Improving marketing and business management skills is carried out intensively with a limited mentoring and training approach to KWT CHF members so that promotional media is produced that actively uses social media.

The Implementation Program of Urban Farming Agrivoltaic Agricultural Technology to Increase Productivity and Empowerment of the CHF Farmer Women's Comunitty that called Kelompok Wanita Tani CHF in Malang City directly has an impact on the implementation of the SDGs contained in points 2, 5, 7 and 8 through the realization of increasing agricultural productivity of food commodities, opening up equal and decent jobs for women through agriculture in urban areas, the use of new renewable energy, namely solar energy to meet all the need for electrical energy of agricultural systems, and Optimization, initiation and increase of productive activities of small and micro business units through the use of cutting-edge technology to create new jobs and increase community economic activity, especially urban women in Malang City.

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Community assistance for mover teachers through the lesson study-based opening class movement

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ABSTRACT

The assistance for the Guru Penggerak (Mover Teachers) Community through the open class movement based on lesson study at SMPN 23 Pekanbaru was carried out from May to mid-September 2022, involving 32 teachers who acted as model teachers and observers. This assistance is carried out based on the Lesson Study (plan-do-see) stage. Implementation of the open class movement was conducted in four subjects: Science, Mathematics, English and Islam. In the Plan stage, the core team discusses lesson design, innovation, and agrees on a schedule and division of tasks. In the Do stage (open class), the model teacher carries out learning which is attended by observers and committee representatives. During learning activities, observers observe student learning activities. The See stage (reflection), the whole teams evaluate the implemented learning. The mentoring result show that students appear to be active and enthusiastic about learning. Teachers can work with colleagues to implement classroom learning by focusing on active, creative, effective, innovative, and fun learning. This Open Class Movement will be continued in five subjects so the entire community of subject teachers can work together in the learning community to improve the quality of learning in the Independent Curriculum Implementation, especially by the Mover Teachers.

Kata Kunci
Gerakan buka kelas
Lesson study
Komunitas guru penggerak
Pendampingan

Pendampingan komunitas guru penggerak melalui gerakan buka kelas berbasis lesson study. Pendampingan komunitas guru penggerak melalui gerakan buka kelas berbasis lesson study di SMPN 23 Pekanbaru dilaksanakan pada bulan Mei sampai dengan pertengahan September 2022. Pendampingan melibatkan 32 orang guru yang berperan sebagai guru model dan observer. Pendampingan dilakukan berdasarkan tahap Lesson Study (plan-do-see). Implementasi gerakan buka kelas pada empat mapel yaitu IPA, Matematika, Bahasa Inggris dan Agama Islam. Tahapan Plan tim inti mendiskusikan rancangan pembelajaran (lesson design), inovasi dan menyepakati jadwal serta pembagian tugas. Tahap do (buka kelas) Guru model melaksanakan pembelajaran dihadiri observer dan perwakilan komite. Selama pembelajaran observer mengamati aktivitas belajar siswa. Tahapan See (refleksi) oleh seluruh tim melakukan evaluasi terhadap pembelajaran yang telah dilaksanakan. Hasil pendampingan menunjukkan bahwa dari sisi siswa terlihat aktif dan antusias dalam mengikuti pembelajaran. Guru dapat berkolaborasi dengan teman sejawat melaksanakan pembelajaran di kelas dengan mengedepankan pembelajaran aktif, kreatif, efektif, inovatif, dan menyenangkan. Gerakan buka kelas ini akan dilanjutkan pada lima mapel sehingga seluruh komunitas guru mapel yang ada di SMPN 23 Pekanbaru dapat menjadi guru penggerak dan mampu bekerja sama dalam komunitas belajar untuk peningkatan kualitas pembelajaran dalam Implementasi Kurikulum Merdeka khususnya oleh Guru Penggerak di SMPN 23 Pekanbaru.

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INTRODUCTION

The efforts to improve the quality of education in Indonesia must be aligned with the efforts to improve the teachers' quality. Even though teachers are not the only party that has an important role in improving education quality, a teacher carries the most essential role in innovation. Improvement of education quality can start in a classroom through innovative learning processes. As a part of education, learning is the spearhead of determining whether or not educational goals are achieved. Thus, the quality of learning is closely related to the quality of education. Learning is a program that has the characteristics of being systematic, systemic and planned. Various components in learning include students, materials, methods, learning resources, teachers, and the interconnected and interdependent environment that take place in a planned and systemic manner. A program consists of a series of actions or events that have been planned and arranged through a well-established thinking process. Therefore, learning is a series of events that are systematic and systemic, which are designed and managed deliberately and carefully, so the learning processes apply.

Improving the quality of education can be initiated by improving the teachers' quality in teaching and behaving professionally. One of the forms is a teacher training. However, this frequently does not leave an imprint on the teacher's daily activities. This is what underlies the need for improvements that focus on real conditions in the field, starting from conditions in classrooms, schools and teachers. The effort of continuous improvement must begin from the bottom, not only from the school demand.

One model of a teacher development program to achieve learning quality in schools is lesson study. Lesson study is a model for teachers' development through collaborative and continuous learning assessment based on the principles of collegiality and mutual learning to build a learning community (Sumar, 2006; Suryaningtyas et al., 2014). Lesson Study is carried out in three stages, namely Plan (planning), Do (implementing), and See (reflecting). In other words, lesson study is a way to improve the education quality that never ends. Lesson study was first developed in Japan and became a well-known model in efforts to improve the quality of education through improving the quality of learning. Starting in 1995, lesson study spread to various countries, including the United States, through the activities of The Third International Mathematics and Science Study (TIMSS). In Indonesia, Lesson Study was developed through Indonesian Mathematics and Science Teacher Education Project (IMSTEP). The implementation started in 1998 in three IKIP (*Institut Keguruan dan Ilmu Pendidikan* – the Institute of Teachers Training and Education), which are IKIP Bandung (UPI), IKIP Yogyakarta (UNY) , dan IKIP Malang (UM) . This development program is also in partnership with Japan International Cooperation Agency (JICA).

Teachers' quality is a crucial factor that affects the academic quality (Anom, 2020; Hardianto, 2018; Mastra, 2019). The current problem is that Indonesia has many unresolved various problems, and one of the problems is the teachers. One of the teaching issues faced by Indonesia is the teachers' quality (Mangkunegara & Puspitasari, 2015; Sophuan, 2018; Susanto, 2012). Many teachers in Indonesia are not yet capable enough to teach the subjects they are in charge of. Many of them do not even have a linear educational background, and this issue will absolutely bring problems in the future. Understanding this situation, the Indonesian government has held a number of programs and efforts to assist teachers in improving their skills and abilities (Fani Prastikawati, et al., 2021; Khoeriyah et al., 2018; Rosy et al., 2018). To develop their professionalism, teachers can take several actions, such as attending seminars or teacher training, conducting research, continuing studies, participating in various activities related to improving the quality of education for students, etc. Another activity that can be applied as a solution to this problem is Lesson Study.

Lesson Study is believed to be successful in improving the practice of implementing learning where the teacher will plan, conduct, and reflect on the teaching that will be used as a further teaching improvement (Juano et al., 2019; Sarjani, 2020). Lesson Study is a collaborative process among teachers in identifying learning problems, planning a learning improvement, implementing learning, evaluating and revising the learning, teaching the revised learning, re-evaluating, and sharing (disseminating) the results with other teachers (Ahmadi et al., 2017; Hikmawati et al., 2018). Lesson Study is also interpreted as a professional process involving a communities of teachers who plan, observe, and improve their learning (Ario, 2018; Suryaningtyas et al., 2014).

Lesson study is a way to overcome the problem of implementing learning practices that have not been effective. The advantages of lesson study are that it can make students easier to understand what will be learned and improve the teaching method of the teachers (Nugroho et al., 2011; Nuraeni et al., 2017). The previous research states that lesson study is able to improve learning quality (Hidayat et al., 2019). Another research finding also states that the implementation of lesson study can improve teachers' teaching abilities (Effendi M, 2016).

Lesson study can function as an effort to implement in-service training programs for teachers. This effort is carried out collaboratively and continuously. Its implementation is in the classroom with the aim of understanding students better. Lesson study is carried out jointly among teachers. Lesson study is learning in a lesson. A teacher can learn about certain learning through existing learning displays (live/real or video recordings). Teachers can adopt to learning methods, techniques or strategies, use of media, and others, that are created by a performing teacher to be imitated or developed in their respective classes. Other teachers as observers need to do an analysis to find positive or negative sides of the lesson from minute to minute. The results of this analysis are needed as feedback for the performing teacher to improve. In addition, through this learning profile, the observing teachers can learn from learning innovations carried out by the other teachers.

The plan stage began with the model teacher and the core team together designed innovative learning that integrated PjBL-STEM. Teachers groups facilitated learning to produce innovative products. One of them was making a literacy garden from ecobricks by utilizing plastic waste. It is hoped that this product will motivate students to take 3R actions (Reduce, Reuse, Recycle). At SMPN 23 this environmental literacy movement is held every Saturday.

Despite its being a simple idea, lesson study is a complex process. Lesson study is a process that leads to teachers' collaboration in small groups to plan, teach, observe, review and report results on the implementation of individual teaching. The innovative teaching-learning process designed and developed in the lesson study is active, practical, fun, and effective. In practice, the lesson study activities are not instructive or patronizing, but they are conducted collaboratively between lecturers-teachers and teachers-teachers. This assistance activity for the teacher community aimed to increase the ability of teachers to design, implement and reflect on innovative, interactive and collaborative learning in learning communities based on lesson study stage.

METHOD

The assistance of the mover teacher (*guru penggerak*) community at SMPN 23 Pekanbaru took place from May to mid-September 2022. This assistance involved 32 teachers who acted as model teachers and observers. This assistance was based on lesson study, which includes Planning, Doing (implementing), and Seeing (reflecting) which was sustainable and continuous. The assistance schedule that had been implemented can be seen in the following table.

Table 1. Schedule of Lesson Study Assistance and Implementation

Stages	Day and Dates of Implementation	Location
Plan	Tuesday, 24 May 2022	SMP Negeri 23 Pekanbaru
Do	Thursday, 02 June 2022	SMP Negeri 23 Pekanbaru
See	Thursday, 02 June 2022	SMP Negeri 23 Pekanbaru

The first step was to plan a lesson that would be carried out in the classroom. This activity began with an analysis of the problems encountered in learning which could be in the form of subject matter or how to explain a concept, pedagogic aspects regarding appropriate learning methods that lead to effective and efficient lesson, or learning facilities that cover how to cope with the lack of learning facilities. Furthermore, teachers jointly searched for solutions to the problems that they face, then they included the solutions in the lesson plan, teaching materials (in the form of learning media and student worksheets), as well as evaluation methods.

Meetings were frequently held by the teachers in the context of doing the lesson-planning. As a result, it formed collegiality or partnerships between one teacher to another, so no superiority or inferiority of status resulted. They shared experiences and learned from each other. Therefore, through various activities within the framework of lesson study, it was expected that mutual learning situations would form, namely situations where these communities could learn from each other.

The second step in lesson study was the implementation (Do) of learning, which was to conduct the learning plans that had been jointly formulated in real classes. This step aimed to test the effectiveness of the learning model that has been designed. In this activity, one educator acted as a teacher, while another educator acted as an observer (observer) of the learning. The principal could also be involved in this activity as an activity guide and learning observer. The focus of the observation in lesson study was aimed at the interactions among students, between students and teaching materials, between students and teachers, and between students and their environment. The observer could record the learning activities through a video camera or digital photos for documentation purposes and further study material. The purpose of the observer's presence in the classroom, besides gathering information and evaluating the model teacher, was also to learn from the ongoing learning process.

The third step in this lesson study was to reflect (See). After the lesson was completed, a discussion was immediately held between the teacher who acted as the model teacher and the observer who was guided by the principal or designated personnel to discuss the learning activities that had been conducted. The model teacher began the discussion by conveying their impressions in carrying out the learning activities. Furthermore, observers were asked to deliver comments and the lessons learned from the conducted learning, especially with regard to student activities. Criticism and suggestions from observers must be delivered wisely and constructively. Conversely, model teachers should be able to receive input from observers for the improvement of subsequent learning. Based on the feedback in this discussion, the teacher could design a better lesson for the next occasion. In principle, everyone who was involved in lesson study activities must have obtained some learned lessons. Therefore, the impact was the establishment of a learning community through lesson study. The open class movement that had been carried out by teachers at SMPN 23 Pekanbaru was scheduled in the Table 2.

Table 2. Implementation Schedule of *Opening Class* Movement by Teachers of SMPN 23 Pekanbaru

Time/ Dates	Subjects/Models	Topic	Innovation	Observers
Thursday, 02 June 2022	Natural Science Teacher	Human Excretory System	STEM	• Afitrian Amran,S.Pd • M. Rofi Yunus, M.Kom • Yulfi, S.Pd • Erniliana, S.Pd
Friday, 05 August 2022	Islam Teacher	*Fardhu Kifayah Jenazah* Commemoration	Directed Learning	• Sri Wahyuni, M.Pd • Nur Hasni, S.Pd.I • Iftitahurrahmi, S.Pd • Maryani, S.Pd • Hj.Erniwiyanti, S.Pd
Tuesday, 23 August 2022	Mathematics Teacher	Cartesian coordinates	STEM	• Yustisiana, S.Pd • Nelli Susanti, S.Pd • Wirdahena, S.Pd • Julmis Akbar, S.Pd • Arita Martati, S.Pt • Rahmi Sustri, S.Kom • M.Afis T, SH
Monday, 05 September 2022	English Teacher	Expression of Agreement and Disagreement	STEM	• Yessi Putri, S.Pd • Rini Noviyanti, S.Pd • Dra. Deva Susila • Igustirawaty, S.Sn • Anisa Ramadhani, S.Pd • M. Rofi Yunus, S.Kom • Hartati, S.Pd • Satialisa, S.P

RESULTS AND DISCUSSION

Lesson Study is one of the teacher professional development strategies. Group teachers develop learning together. A teacher acts as a model teacher in carrying out learning. Meanwhile, other teachers observe the student learning process. This process is carried out during the learning process. The open-class movement at SMPN 23 was held from June to August 2022. The total number of teachers provided with assistance was 32 teachers with the profiles in the Table 3.

Table 3. Teachers' Profile

No	Profiles	N (%)
1	Male Teachers	4 (12.5)
2	Female Teachers	28 (87.5)
3	Employment Status (Civil Servant)	22 (68.8)
4	Employment Status (Non-Civil Servant)	10 (31.2)
5	Certified Teachers	20 (62.5)

The results of the lesson study activities carried out at SMPN 23 are the mentoring of the mover teacher community at this school starting from the Plan, Do, and See stages. Lesson study activities start from the planning stage which aims to design learning that can teach students how to enable students to actively participate in the learning process. A good planning is not done alone but done together. Several teachers can collaborate to enrich learning design ideas

Planning begins with an analysis of the problems encountered in learning. Problems can be in the form of subject matter, misconceptions, and pedagogic issues. The pedagogic issues refer to how to develop appropriate learning methods so that learning is more effective and efficien. Another problem is about facility problems, namely how to get around the lack of learning facilities. Furthermore, the teachers jointly look for solutions to the problems faced which are outlined in the lesson plan, teaching materials in the form of learning media and student worksheets as well as evaluation methods. Learning design activities can be seen in the Figure 1.

Figue 1. Designing Lesson Plans (*Lesson Design of Science Subject for* Science Class, Grade VIII)

The Plan stage is assisting teachers to design learning that can encourage students to learn in a pleasant atmosphere, so that the desired goals can be achieved effectively through active and creative learning activities. Good planning is not done alone but done together. Several teachers collaborated in this activity, so that the ideas developed were more varied. In the Plan activities it is agreed that it will be carried out in the Do stage (Figure 2).

Figure 2. Open Class Activities (Do) for Human Excretory System Material

The open class movement was carried out by the teacher at the Do stage by implementing learning innovations that had been designed with the core team. The learning process was observed by fellow teachers as observers. Learning was carried out using student-centered learning and students were actively involved in learning. At the end of learning students presented the results of their learning. In closing the implementation activities, students wrote down their impressions after participating in learning. The students feelt that learning is more fun and students became more enthusiastic in learning. The observer teacher observed and made notes as input on the learning carried out by the teacher and students during learning activities. Students showed their learning outcomes in each class opening movement as seen in Figure 3 and Figure 4.

Figure 3. STEM Project: Student's learning outcome presentation

Figure 4. Presentation of students' learning outcomes by the students' of the Movement to open the class of Mathematics Subject

The opening class movement was also attended by the parents of the students. They see directly the process of student activities participating in learning with the teacher. With the open class movement, parents have the opportunity to provide input on learning and appreciate learning innovations that have been implemented by teachers. The open class movement attended by parents of students can be seen in Figure 5.

Figure 5. Open Class Movement for the practice of washing death bodies (*jenazah)* attended by the chairman of the committee as a parent representative

The See stage was carried out by reflection after the class opening movement is done. Students' activities that have been observed by observer teachers in learning activities are expressed by each observer teacher. The observer teacher said that it was seen that students were more enthusiastic about participating in learning and were more responsible for completing assignments given by the teacher. The observer teachers also exchange constructive opinions in order to improve learning in the next class open movement. Reflection activities after learning can be seen in Figure 6.

Figure 6. Reflection activities after learning

Assistance for the Open Class Movement at SMPN 23 Pekanbaru is very beneficial for teachers. Teachers have been assisted in planning, implementing and evaluating the learning so that they could design andproduce and interesting

learning. The teacher observers provided input to the teacher and student learning activities. This activity will build a community of practice. Students are also enthusiastic in learning and give their impressions during learning.

Teaching and learning activities become interesting for teachers with preparation and implementation based on lesson study. At the end of the activity, the teachers gathered and asked questions about the lessons learned, revised and arranged the next lesson based on the results of the discussion. Through this open-class movement, teachers' self-directed learning skills are also trained in planning, implementing and reflecting on learning. The results of self-directed learning for SMPN 23 Pekanbaru teachers after receiving assistance based on gender can be seen in Figure 7.

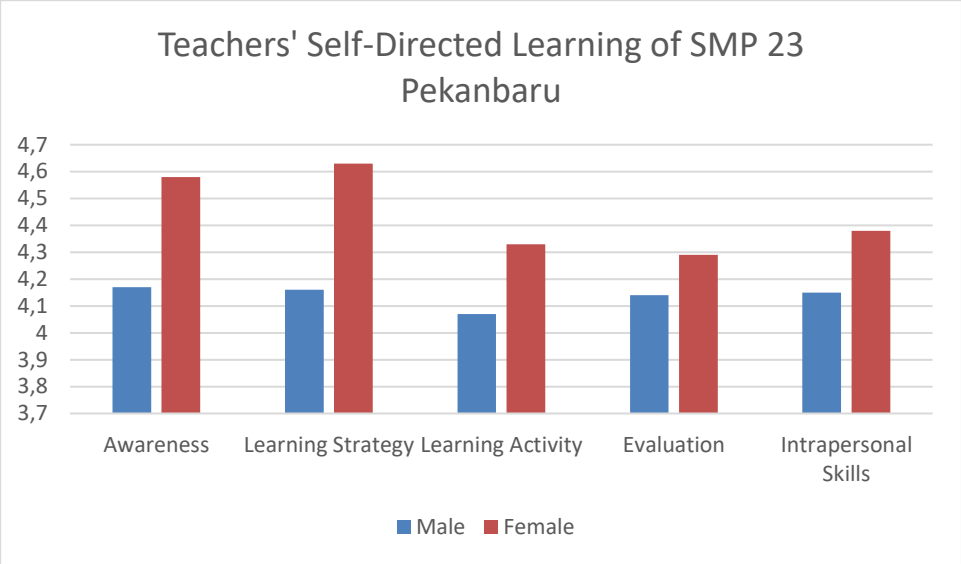

Figure 7. Average score of teachers' self-directed learning by gender

Figure 7 shows that the awareness aspect of male teachers gets a score of 4.17, and that of female teachers gets a score of 4.58; the learning strategy of male teachers shows a score of 4.16 and that of female teachers is 4.63; learning activities for male teachers score is 4.07 and female teachers is 4.33; the evaluation aspect of male teachers shows a score of 4.14 and 4.29 for female teachers; the interpersonal skill aspect of male teachers shows a value of 4.15 and 4.58 for female teachers, the average score of Self-Directed Learning of female teachers was higher. According to Bayındır & Dagal (2016) self-directed learning known as self-planned learning, self-education, self-regulative learning, independent learning and open learning. It refers to a process whereby taking individual responsibility by controlling cognitive (self-monitoring) and contextual processes (self-management). Overall it was found that the teacher's self-directed learning was in the low category. This shows that teachers still need ongoing assistance to improve their performance as professional teachers. The continued empowerment of the learning community, especially at SMPN 23 which has been and will be carried out with various activities to support the school literacy movement by making information barcodes on plants around schools, growing mini rice fields, various ecobrick-based ergonomic working tools like tables, chairs, etc (Figure 8).

Figure 8. (a) Processing of plastic waste into ecobricks; (b) Ecobricks; (c) Literacy garden from ecobricks at SMPN 23 Pekanbaru.

CONCLUSION

Assistance to teachers at SMPN 23 Pekanbaru based on lesson study has been found very useful for improving and transforming the learning and teaching strategies from both teachers and students. This assistance is expected to improve the instructional quality at this school. The students were actively involved and enthusiastic in every activity provided by the teacher. It has been observed that they had no significant difficulties. Teachers can collaborate with colleagues to carry out learning in class by prioritizing active, creative, effective, innovative, and fun learning. The open-class movement will be continuously carried out so that the entire subject teacher community at SMPN 23 Pekanbaru can become mover teacherss and be able to work together in the learning community to improve the quality of learning in the Implementation of the Independent Curriculum, especially by the Mover Teachers at SMPN 23 Pekanbaru.

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Waste bank to improve sanitation community awareness in Ceubrek Pirak Village, North Aceh

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Waste management

ABSTRACT

Some of the problems due to mismanaged waste include the potential of disease caused by bad sanitation and the risk of flooding when waste is thrown away to waterways or rivers. Therefore, it is necessary to sort and manage waste in a good manner to prevent disaster. One of the efforts to foster culture and change people's mindsets can be done by establishing Unimal Waste Bank. The main objective this activity is to develop a system in managing waste, especially inorganic waste through Unimal Waste Bank. The Unimal Waste Bank program is carried out in Ceubrek Pirak village, North Aceh Province for 6 weeks from September to October 2021. It was performed in some stages: location observation, socialization, collecting waste, and selling it. Community awareness and understanding about waste and environmental management is performed before waste bank is develop. The results showed that Unimal *Waste Bank is promising to develop in this area due to good community enthusiasm and awareness. Several benefits can be obtained from this activity, for instance they receive profit from selling inorganic waste to Unimal Waste Bank. Moreover, they also have a chance to receive rewards at the end of each month during this program. The waste bank is expected to run well and develop various services to improve people's welfare and quality of life.*

Kata kunci
Bank sampah
Pengelolaan sampah
Sanitasi

Peningkatan kesadaran masyarakat terhadap sanitasi melalui program bank sampah di Desa Ceubrek Pirak, Aceh Utara. Beberapa masalah akibat pengelolaan sampah yang tidak tepat, antara lain potensi penyakit akibat sanitasi yang buruk dan risiko banjir saat sampah dibuang ke saluran air atau sungai. Oleh karena itu, diperlukan upaya pengelolaan sampah yang baik untuk mencegah terjadinya bencana. Salah satu upaya untuk menumbuhkan budaya dan mengubah pola pikir masyarakat dapat dilakukan dengan mendirikan Bank Sampah. Tujuan utama kegiatan ini adalah mengembangkan sistem pengelolaan sampah, khususnya sampah anorganik melaui program Bank Sampah Unimal. Program Bank Sampah Unimal dilaksanakan di desa Ceubrek Pirak, Provinsi Aceh Utara selama 6 minggu pada bulan September hingga Oktober 2021. Kegiatan ini dilakukan dalam beberapa tahapan, yaitu observasi lokasi, sosialisasi, penerimaan sampah dan penjualan sampah pengepul. Sebelum kegiatan dilakukan, survey terhadap pemahaman masyarakat terkait pengelolaan sampah dan lingkungan diadakan. Hasil penelitian menunjukkan bahwa Bank Sampah Unimal cukup menjanjikan untuk dikembangkan di kawasan ini karena antusiasme dan kesadaran masyarakat yang baik. Beberapa manfaat yang dirasakan melalui kegiatan ini, antara lain masyarakat menerima keuntungan dari hasil menjual sampah anorganik. Selain itu, masyarakat juga memiliki kesempatan untuk menerima hadiah di setiap akhir bulan selama program ini berlangsung. Bank sampah diharapkan dapat berjalan dengan baik dan mengembangkan berbagai layanan untuk meningkatkan kesejahteraan dan kualitas hidup masyarakat.

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INTRODUCTION

As stated in Indonesian government regulation No. 18 of 2008, waste is the residue of human daily activities or natural processes in solid form. Meanwhile, in regulation No. 81 of 2012, Management of Household Waste and Household-like Waste regulation, it is explained that household waste is waste that comes from daily activities in the household which does not include excrement and specific waste.

The solid waste management system begins with the need to move used materials from settlements to special disposal sites to maintain cleanliness and sanitation. However, significant changes in terms of the quantity and composition of waste cause new problems, including uncontrolled stockpiling which contaminates groundwater, increasingly limited landfills (Suardi et al., 2018), social and health problems in the surrounding community landfill. Thus, solid waste management is built in an integrated manner starting from prevention to disposal, with the highest hierarchy and the one that is most expected to occur is prevention. This aims to maintain the conservation of materials, energy and land so that they can be utilized as much as possible and to protect human health and the environment. In this case, bank waste is managed as a system that connects the community with user materials.

The waste bank is an embodiment of community cooperation in managing their own waste. In its management, the community must have a creative and innovative spirit and an entrepreneurial spirit so that waste banks can be self-supporting. The waste bank is not infrequently used as a regional business organization to support the people's economy. Apart from that, it also helps improve the economy which has been hit hard by the pandemic. During the COVID-19 pandemic, it was reported that the amount of waste disposed of in landfill was significantly reduced, due to the closure of public facilities, shopping centers, schools, offices, etc. However, the waste in household activities actually increases in line.

In addition, the waste bank can also encourage people to change their behavior in disposing of waste, including sorting and managing waste, which has an impact on reducing household waste generation. On the other hand, waste bank also impacts community economic growth (Nisa & Saputro, 2021); (Masruroh et al., 2022). Moreover, this program supports the achievement of Sustainable Development Goals (SDGs) for improving community sanitation by making the environment clean, healthy, and comfortable.

Waste bank is a form of community cooperation in managing their own waste. In its management, the community must be creative, innovative and have an entrepreneurial spirit so that the waste bank can be self-supporting. Nowadays, waste bank is used as a regional business organization to support the community economy. This become a new paradigm to treat waste as an economical resource and can be utilized (Noventi, 2020). In addition, it also helps improve the economy that has been hit hard by the pandemic. During the COVID-19 pandemic, it was reported that the amount of waste disposed of in landfill was significantly reduced due to the closure of public facilities, shopping centers, schools, offices, etc. However, household waste increases, as reported by (Yousefi et al., 2021);(Yenni Ruslinda et al., 2020). This is in line with the Central Bureau of Statistics report, which states that household consumption is the highest source of growth until the 4th quarter of 2021. The Indonesian economy in 2021 grew by 3.69% after experiencing a growth contraction of 2,07% in 2020 due to the pandemic, which decreased drastically from 5.02% in 2019 (Badan Pusat Statistik, 2022). During the COVID-19 pandemic, when the community's economy was collapsing micro and macro, waste banks were promising to become a new economic source (Wulandari et al., 2017); (Ibad & Sakuntalawati, 2020).

Waste banks are one of the components of the circular economy in Indonesia. The circular economy is an approach that focuses on systems and involves industrial processes and economic activities that are designed in a restorative or regenerative manner, retaining the value of the resources used in these processes and activities as long as possible, and aims to eliminate waste through design, product, and superior systems (including business models (SAVE OUR SEAS 2.0 ACT, 2020) . The circular economy is also defined as being able to reduce material use, redesign products, and reuse "waste" as a resource for producing new materials or products (US EPA, 2022). Inorganic that can enter the circular economy system through the waste bank are recyclables and reusable materials such as metal, plastic, glass bottles, etc.

Unimal waste bank turns out to be the first waste bank in the target area, i.e., North Aceh District. The waste bank model is created by intervening in the culture and behaviour of the local community in order to improve environmental sanitation and the economy. The waste bank model that is implemented can be an asset for the government as well as recycling businesses and community organizations to duplicate the same activities in other regions. The objectives of this activity are to prove the benefits of the Unimal Waste Bank program in environmental and financial management.

METHOD

Unimal Waste Bank was held in Ceubrek Pirak Village, Matangkuli District, North Aceh Regency (Figure 1). The activity lasted for 3 months, August-November 2021. The location of Ceubrek Pirak Village is quite far from the city center, and its non-strategic conditions have resulted in a lack of government attention. One of the problems which needs more concern is environmental sanitation.

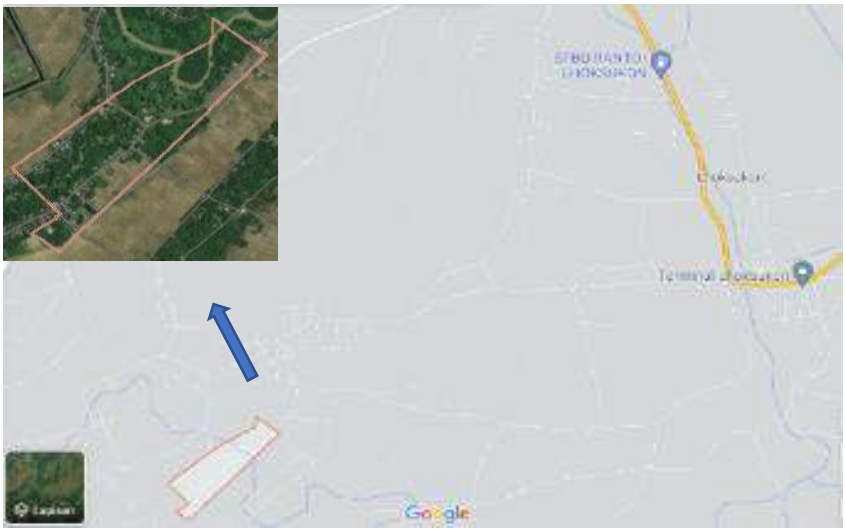

Figure 1. The location of the Unimal Waste Bank, Ceubrek Pirak Village, North Aceh Regency

Most of the population of Ceubrek Pirak Village are in the middle to lower economy with livelihoods as farmers and traders. Therefore, cultural and economic interventions through waste banks are considered to be useful and right on target. This program is called the Unimal Waste Bank.

This activity will be carried out by involving several partners who are directly related to the focus of problem-solving in the intended area. The partners engaging were local village officials and the North Aceh district local government. In addition, there are 20 students from several study programs at Malikussaleh University participated in this program as an implementation of a community service program.

Data collection in this activity was carried out through several stages, including field observations; socialization to the community to engage mutual cooperation of clean and healthy environment; provide guidance to create a sustainable Waste Bank; Scheduling inorganic waste collection once a week; and then costumer funding. To implement a reward-plus system, we provide rewards for active customers in order to increase their awareness. Data collection using the observation, interviews and questionnaires methods. The subjects involved in this activity were from Ceubrek Pirak village with a population of 101 families. Community understanding and motivation to participate in this Unimal Waste Bank activity was surveyed with a number of waste bank customers before and after the activity took place. Furthermore, data will be obtained on the amount of inorganic waste and number of customers as success indicator of the program. Figure 2 shows the flowchart of the Unimal Waste Bank activities.

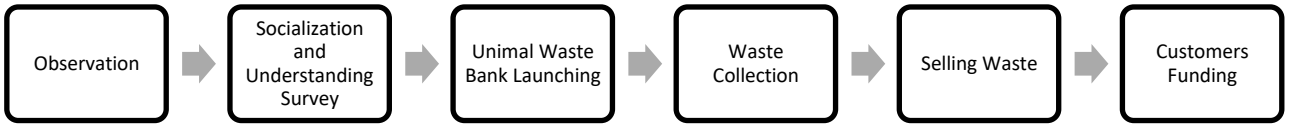

Figure 1. Flowchart program Unimal Waste Bank

RESULTS AND DISCUSSION

Local governments must be supported for the development and improvement of solid waste treatment facilities as well as helping to change people's habits not to throw garbage carelessly. However, there is a lack of attention of the government in this area. The government does not provide garbage trucks to service this area, so the people are forced to manage their own waste by burning it, burying it manually, or even throwing it into the river. This mismanagement of waste could be harmful to the environment and sanitation. Ceubrek Pirak village location is nearby Krueng Keureuto river, which is hit by floods annually. Moreover, the area is classified as a medium to high event of flood disaster (Fadhliani et al., 2022).

This condition triggered the idea to develop a Unimal Waste Bank program in Ceubrek Pirak Village. The Waste Bank proposed an understanding to the public that household waste still has economic value by segregating it. Moreover, Unimal Waste Bank is also a communicator between collectors and the community. The mechanism is carried out by accommodating and recording waste that is deposited by the community into a saving book. Afterward, the money can be collected according to the agreement.

According to (Suryani 2014), a waste bank is an alternative to waste management to help solve the waste problem in Indonesia. The community will voluntarily sort waste to be deposited in the Waste Bank in order to get money (Nisa & Saputro, 2021).

The activity begins with carrying out surveys and field observations. Furthermore, direction and understanding were given regarding the Waste Bank Program through socialization activities to several community representatives from each

head of the family as well as local government. This activity aims to attract people who want to participate in Unimal Waste Bank Program.

Before Unimal Waste Bank was developed, an initial study was carried out regarding the understanding of the community in waste management activity (Table 1). The waste bank sustainability business is strongly influenced by the social values of the community, where the community is aware and willing to voluntarily and participate without being forced (Indrianti, 2016). This survey involved 37% of Ceubrek Pirak village population, with 78% of them was female. From the questionnaire, it is known that the mainly, 76% of the community has disposed of waste in trash bin, while the rest admit that they have not disposed of waste correctly. For the most part, namely 65% of the community, have sufficient awareness in understanding waste management as seen from their concern for reminding others not to litter as well as picking up and disposing of waste if they see it scattered around. About 49% of the community can distinguish between organic and inorganic waste. In addition, 100% of the people who are willing to sort their waste turn out to be as much as 59% have sorted their waste at home**.** The entire community surveyed supports a waste management program in the village. However, only 49% of the public had heard of the waste bank program. The biggest community factor for not disposing of waste appropriately is due to the unavailability of trash bins; second, there are no garbage collector; and the last one is in consideration of the trash dump area too far away (Figure 3). One of the common problems found in waste management is the lack of supporting facilities, such as collector vehicles (Marasabessy & Rumodar, 2022). However, it can be concluded that the waste bank program is promising to develop in this area in order to be a solution in waste management.

Table 1. Community Awareness in Waste Management

No	Indicator	Percentage	
		Yes	No
1	Are you disposed of waste in garbage bin	76%	24%
2	Are you going to remind others not to disposed of garbage carelessly?	65%	35%
3	If you see waste around, will you pick it up and throw it in the trash bin?	65%	35%
4	Do you know what is organic and inorganic waste	49%	51%
5	Are you willing to do sorting waste at home?	100%	0%
6	Have you done sorting waste at home?	59%	41%
7	If there is a waste management program in your environment, will you support it?	100%	0%
8	Have you heard about waste bank?	49%	51%

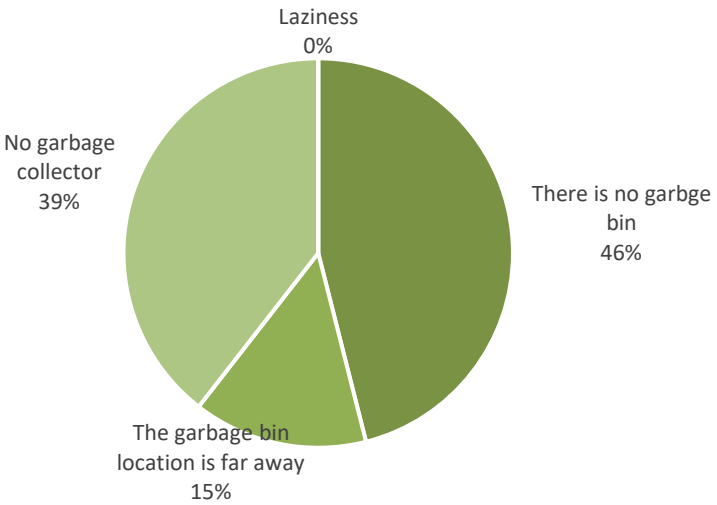

Figure 3. The reason why people don't dispose of waste appropriately

The Unimal Waste Bank was launched after the socialization, which was attended by representatives from Unimal, local governments and invited the entire community of Ceubrek Pirak Village (Figure 4). The waste bank business model has the flexibility to adapt according to the needs of society, such as savings, health, community entrepreneurship and energy (Dhewanto et al., 2018). Unimal Waste Bank itself adopted savings business model to run the activity. The prospective customer registers at the Unimal Waste Bank to get a savings book. Every customer who registers will be given a savings book to record the inorganic waste deposited and the funds received (Figure 5). The funds obtained are the result of selling the waste bank to partner collectors.

Figure 4. Unimal Waste Bank Launching

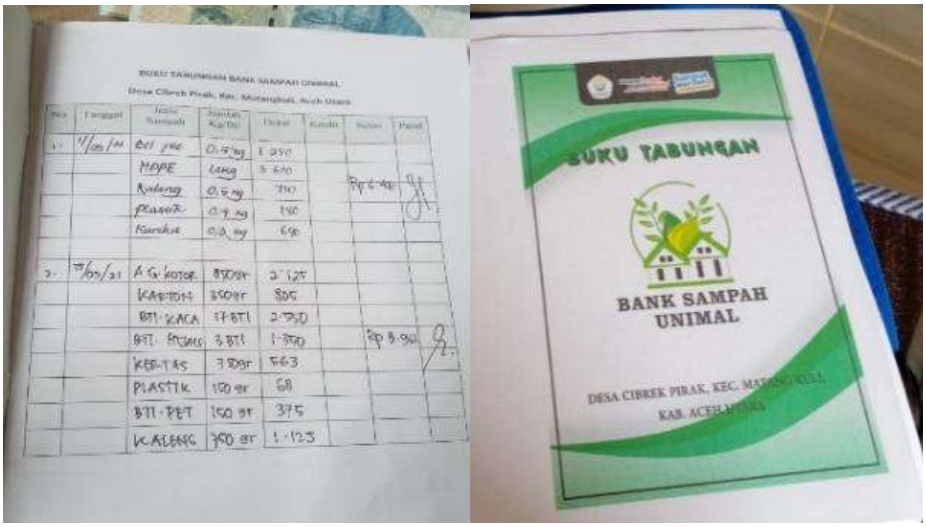

Figure 5. Savings book for Unimal Waste Bank customers

Women are constantly involved in household waste management processes (Mujahiddin et al., 2018). However, apart from targeting housewives, the waste bank program has also proven to be attractive to children. This can simultaneously instill a culture of sorting waste and change the mindset of future generations in interpreting waste for personal consumption. To increase youth awareness in managing waste, further promotion is needed such as outreach and environmental competitions between schools (Miftahorrozi et al., 2022). Figure 6 shows a boy customer who is currently registering for Unimal Waste Bank.

Figure 6. Children customer Unimal Waste Bank is registering for himself

Waste problems are very close to sanitation and health, especially during the Covid-19 pandemic. Therefore, apart from promoting environmental hygiene and adding new economic value through Unimal Waste Bank, we also promote the community to care about their health, keep distance and use masks. Hence, in the program, every customer who comes to Unimal Waste Bank will be given a mask to promote health education (Figure 7).

The waste brought by residents is very diverse, some have economic value and some don't. Therefore, the waste will be sorted according to its type. Unimal Waste Bank could accept some of the valuable waste, such as PET Bottles, Broken Glass, Syrup Bottles, Glass Bottle, Cardboard, Cans, Newspapers, Plastic Bag, Torn Paper, Polypropylene (gallon caps), HDPE (Shampoo, Powder, Soap bottles), Gross PET and metal. Figure 8 shows the segregation and weighing activities of several types of waste that have economic value and can be deposited into the Unimal Waste Bank. Figure 9 show the amount of inorganic waste deposited in the Unimal Waste Bank during the activity. It is known that the most amount of waste generated is syrup bottles, broken glass follow with cardboard and other materials. From various plastic type collect, the most deposited is PET.

Figure 7. Mask distribution for Unimal Waste Bank customer

Figure 8. Unimal Waste Bank activities

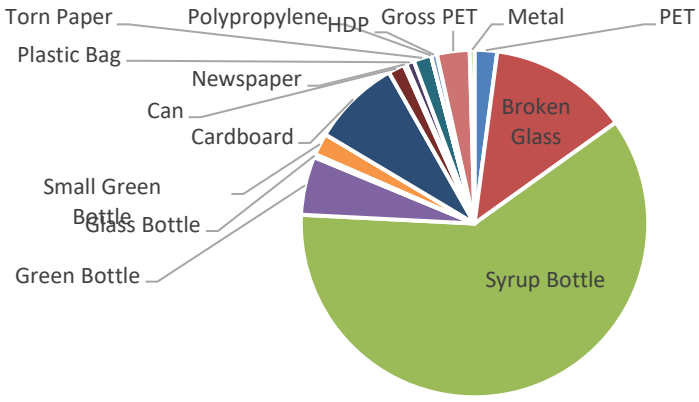

Figure 9. Type of waste deposited in the Unimal Waste Bank

The variations in the types and prices of inorganic waste received by the Unimal Waste Bank are adjusted to the partner collectors. The price given to the public is also fluctuating. To reduce the risk of loss by the Waste Bank, a fairly

high price difference must be taken between the market price and the price purchased from the community. In this activity, the price difference for each type is taken to be around 100-200 rupiah per volume of goods, and a profit of 8.2% is obtained. This advantage can be enlarged by cooperating with collectors or related agencies to reduce the cost of picking up waste.

One of the solution to make the waste bank program successful is through collaboration and coordination between stakeholders, including community participation (Fatmawati et al., 2022). Unimal Waste Bank program has not run optimally due to the absence of intensive support from local governments. In small towns, waste management is still centered on the government with constraints such as regulatory issues (Zulfikar & Rinaldi, 2019), lack of resource and awareness (Wibisono et al., 2020). However, paying attention to financial inclusion can be very helpful in policy makers' efforts to improve waste management, as financial inclusion enables households to choose healthy waste disposal (collection) methods (Immurana et al., 2022). In order to increasing waste bank income, master waste bank run by government can act as a price chain breaker, because the waste bank directly sells waste to large companies, no longer through collectors (Choirunnisa & Ngatindriatun, 2021).

Increasing the role of stakeholders through company CSR funds could be considered (Widyaningsih, 2018), since North Aceg Regency is surrounding by multinational company. The CSR program success story in improving people's behavior through waste banks has been carried out by PT Pertamina (Persero)(Rakhmadany et al., 2021), PT Holcim (Nurjanah et al., 2016), PT Pertamina Patra Niaga DPPU Pattimura (Souisa et al., 2022), etc.

The successful indicator for a waste bank is seen by the amount of costumer. So that, to attract more people to be a customer of Unimal Waste Bank, a reward for active costumer was held. The low number of waste bank customers results in a low rate of recycling, thus it is not significant in reducing waste in the environment (Rachman et al., 2021). Finally, this program has attracted 55 customers from 101 household, during 6 weeks or 6 times waste collection during September-Oktober 2021. By increasing the number of customers, it can be explained that the existence of a waste bank can increase public awareness in sorting waste and managing inorganic waste to be more valuable (Yuli Astuti et al., 2022). Strategies that can be applied to improve the waste bank performance, including training on creation skills, composting digital marketing and other skills to waste bank customers and managers (Sinaga et al., 2021). Even though, most expected transformation is reducing community waste generation does not have a direct impact, at least waste that goes to the landfill or discharged into the river can be reduced (Muliawaty et al., 2022).

CONCLUSION

Unimal Waste Bank program has been working successfully for 6 weeks. This program promotes waste management by offering added economic value to household waste. Besides, this activity support government program to resist the Covid-19 pandemic by applying health protocol during Unimal Waste Bank activity. The suggestions for implementing the Unimal Waste Bank Program include: (a) the successful implementation of the Unimal Waste Bank Program must be fully supported by the government and all elements of society as an effort to empower and change community PHBS behavior; and (b) with the existence of the Unimal Waste Bank it is hoped that it can continue in a sustainable manner to manage existing waste.

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Psychoeducational Implementation to reduce gadget addiction in children due to distance learning during the Covid-19 pandemic

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ABSTRACT

The distance learning process using mobile phone (gadget) and internet is one of the strategies implemented to keep the learning process going even during the covid-19 pandemic. This method increases the use of gadgets and the internet in elementary school students which can caused a gadget addiction. Dependence on these gadgets causes obesity problems, sleep pattern disturbances, decreased brain and eye function, growth and development disorders and even mental problem. Psychoeducation is a strategy that can be applied to reduce gadget addiction. Psychoeducational activities are carried out by providing material for 45 minutes which is adjusted to the tendency of the five senses used in receiving student information with the Primary System instrument. Classes will be divided into two groups, visual and auditory. Evaluation of psychoeducational activities was carried out after three days of psychoeducational activities by measuring the level of student addiction to gadgets with the Smartphone Addiction Scale-Short Version instrument (SAS). Psychoeducational activities have been proven to reduce the level of gadget addiction at school, marked by a decrease in SAS-VS scores after psychoeducation with a p value of 0.001 (0<0.005). The results of the activity show the importance of educational activities to reduce children's gadget addiction. The next suggestion is that parents' participation is also needed to facilitate children to carry out other activities so that children are not dependent on the use of gadgets.

Kata kunci
Kecanduan gadget
Psikoedukasi
Siswa sekolah dasar

Implementasi psikoedukasi untuk menurunkan adiksi gawai pada anak akibat pembelajaran jarak jauh selama pandemi Covid-19. Perubahan pembelajaran tatap muka (PTM) menjadi pembelajaran jarak jauh (PJJ) merupakan salah satu strategi yang diterapkan untuk menjaga agar proses pembelajaran tetap berlangsung di masa pandemi covid-19. Metode tersebut meningkatkan penggunaan gawai dan internet pada siswa sekolah dasar yang bisa menimbulkan dampak negatif berupa adiksi. Adiksi gawai dapat menimbulkan masalah obesitas, gangguan pola tidur, penurunan fungsi otak dan mata, gangguan tumbuh kembang hingga bahkan permasalahan mental. Psiko-edukasi merupakan salah satu strategi yang dapat diterapkan untuk mengurangi adiksi gawai. Kegiatan psikoedukasi dilakukan dengan pemberian materi selama 45 menit yang disesuaikan dengan kecenderungan panca indra yang digunakan dalam menerima informasi siswa dengan instrumen *Primary System*. Kelas akan dibagi menjadi dua kelompok yaitu visual dan auditory dan diperiksa tingkat adiksi gawai siswa sebelum dan tiga hari setelah pemberian kegiatan psikoedukasi dengan mengukur kembali tingkat adiksi gawai siswa dengan instrumen *Smartphone Addiction Scale-Short Version*. Kegiatan psikoedukasi terbukti dapat menurunkan tingkat adiksi gawai dengan nilai p 0,001 (0<0,005). Hasil kegiatan menunjukkan pengtingnya kegiatan edukasi untuk menurunkan adiksi gawai anak. Saran selanjutnya diperlukan juga partisipasi orang tua untuk memfasilitasi anak untuk melakukan kegiatan lain agar anak tidak tergantung pada penggunaan gawai.

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INTRODUCTION

The impact of the Covid-19 pandemic on the education aspect is that there is a change in the learning system from face-to-face meetings to distance learning which is carried out with online learning or mix (a combination of face-to-face meetings and distance learning) (Purwanto et al. 2020; Putri et al. 2020; Setiati and Azwar 2020; Setiati and Rahayu 2017). Distance learning requires students to take part in learning activities using the internet with media gadget in the form of mobile phones or computers (Anggraeni et al. 2020). This condition led to a significant increase in internet use among children (33.98% in 2016 to 59.33% in 2020 where the biggest increase occurred at the age of elementary school children from 16.64% in 2016 to 35) 97% in 2020 (Jayani 2021).Data from the KPAI survey stated that 71.3% of those who use cellular phones already have their own cellular phones and it turns out that 79% use them outside of education or school needs (KumparanNEWS 2020).

Excessive use of the internet and mobile phones have negative impacts on children, one of these is an addiction. This condition is illustrated using gadgets that are intensive and difficult to control so that it can cause disruption to other work activities. Internet users will feel that the virtual world is more interesting than the daily lives they live (Gunawan et al. 2021; Poli 2017). This addictive activity is characterized by excessive use of gadgets to carry out learning activities, searching for information, playing games or communicate via WhatsApp or other communication applications. Excessive use of up to >8 hours/day can be categorized as addiction or addiction to gadgets (Aljomaa et al. 2016; Barotun Mabaroh and Sugianti 2021).

The impact of this addiction on children can cause health problems such as obesity, disturbed sleep patterns, decreased brain and eye function, developmental disorders, and even mental problems (Tamura et al. 2017). One of the mental problems in internet addiction is social disorder in children, attention deficit disorder and hyperactivity and most children with gadget addiction are at risk of experiencing mental and emotional disorders. These disturbances are in the form of tantrums when prohibited from using gadgets, negative behavior to lying to be able to play gadgets (Efastri, Lhaura, and Islami 2022; Setianingsih 2018; Wulandari and Hermiati 2019).

The negative impact of gadget addiction can be reduced by helping from both parents and direct health education interventions given to children (Chairulhaq et al. 2021). One method of providing health education to children is to provide psychoeducation. Psychoeducation is a form of intervention or treatment in the form of education or training for at-risk groups (individuals or groups) as a form of treatment and rehabilitation (Jalal et al. 2022). Education has been proven to be used as an intervention in reducing the level of gadget addiction in children (Setiawati and Fithriyah 2020). A preliminary study conducted at Public Elementary School Kalisongo 3 Malang, the results of interviews with children stated that some (73.5%) already had their own gadgets which were used for learning activities during the pandemic. The use of gadgets is mostly for playing games and communicating with friends. All children said they had never received health education regarding gadget addiction before. Based on the phenomena above, the impact of excessive use of gadgets can cause physical and mental health problems in children which will have an impact on learning achievement. A strategy is needed to overcome this problem with psychoeducation which aims to reduce an addiction on gadgets. This is also in line with the objectives of the Sustainable Development Goals (SDGs), both of goal number 3 and 4, Good Health and Well-Being and Quality Education respectively. Prevention of gadget addiction problems is expected to improve health status and support children to get extraordinary achievements in their education.

METHOD

The Community service activities are carried out in three stages: (1) initial assessment to identify the level of student addiction and the tendency of the five senses to receive information; (2) implementation of educational activities by adjusting the tendency of each group; and (3) the termination stage by providing an evaluation with a post-test. This activity is carried out by obtaining permission from Kalisongo 3 Public Elementary School Malang (Figure 1) and preparing activities.

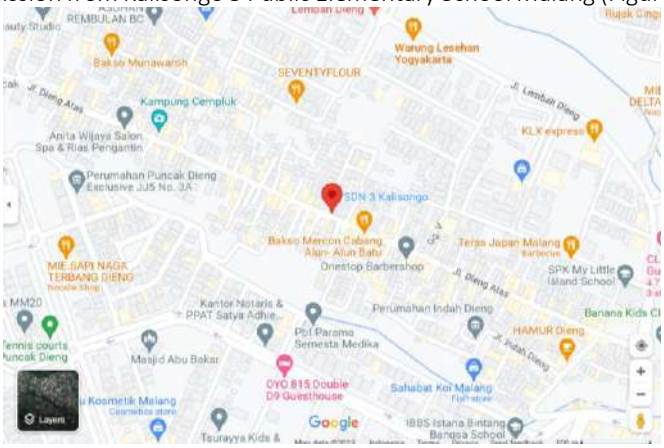

Figure 1. Location of Kalisongo 3 Public Elementary School

The first activity was carried out by conducting an assessment in the form of an assessment of the level of addiction one has after obtaining the results from the Smartphone Addiction Scale-Short Version questionnaire and the Primary System special questionnaire to determine the five senses that are dominantly used by students. From the results of this study, students will be divided into 2 classes based on the tendency of the five senses used to receive information: Visual (Information obtained is encoded into an image), and Auditory (Information obtained is encoded into a sound). This activity can be seen in figure 2 that consist activity in grade 4 (a) and grade 5 (b).

(a) (b)

Figure 2. Data collection activities (a) study activities in grade 4 (b) data collection for grade 5

The second activity was carried out by providing psychoeducation to each group using different methods and media. The group with the Visual input system was given psychoeducation by using displays with dominant images that explained the information to be conveyed. Groups with an Auditory input system are given psychoeducation using a communicative approach from the material provider. Psychoeducation is carried out 1 meeting with a duration of 45 minutes. The material provided are the negative impact of smartphone addiction, other things that can be done to reduce smartphone addiction and develop students' interests and character. the implementation of psychoeducational interventions can be seen in Figure 3.

(a) (b)

Figure 3. Psychoeducational activities (a) visual class; (b) auditory class

In its implementation, the psychoeducational method given considers the representational system of each student, in more detail of the step based on picture 2 as follows:

a) Respondents with a visual system use more visualized content through slides, books, examples written on the blackboard, or by reading text, images, and graphics. The media used is media with a visual representation system in the form of slides about the bad effects of gadgets, picture cards on activities that can be done to reduce gadget use and students are invited to draw a concept map of their outlook on life in the next 10 years.
b) Auditory respondents better understand information when it is expressed orally by the teacher. These students develop their learning effectively when they read texts aloud, listen to audio recordings of stories, or participate in discussions. The media used is media slides of material presented by the speaker and reading about the bad effects of gadgets. Furthermore, students were asked to be able to explain the results of a concept map image of their outlook on life for the next 10 years that had been made together.

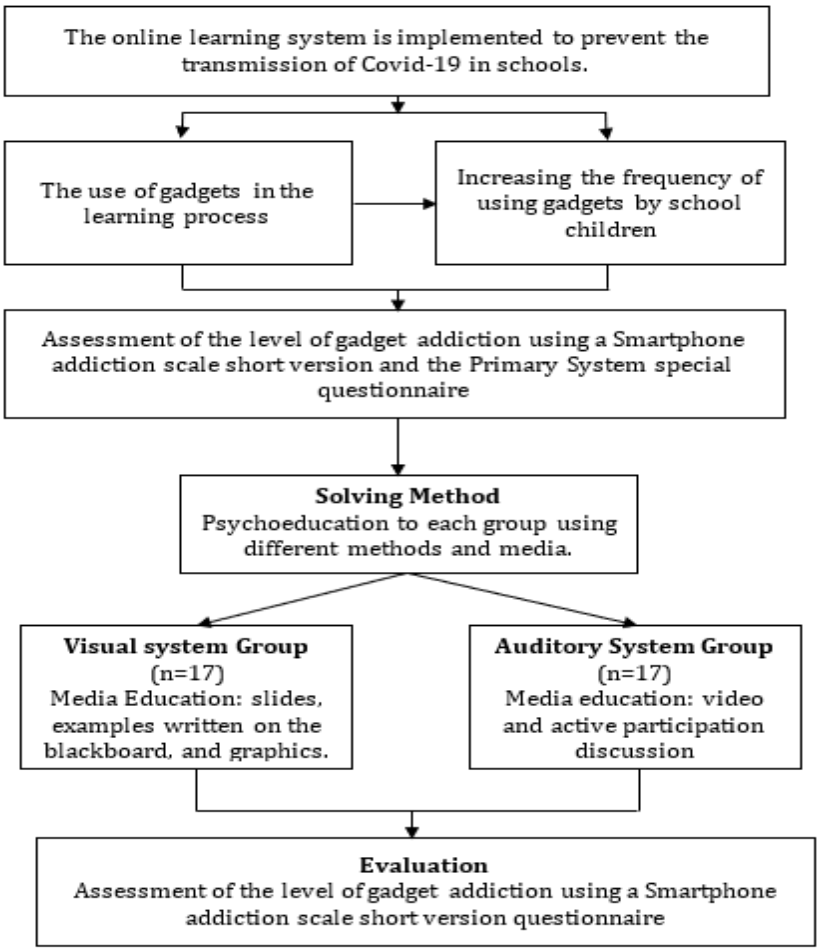

Figure 4. Step of psychoeducation Community Services

The termination and evaluation stage were carried out 3 days after the implementation of the research by re-testing the level of gadget addiction experienced by the research sample through the Smartphone Addiction Scale-Short Version questionnaire and identifying the impact and student responses to the psychoeducation that had been given. Evaluation and termination activities can be seen in Figure 5.

Figure 5. Evaluation and termination

RESULTS AND DISCUSSION

This activity was attended by 34 students in grades 4 and 5. Most students are male (52.9%) with an average age of 10.24 years. We also examine students' responses to psychoeducation that has been given in Table 1.

Table 1. Results of Psychoeducational Community Service Activities to Reduce Gadget Addiction in Children (n=34)

Variable	n	Percentage
Sex		
Male	18	52,9%
Female	16	47,1%
Forms of Education		
Very interesting	8	23,5%
Interesting	16	47,1%
Ordinary	7	20,6%
Less attractive	3	8,8%
Educational influence		
Very influential	12	35,3%
Little effect	11	32,4%
Less effect	6	17,6%
No effect	5	14,7%
Changes after education		
Do not change	4	11,8%
Little changed	14	41,2%
Ordinary	4	11,8%
Very changed	12	35,3%
Variable	Mean (SD)	CI 95%
Mean age	10,24 (0,606)	10,02-10,45
SAS-SV score (pre)	26,44 (9,4)	23,1-29,5
SAS-SV score (post)	26,0 (11,3)	22,1-29,9
Frequency of using the gadget (pre)	2,1 (1,3)	1,68-2,55
Frequency of using the gadget (post)	1,8 (0,9)	1,4-2,1
The duration of using the gadget (pre)	2,4 (1,4)	1,9-2,9
The duration of using the gadget (post)	2,2 (1,4)	1,8-2,8

The students' opinion about the education that had been given was that most students stated that the form of education was interesting (47%), felt that it was very influential (35.3%) by making slight changes (41.2%) to their habits of using cellphones at home. Furthermore, the effect of providing psychoeducation was tested on the Smartphone Addiction Scale Short Version (SAS-SV) score which shows the level of gadget addiction experienced by students.

The differences in addiction score pre and post implementation before and after the intervention can be seen in table 2 below.

Table 2. The effect of psychoeducation on the SAS-SV score which shows the level of gadget addiction (n = 34)

	Mean (s.d)	Deviation (s.d)	CI 95%	p-value
SAS-SV score (pre)	26,44 (9,4)	0,44 (6,3)	23,1-29,5	0,001
SAS-SV score (post)	26,0 (11,3)		22,1-29,9	

Table 2 shows that there is a significant difference in the SAS-SV score before and after being given education where after being given education there is a decrease in the SAS-SV score which indicates a decrease in the level of gadget addiction. However, the decrease that occurred was not too large, namely 0.44. The behavior of using gadgets caused by having to use gadgets as a learning medium is something that students cannot avoid. This causes parents to provide gadgets as learning media. The negative effects of gadgets are known by parents so that on average they have provided supervision to their children, especially in terms of usage time. Parents are the main companions for children to ensure wise use of gadgets at home.

Excessive use of devices has the risk of being a trigger for someone to experience addiction. The concept of addiction or addiction is now developing in accordance with technological advances into a new type, namely internet addiction (Gunawan et al. 2021; Yunita et al. 2021). One of the addictions identified as part of internet addiction is game addiction which is defined by WHO as a mental disorder called gaming disorder. The fifth revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) lists the potential for one of the disorders caused by Internet addiction, namely Internet gaming disorder. This condition is triggered by the habit of playing intense games and prioritizing games above other daily interests or activities. In some studies, it is stated that the majority of children, along with many adults, play video or electronic games as much as 88% and they play these games at least 68% weekly and 23% daily (Petry et al. 2015).

Based on the results of the Smartphone Addiction Scale-Short Version (SAS-SV), before being given psychoeducation the mean score was 26.44 and after psychoeducation the score was 26.00. To deal with addiction, according to the intervention should have started at the early education level. Providing interventions using empowerment strategies and behavior modification has been shown to reduce addiction and increase student self-regulation (Mun and Lee 2015). Other research states that school-based educational strategies in group interventions significantly reduce addiction symptoms. The educational components are (a) Self-monitoring, (b) Understanding of addiction, (c) Self-reflection, (d) Choice of games, goals and time (Walther, Hanewinkel, and Morgenstern 2014).

Psychoeducation is a systematic, structured intervention to transfer knowledge about disease and its treatment, integrating emotional and motivational aspects to enable patients to overcome their illness. Psychoeducation is an important component of treating medical and psychiatric disorders, especially mental disorders associated with a lack of knowledge. The content of psychoeducation is the etiology of a disease, the therapeutic process, side effects of drugs, coping strategies, family education, and life skills training (Hadi 2015). This makes psychoeducation can be used as an intervention in dealing with gadget addiction because knowledge is a predisposing factor that can influence a person's behavior. With good knowledge and understanding through psychoeducation, it is hoped that positive behavioral changes will occur such as being able to manage time when playing devices or limiting the use of devices (Nugroho, Nurhidayah, and Supratno 2022).

CONCLUSION

Community service activities can be carried out smoothly because of good cooperation between the team and the Kalisongo 3 public elementary school. From the activities it can be concluded that psychoeducational activities have an influence on the level of gadget addiction. These results were proven by the significant difference between the SAS-SV score before and after being given education where after being given education there was a decrease in the SAS-SV score which showed a decrease in the level of gadget addiction by 0.44. The recommendation from the results of this activity is the need for psychoeducational activities as a fun strategy for students to be able to change behavior to be more positive. Psychoeducation is a strategy that can be easily accepted because it is given in a fun method that fits the child's development. The limitation in this activity is Psychoeducation was only given once and the evaluation of addiction scores with questionnaire was carried out two weeks after the intervention. This causes no clarification of addictive activities from parents.

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First Author [a,1,*], Second Author [b,2], Third Author [b,3] (at least two authors; Calibri Light, Font Size 11)

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ABSTRACT (10PT)

Type the abstract here (8pt). Abstract, which comprised of approximately 200 words, provides a brief description of problems, aims, the method used, and results. It emphasizes research results in which written in single line spacing with left and right margin are 0.5 cm narrower than the main text. 3 to 5 keywords must be written to describe the research scope observed, as well as the main terms undergirding the research. These keywords can be single and/or combined words.

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INTRODUCTION (bold, 11pt)

This section could also provide the expected results. The introduction must be written in single line spacing. The introduction comprises of:

1) Analysis of the general situation (global) and followed by a description of the main problems of the target community. The authors must explain that the problem is a problem related to 17 goals/169 targets of SDGs. Summary of literature review: theoretical studies, results of the present study, and report/article on the publication of previous community service activities, which shows that the problem is indeed "strong" (state of the art). Do not describe the literature review as author by author but should be presented as a group per method or topic reviewed, which refers to some kinds of literature)
2) The sentence confirms that the problem must immediately require a solution (gap analysis).
3) The problem solves planning (Describe the novelty of the technology / approach used to solve the problem).
4) Affirmation sentence about the purpose of community service.
5) Affirmation about the purpose of writing the article.
6) Affirmation of article contribution (a. For the development of science and technology, b. For the achievement of SDGs).

The introduction section must be written in Calibri Light, font size 10, 0 pt before spacing, and 0 pt after spacing.

METHOD (bold, 11pt)

This section must contain:
1) The description of the target community (description of the "background" of the community, how many people are, and how is the role/involvement of community in this community service activity).
2) The parties involved in this service activity (including the number and role or contribution of each, not explaining the name but background/expertise).
3) Implementation method that explains the stages or steps in implementing the solution offered to resolve the problem.
4) Overview of science and technology transferred/introduced.
5) Instruments or tools and materials used in community service activity (including to measure the success of service activities).
6) Data collection techniques
7) Measures / indicators of success of community service activities, and
8) Data analysis techniques.

The method section must be written in Calibri Light, font size 10, 0 pt before spacing, and 0 pt after spacing.

RESULTS AND DISCUSSION (bold, 11pt)

Guidelines for writing results and discussion:
1) Results must be relevant to the objectives and methods.
2) The results explanation of the activities must be simple and straightforward.
3) Write data in the form of figures or tables (highly recommended, especially those relating to indicators of success of activities).
4) Describe clearly the data and various results of the resolution of relevant problems.
5) Discussion of activities: comparing with theory and similar community service activities that have been published or reported (it is highly recommended to recite references that appear in the introduction, especially the state of the art and gap analysis).
6) Describe the successes or impressive achievements that are appropriate as best practices for other servants/authors (associate with contributions to the achievement of SDGs).
7) Figures or tables must be related to explanatory text (narration in paragraphs).
8) Don't put figures/illustrations that are not discussed in the text
9) Describe the obstacles that might be encountered in the community service activities (the obstacles must be logical, not solely because of the weak implementation of the activity, completely beyond the control of the team, and existing references support these constraints).

The results and discussion section must be written in Calibri Light, font size 10, 0 pt before spacing, and 0 pt after spacing.

Figures and Tables
Place the labels above for tables and below for figures. Write the table label in specific, for example Table 1, in case the author refers the Table 1 mentioned. The example of writing table and figure information is as below.

Table 1. Table format

Table Head	Table Column Head		
	Table column subhead	Subhead	Subhead
copy	More table copy[a]		

[a.] Sample of a Table footnote. *(Table footnote)*

Figures must be discussed in paragraphs. The figures quality must be good and high resolution. Figures are numbered in the order in which they are presented (Figure 1., etc.). The title of the figure is placed under the image with the center position (center justified).

Fig. 1. Example of figure information

CONCLUSION (bold, 11pt)

Guidelines for writing a conclusion:

1) Relevant to the objectives written in the introduction.
2) Claims in conclusion must be supported by facts/data from the results of activities.
3) Write the conclusions concisely.
4) The implications of the activities need to be put forward to clarify the benefits resulting from the service activities.

The conclusion section must be written in Calibri Light, font size 10, 0 pt before spacing, and 0 pt after spacing.

ACKNOWLEDGMENT (bold, 11pt)

This section can be written in case there are certain parties need to be acknowledged, such as sponsors/funding (complete with contract number and year). The acknowledgement must be written in brief and clear. Besides, avoid hyperbole acknowledgment.

The conclusion section must be written in Calibri Light, font size 10, 0 pt before spacing, and 0 pt after spacing.

REFERENCES (bold, 11pt)

Citation and referencing must be written based on APA style 6th Edition which is organized by using Mendeley software's latest version. References used at least 30, 80% primary sources (reputable journals and research reports or community service report) and 10 (ten) years of publication. All references must be tracked online (have DOI or URL).

The references section must be written in Calibri Light, font size 10, 0 pt before spacing, and 0 pt after spacing.

Supplementary Material

Supplementary material that may be helpful in the review process should be prepared and provided as a separate electronic file. That file can then be transformed into PDF format and submitted along with the manuscript and graphic files to the appropriate editorial office.