



# The Central Role of MGMP in Improving Teachers Digital Literacy

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## Abstract

Digital literacy is central for teachers as the skill can improve teachers' instruction and make it more effective. Nevertheless, studies showed that Indonesian teachers' digital literacy is still relatively modest. This implies teachers need to be facilitated in enhancing their digital literacy; MGMP, as the national professional learning community in Indonesia, can potentially accommodate this particular need. This study aims to describe the role of MGMP in improving teachers' digital literacy. This survey research involved 125 teachers who are active members of MGMP. The findings of this research showed that 52% of participants agreed that several activities in MGMP have supported them in improving their digital literacy, such as collaborative discussions and sharing of best practices among teachers. Specifically, this collaborative environment can foster the exchange of digital tools and techniques that teachers can integrate into their teaching practices. The findings of this study also revealed that commonly, MGMP includes programs that inform teachers about digital tools, educational software, and online resources. These sessions help teachers to become more comfortable and proficient with digital technologies. This study has shed light on the potential role of MGMP in improving teachers' digital literacy.

**Keywords:** *digital literacy, MGMP, teachers*

## **Introduction**

In the Indonesian context, teachers were facilitated by Musyawarah Guru Mata Pelajaran (Teachers' Disciplined-based Association, hereafter MGMP) to improve their teaching. MGMP was established at every level of education, starting from elementary, junior high, and high school teachers. It is important to note that MGMP at the secondary level is known as *Kelompok Kerja Guru* (teachers' working group). MGMP enhances teachers' knowledge through training, workshops, seminars, and other activities that sustainably support teachers' professional development to help them improve their competence in strengthening their teaching knowledge and skills. MGMP in this forum where teachers of the same subject gather to exchange experiences, develop curriculum, and improve the quality of learning. MGMP plays a vital role in developing teacher professionalism and improving the quality of education locally. According to Alfaya and colleagues (2023), participation in MGMP can improve teachers' pedagogical competence and professionalism. With MGMP, teachers can support each other and strengthen learning, thus having a positive impact on student achievement and overall education quality.

Implementation in the practice does not always match the expected results. This forum faces challenges in implementing its work programs. Challenges in the implementation of MGMP forums in Indonesia include difficulties in coordinating meeting schedules, lack of funding for activities, and minimal teacher involvement in discussions and decision-making. Lestariningsih and colleagues (2018) stated that constraints can hinder the effectiveness of MGMP in improving learning quality. The lack of support and involvement of local governments is also an inhibiting factor (Danar et al., 2022). For this reason, it is necessary to contribute ideas so that this MGMP forum continues to run and provide benefits for the development of continuous professionalism for teachers.

Furthermore, the Industrial Revolution 4.0 requires every individual to have skills that align with the current conditions, such as digital literacy (Rozak, 2018). In this case, teachers were asked to have a sufficient understanding of digital literacy. Digital literacy can generally be defined as the ability to equip oneself with the necessary tools in the Industrial Revolution era, which is most likely. The Director General of Learning and the Director General of Learning and Student Affairs have emphasized the need for a revised curriculum to include literacy and digital literacy (Kemristekdikti, 2018). As a consequence, universities are mandated to include the notion of digital literacy in their curriculum.

Digital literacy is critical for teachers to master in the current digital education era. This cannot be underestimated, as digital literacy is vital to creating relevant and meaningful learning experiences and is essential in designing innovative learning environments (OECD, 2020). Teachers with digital skills can solve problems by facing new challenges for more effective learning, as Margaryan and colleagues (2011) highlight that digital literacy skills can improve students' learning competence.

Developing digital literacy skills can be pretty challenging. In the Indonesian context, some challenges arise when implementing digital literacy in the learning process. Many students have not developed strong literacy skills, as indicated by their limited reading and writing habits (Nuroh & Liansari, 2018). According to findings from Pagani and colleagues (2016), individuals who lack the necessary digital skills may struggle to apply them in their learning effectively. Furthermore, a significant challenge arises when considering the numerous schools located in remote areas of Indonesia. These schools often face limited access to the Internet and lack sufficient digital equipment to support effective learning activities (Mudra, 2020).

Tools that are in line with the internet can be valuable in addressing the digital literacy issue and enhancing teaching and learning in the classroom (Azlan et al., 2020; Lathipatud et al., 2018). As an educational researcher, it is evident that students find it easier to construct, process, and communicate the knowledge they have gained from the Internet and apply it to their daily lives (Azlan et al., 2020). Teachers must urgently familiarise themselves with these digital aspects in order to address the issue of digital literacy.

Recent statistics indicate that Indonesian teachers have a digital literacy index score of 3.7, which is higher than the average score of the general population (Siahaan, 2023). A study by Lestari et al. (2020) involve 104 elementary teachers to discover their digital literacy skills. The study found that teachers' digital literacy skills are at a moderate level across all competencies, particularly in integrating digital tools into their teaching practices. The other study by Aryana et al. (2022) reported survey study about teachers' digital literacy at the junior high school level in one province of Indonesia. They claimed that teachers' digital literacy got a score of 0.61, which was categorized as a fairly strong level of digital competence.

The emergence of the digital era, in which technology exerts enormous influence over various aspects of human activity, is a defining characteristic of the current state of affairs for a number of reasons. That the incorporation of technology is essential in a variety of work sectors is something that cannot be denied. According to Ekaningsih and Kurnia (2022), neither the widespread use of technology nor the preponderance of the English language in the modern era of digital technology can be denied as a phenomenon. According to Tejedor and colleagues (2020), the modern education sector has shifted towards virtual learning, which incorporates digital technology. This transformation was proved. Furthermore, Hidayat and colleagues (2022) state that the Indonesian education system has successfully embraced the teaching of English language skills as well as the utilization of a variety of technological platforms. As a consequence of this, it is clear that technology plays a significant role in accelerating the learning process for both students and teachers, as (Mulyati & Kultsum, 2023) have specifically pointed out.

This study aims to investigate how MGMP supports the development of teachers' digital literacy. It is very crucial to know empirical data related to teachers' competency in digital literacy. There is still no research related to the digital literacy of teachers who participate in the MGMP forum, so the results of this study will be helpful in improving teacher digital literacy in the context of sustainable professional development of future teachers. The underlying theories for this research will focus on digital literacy and MGMP as two forms of professional learning communities in Indonesia.

Departing from this point, it is high time for teachers to be sustained through professional development to enhance their digital literacy. Among various supports, such as training, MGMP can be the only means to facilitate teachers' digital literacy. This may be because MGMP is a national program for teachers' professional development. However, studies on how MGMP supports teachers' digital literacy are still relatively scarce.

To fill the gap, this research aims to identify how MGMP enhances teachers' digital literacy. Specifically, the purpose of this research is to seek answers to the following questions:

1. Do teachers consider MGMP as a means to improve their digital literacy?
2. What program is held by MGMP to support teachers' digital literacy?

### **Method**

This study used a quantitative survey focused on teachers' perception of whether MGMP supports the development of their digital literacy skills. It specifically targeted teachers who view MGMP as a tool for enhancing their digital literacy and the programs organized by MGMP to support teachers in this area. The instrument used was close-ended questionnaires. The reliability of the instrument was assessed through a pilot study, while three expert validators evaluated the validity of the instrument. In this study, 125 teachers participated. They were selected through purposive sampling. The participants, who work at various schooling levels, were involved in MGMP as either committee members or organizers.

In analysing the data, this study used categorical data to obtain limited possible values. For some categorical data, numbers assigned to categories have no inherent meaning, and the categories are ordered arbitrarily. For example, when asking about marital status, there is a limited set of possible responses, and categories can be ordered in numerous ways. For other kinds of categorical data, numbers assigned to categories have inherent meaning, and the order of the categories follows a logical progression in the values assigned to responses (W. Creswell & D. Creswell, 2023). A question where the responses range from 1 = "strongly agree" to 5 = "strongly disagree" is an example of this type of categorical data.

There is no set interval between each response for categorical data. recommended. Firstly, his study collected data from a close-ended questionnaire of English teachers. After that, the analysis of the detailed data was conducted by selecting and categorizing the data through a coding process (W. Creswell & D. Creswell, 2023). Then, a description from the coding was built to make the analysis easy. The last one, the findings that were followed by interpreting the findings quantitatively, were represented and reported as a study result.

## Results

The table provided presents statistical data on four aspects related to MGMP activities, which likely involve discussions or training sessions focused on digital literacy and the use of digital tools in educational settings.

*Table 1. Statistics Data*

		<b>Statistics</b>			
		<b>MGMP Discuss Digital Literacy</b>	<b>MGMP Improve Digital Literacy</b>	<b>MGMP Modify_ Digital Information</b>	<b>MGMP Creative Material</b>
N	Valid	126	126	126	126
	Missing	0	0	0	0
Mean		3.3492	3.3571	3.2698	3.3016
Median		3.0000	3.0000	3.0000	3.0000
Mode		3.00	3.00	3.00	3.00 <sup>a</sup>
Std. Deviation		.63646	.63830	.67424	.70733
Variance		.405	.407	.455	.500
Range		3.00	3.00	3.00	3.00
Sum		422.00	423.00	412.00	416.00
a. Multiple modes exist. The smallest value is shown					

The data reveals some important trends but also raises questions. All four categories have a similar mean of around 3.3, which suggests that MGMP activities related to digital literacy and digital tools are generally perceived positively but not exceptionally so. The modes being consistently at 3.00 suggest that a majority of respondents rate these activities as average or moderately effective.

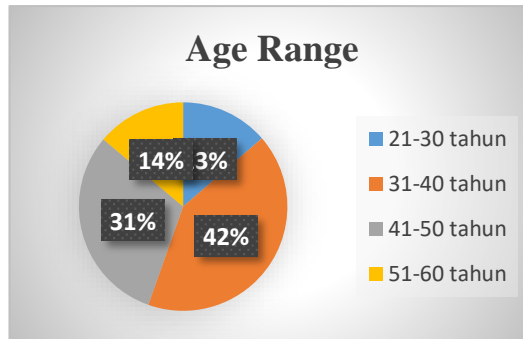
The slightly lower mean for "Modify Digital Information" might indicate that this activity is less familiar or less successfully integrated into the MGMP framework, whereas the "Improve Digital Literacy" category has the highest mean, suggesting it might be the most impactful or most commonly addressed area.

The range is consistent across all categories, indicating that the responses span the same scale, but the increasing standard deviation from "Discuss Digital Literacy" to "Creative Material" indicates growing variability, which could suggest that the implementation or perception of these activities is less uniform. While the overall statistics reflect a positive perception of MGMP activities related to digital literacy, there is room for improvement, especially in areas like modifying digital information and creating digital materials, where the effectiveness or engagement appears more varied. Future efforts might focus on standardizing the approach and

increasing the impact in these areas.

**A. Productive Age Range in following MGMP**

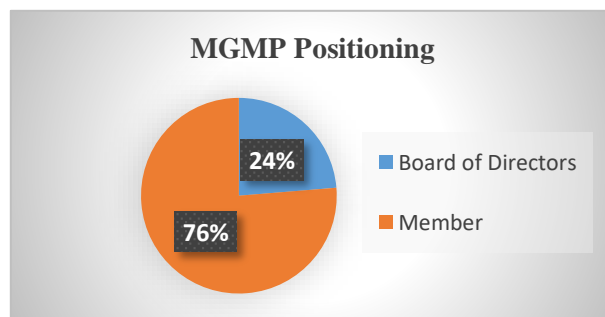
*Diagram 1. Participant Age Range*



Participants that involve in this research, referred as “age-matching”. In other words, most participants involve in this study categorize as productive age. Skirbek (2008) depicted that age of teachers in the school has a beneficial influence on productivity. This is because age variety has been shown to have a favorable effect on performing work quality. People as young as 21 years old and as old as 60 years old are included in this study. The age range of the participants begins at 21 years old. In accordance with the information that was stated before, the majority of the people who took part in this study were between the ages of 31 and 40 on average. Therefore, senior professionals working in the sector of heavy industry are required to have specific management that focuses an emphasis on cognition inside their business.

**B. MGMP Positioning**

*Diagram 2. MGMP Positioning*

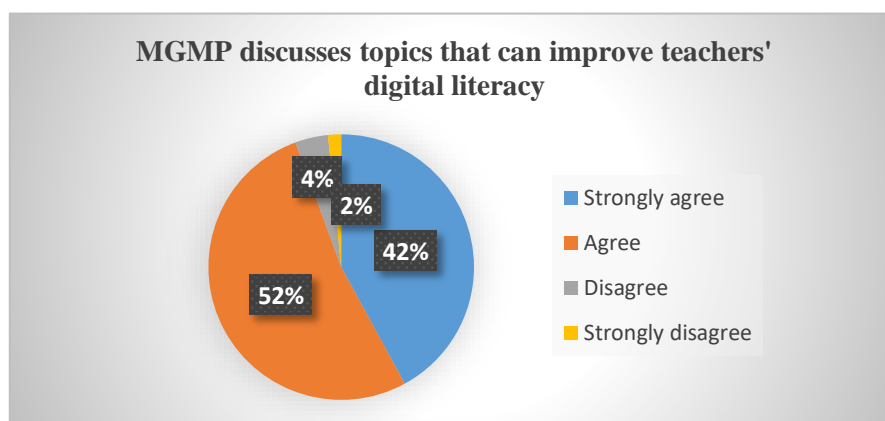


During the MGMP positioning, the majority of the participants are assigned roles as members of the MGMP, which indicates that their roles during the MGMP program are limited to only those roles. (1) Ensure that all of the activities that MGMP has planned are supported and carried out. (2) Using the results of the MGMP and incorporating them into the educational activities that take place in their respective locations. (3) Participate actively in every activity, whether it be a regularly scheduled one or an unplanned one.

The board of directors of the MGMP is responsible for the following: (1) identifying the core school that will serve as the MGMP meeting center, ensuring that it is easily accessible to other members and that it possesses all of the necessary infrastructure. (2) The process of developing an activity program in accordance with the Guidelines for MGMP implementation, the Standard Operating Procedures for MGMP Implementation, and the Standard Operating Procedures for KTSP Development. 3) Suggest an activity program.

### C. MGMP Improving Teacher Digital Literacy

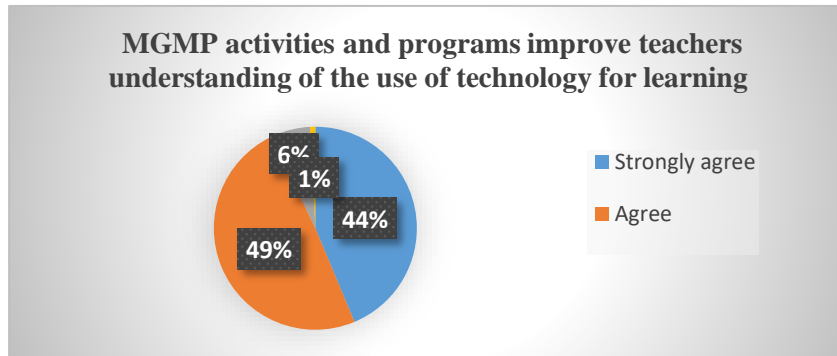
*Diagram 3. MGMP Improving Teacher Digital Literacy*



Based on the result, 52% of participants agree that the MGMP activity enhances teacher digital literacy. MGMP activities often involve collaborative discussions and sharing of best practices among teachers. This collaborative environment can foster the exchange of digital tools and techniques that teachers can integrate into their teaching practices. Furthermore, many MGMP programs include sessions specifically aimed at professional development, which often cover the use of digital tools, educational software, and online resources. These sessions help teachers to become more comfortable and proficient with digital technologies.

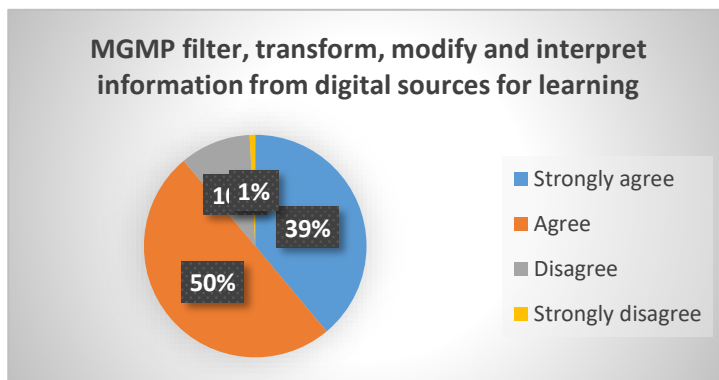


*Diagram 4. MGMP activities and programs improve teachers' understanding of the use of technology for learning*



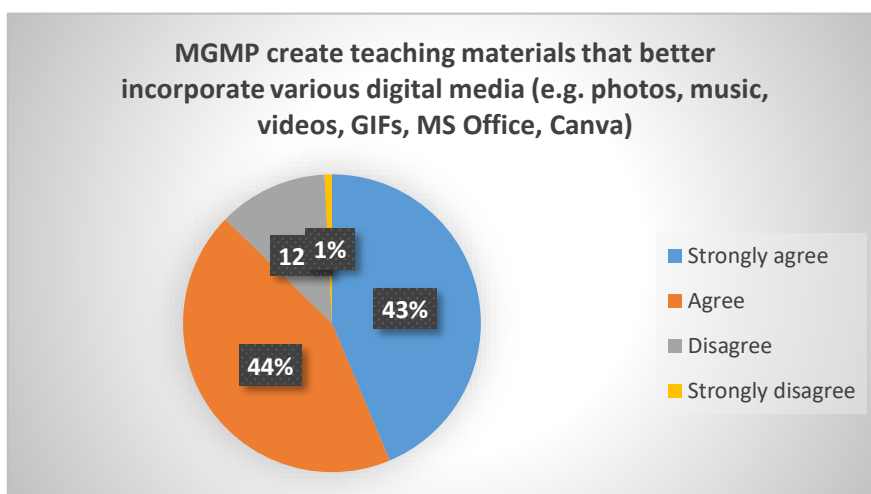
MGMP activity and program improve of the use of technology for learning which include innovative teaching strategies, strategies for classroom management, insights into the most recent educational curriculum, and the incorporation of technology into the learning process. Teachers have the ability to help others learn and develop. It is feasible that instructors will be able to perform their professional obligations and be supported by their pedagogical competence if they are able to use technology in the learning process. The objective of the program is to accomplish the goal of enhancing the capabilities of the MGMP as a whole by providing participants with the skills and information they require to navigate the constantly changing educational environment successfully. By addressing the various aspects that are included in the training, it will be possible to accomplish this task.

Diagram 4. MGMP modifies and interprets information from digital sources for learning



Through MGMP programs, teachers learn how to transform digital information to suit different learning styles. For example, they might convert textual information into visual aids, infographics, or interactive content to make it more engaging and accessible to students. Furthermore, teachers can use digital tools learned through MGMP activities to create custom learning materials tailored to their specific classroom needs. This could involve modifying existing resources to better align with the curriculum or the specific needs of their students.

Diagram 5. MGMP create teaching materials that better incorporate various digital media



MGMP programs often include hands-on workshops where teachers can practice using digital tools such as MS Office, Canva, and other multimedia software. This practical experience helps them become proficient in creating diverse digital content. These sessions are typically led by experts who provide valuable tips and techniques on effectively incorporating digital media into teaching materials. This guidance ensures that teachers use these tools efficiently and creatively. with the curriculum or the specific needs of their students

**D. MGMP Activities Enhance Digital Literacy**

<b>No</b>	<b>Quotations</b>	<b>Themes</b>
1	Learning methods, because it can utilize technology to be applied in learning so that it makes learning more fun and students are more active. (Teacher 12)	<b>Technology in Learning Methods</b>
2	21st century learning and the creation of interesting learning media because, we are racing in increasingly sophisticated technology so that teachers must be able to adjust, adapt digital technology well in order to create learning that is fun, interesting, and also challenges students to create and innovate. (Teacher 1)	<b>21st Century Learning &amp; Technology Adaptation</b>
3	Creation of interesting learning media. Learners are more interested in technology	<b>Creation of Engaging Learning Media</b>
4	Because we are facing the 21st century with massive technological developments, there needs to be appropriate learning to deal with it. (Teacher 54)	<b>Preparing for the 21st Century with Appropriate Learning</b>
5	The most useful are curriculum deepening and module making training. Deepening the curriculum is certainly more useful because the curriculum is the basis and reference for how learning takes place. Then training in making modules is also useful because this	<b>Curriculum Deepening &amp; Module Making</b>

	is a component that is always made by teachers. The more module-making training that can apply technology, the easier it will be for teachers to be able to create interesting learning. (Teacher 102)	
6	Use of technology for learning and activities that are useful for teachers to share knowledge to improve their knowledge of teaching strategies. (Teacher 35)	<b>Technology in Learning &amp; Teacher Collaboration</b>
7	Making technology-based learning media and digital literacy. (Teacher 36)	<b>Technology-Based Learning Media &amp; Digital Literacy</b>
8	Making interesting learning media because of the advancement of technology seeing times not accompanied by people adding teacher insight to use the latest and more creative learning media. (Teacher 99)	<b>Advancing Learning Media with Technology</b>
9	Discussing the latest information on methods, or technology in the learning process that aims to improve the quality of learning for both teachers and students. (Teacher 75)	<b>Updating Methods &amp; Technology in Learning</b>
10	In addition to discussing topical issues, it is also more common to equip members with material on the utilisation of technology for teaching. Specific applications that can be utilised as teaching media. (Teacher 11)	<b>Utilization of Technology in Teaching</b>

The table above showed about MGMP activities effectively captures the importance of integrating technology into education, it could be critiqued for lacking specific examples or practical applications. The quotations are broad and could benefit from more concrete suggestions on how teachers can implement these ideas in their classrooms. Additionally, the table focuses heavily on the benefits of technology but does not address potential challenges, such as the digital divide or the need for professional development to ensure teachers are equipped to use new technologies effectively. In addition, the table serves as a strong conceptual framework for understanding the role of technology in modern education, but it could be enhanced with more detailed guidance and consideration

of the practical implications.

### **Discussion**

The findings of this study illustrate the significant role that MGMP (Musyawarah Guru Mata Pelajaran) activities play in enhancing teachers' digital literacy. However, the effectiveness of these activities can vary depending on the specific programs implemented, the level of teacher engagement, and the resources available. One of the reasons certain MGMP activities are effective in improving digital literacy is their focus on collaborative learning. The study revealed that 52% of participants agreed that activities such as collaborative discussions and the sharing of best practices among teachers significantly contribute to their digital literacy development. This collaborative environment fosters the exchange of digital tools and techniques that teachers can integrate into their teaching practices, making learning more engaging and relevant for students. Workshops on the use of digital tools, educational software, and online resources further empower teachers to become proficient in using these technologies, which is crucial in the modern educational landscape.

However, the study also identified that the effectiveness of MGMP activities is not uniform across all areas of digital literacy. For instance, the mean score for "Modify Digital Information" was slightly lower compared to other categories like "Improve Digital Literacy." This suggests that while teachers may be gaining confidence in using digital tools, they may still struggle with more complex tasks such as modifying digital content to suit specific educational needs. This indicates a need for more targeted training in these areas to ensure that teachers can fully leverage digital technologies in their classrooms. Digital literacy encompasses the ability to effectively use digital tools and resources to find, evaluate, create, and communicate information. For teachers, this means being able to integrate various digital media into their teaching materials, enhancing the learning experience for students. The ability to use photos, videos, interactive tools, and software like Microsoft Office and Canva enables teachers to create engaging and innovative lesson plans. According to a study by Reddy and colleagues (2023), digital literacy is crucial for teachers to adapt to new educational technologies and improve their teaching methods.

MGMP programs offer hands-on workshops where teachers can practice using digital tools like MS Office, Canva, and multimedia software. This practical experience helps teachers become proficient in creating diverse digital content. According to a study by Hermawati and Chen (2023), hands-on training is effective in enhancing teachers' digital literacy

MGMP activities provide a platform for teachers to share their experiences and best practices. Peer-to-peer learning helps teachers discover new ways to use digital media in their teaching. A study by Darling-Hammond and colleagues (2024) highlights the importance of collaborative learning in professional development.

Younger teachers (21-30), having grown up in the digital age, often have a natural inclination towards digital tools. However, they may lack the experience to manage classroom dynamics when using new technologies effectively. MGMP activities can provide these teachers with pedagogical strategies to balance technology use with effective classroom management. According to a study by García and colleagues (2021), younger teachers benefit from targeted professional development that focuses on integrating technology with traditional teaching methods.

Teachers in the 31-40 age range generally have established teaching practices but are open to adopting new technologies to enhance their effectiveness. MGMP activities can help these teachers by providing hands-on training and practical examples of how digital tools can be integrated into their existing practices. This approach ensures that mid-career teachers see the immediate benefits of digital literacy, making them more likely to adopt and utilize these tools regularly. A study by Hennessy and colleagues (2022) found that mid-career teachers are highly receptive to professional development programs that demonstrate the practical benefits of technology integration

For older Teachers (41-60, the challenge often lies in the initial adoption of new technologies. They may feel less confident in their ability to learn and use new digital tools. MGMP activities can address this by offering targeted support and training that starts with the basics and gradually introduces more complex tools. Peer support and collaborative learning environments are also effective, as they allow older teachers to learn from their colleagues and gain confidence in their digital skills. According to a study by Mu'arifin and Narmaditya (2022), tailored professional development programs can significantly enhance the digital literacy of older teachers.

This study has several limitations that should be acknowledged. Firstly, the research was conducted using a quantitative survey, which primarily captures teachers' perceptions and self-reported data. While this provides valuable insights

into teachers' experiences with MGMP activities, it may not fully reflect the actual impact of these activities on digital literacy. Additionally, the study involved a relatively small sample size of 125 teachers, which may limit the generalizability of the findings to a broader population of educators in Indonesia. Furthermore, the study did not explore the long-term impact of MGMP activities on digital literacy, leaving questions about the sustainability of these skills over time. Further, several recommendations can be made to enhance the effectiveness of MGMP programs in improving digital literacy, such as:

First, targeted Training on Complex Digital Skills, given the lower scores in areas like modifying digital information, MGMP programs should include more focused training on advanced digital literacy skills. This could involve workshops that teach teachers how to customize and adapt digital content for various educational purposes. Second, the study highlighted challenges faced by teachers in remote areas with limited access to digital resources, which enhanced support for resource-limited areas. MGMP programs should collaborate with local governments and educational institutions to provide these teachers with the necessary digital tools and internet access, ensuring equitable opportunities for all educators. Lastly, MGMP programs should be designed as part of an ongoing professional development framework. This would involve regular follow-up sessions and refresher courses to ensure that teachers can keep up with the rapidly evolving digital landscape.

## **Conclusion**

To sum up, this study demonstrates that MGMP (Musyawarah Guru Mata Pelajaran) activities play a crucial role in enhancing digital literacy among teachers in Indonesia. By providing a structured, collaborative, and supportive environment, these programs help teachers develop essential digital skills, enabling them to integrate digital tools and resources into their teaching practices effectively. The findings show that MGMP activities, particularly those involving collaborative discussions and hands-on workshops, are perceived as beneficial by teachers across different age groups. However, the study also reveals areas for improvement, particularly in developing more advanced digital competencies, such as modifying digital content and integrating complex digital tools into educational practices. These areas require more targeted support and training to ensure that teachers can fully utilize digital technologies in their classrooms. While MGMP programs have

shown positive impacts on teachers' digital literacy, several limitations were identified, including challenges in resource availability, especially in remote areas, and variability in the effectiveness of different program components. To address these limitations, it is recommended that MGMP initiatives focus on providing more targeted and advanced digital literacy training, enhancing support for teachers in resource-limited settings, and incorporating continuous professional development to sustain digital literacy skills over time. Future research should adopt a mixed-methods approach to gain a deeper understanding of the impact of MGMP activities on digital literacy and explore strategies to overcome the challenges faced by teachers in various educational contexts. Longitudinal studies would also be beneficial to assess the long-term effects of MGMP participation on teachers' digital skills and their ability to adapt to the evolving digital landscape.

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