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The Impact of Community-Based Digital Literacy Training to Support the Merdeka Belajar Program

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Abstract. The implementation of the Merdeka Curriculum as one part of the Merdeka Belajar program is a must and requires support from various sides. Among them is strengthening digital literacy, which is inseparable from fostering a culture of literacy. This research aims to determine the motivation of teachers to participate in digital literacy training and the completeness of participants in terms of those who take part in further training until the end of the activity. In addition, it can find out literacy's understanding of digital literacy. The methodology used was research and development with data collection techniques of documentation, observation, and questionnaires. A total of 1,130 participants self-registered online and attended the opening. A total of 677 participants continued the training activities both online and offline. Participants were divided into 28 classes, consisting of 26 online classes and 2 offline classes. After attending the advanced training for 3 days, 584 participants passed. The community-based training model is very useful to facilitate the improvement of teacher competencies, especially in the field of digital literacy, voluntarily and free of charge. Respondents consisted of 44 male participants and 155 female participants. In addition, the online model had 162 participants, the offline model had 10 participants, and the offline and online models had 27 participants. As a result, general literacy understanding reached 83%, knowledge of types of literacy 84%, literacy competence 84%, knowledge of the school literacy movement 84%, the importance of literacy 85%, literacy habituation 82%, literacy integration 81%, and digital literacy knowledge 84%.

Keywords: training; digital literacy; community; *Merdeka Belajar*.

INTRODUCTION

The existence of the COVID-19 pandemic made the Ministry of Education and Culture abolish the National Examination (UN), which has changed several ministers unsuccessfully. So, based on these conditions, the Ministry of Education and Culture launched Merdeka Belajar. One of them is replacing the UN with the National Assessment (AN). The teacher's choice of knowledge to be transferred is very important (Gambini & Lénárt, 2021).

Merdeka Curriculum, as one part of the Merdeka Belajar Program launched by the government on February 11, 2022, requires support from various sides in its implementation. One of them is strengthening digital literacy as an integral part of fostering a general literacy culture in education.

The survey of the Indonesian Internet Service Providers Association (APJII) for the 2022–2023 period saw 215.63 million internet users in Indonesia. Compared to the previous period of 210.03 million users, this number increased by 2.67%. The challenges of the 21st century are indeed very tough. Technological, social, and ecological changes are happening all over the world. Starting from technological disruption that impacts all sectors, demographic changes, and the socio-economic profile of the world's population.

Education is inseparable from the role of digital technology. Despite digitalization in education, it can never replace the role of teachers in classroom learning. Digital technology is just a tool for education to jump further ahead. Digital technology is increasing significantly in the 21st century, encouraging students to learn and innovate. To develop a new curriculum and online system and promote education towards an advanced Indonesia in 2045, the Ministry of Education and Culture points out that digital technology must be integrated into education. Changes are made to make the ideas fit the students' abilities and the capabilities of the teachers and teaching staff.

Human resource development is part of HR management. Human resource development includes curriculum design and career planning and development. The curriculum must be professionally designed according to individual and organizational needs. Education costs money. Neglect of education is costly, including the decline of the nation's dignity internationally, increased crime, and poverty. Indonesia has abundant natural resources. However, poverty is still high, and education, especially the quality of human resources, lags behind the country (Usman, 2019).

Sedarmayanti (2019: 11) explains that HR is the power of human thinking and working power that is still stored within and needs to be explored,

fostered, and developed to be utilized as well as possible for the welfare of human life. The existence of formal and informal training paths and professional development courses gives teachers the opportunity to contact new realities and try new ways of personal activation (Gervasi et al., 2022). This approach aims to define competent professionals as being able to build teamwork relationships with their peers, participate, and exchange opinions in a socio-cultural context (Urbani, 2020). On average, better educated people parent better than less educated people. (Lövdén et al., 2020). The success rate of continuous professional development programs can only be seen in the long term and depends on continued support from school and district leaders (Nakidien et al., 2022). Individual or peer tutors, hands-on practice, and a strong tutor presence are helpful (Vuojärvi et al., 2021). Professional teachers are a special need for the implementation of 21st-century learning. The success of learning and general education is highly dependent on the presence of professional teachers (Budiwati et al., 2019). The central position of teachers in student learning must be balanced with continuous monitoring of teacher quality (Sumaryanta et al., 2018). As explained by Armstrong (2009, 664), learning and development are the processes of gaining and developing knowledge, skills, abilities, behaviors, and attitudes through learning or experience.

Learning and development approaches, according to Armstrong (2009: 666), include informal and formal learning, e-learning, blended learning, self-directed learning, development, and training.

Various training methods have been widely used, one of which is the method according to Ivancevich (2010; 403): on-the-job training, case method, role playing, in-basket technique, management games, behavior modeling, and outdoor-oriented programs. Planning and training strategies, according to Mello (2015: 387), include assessment, objectives, design and delivery, and evaluation.

Education as a system benefits from a well-planned innovation strategy. A well-planned innovation strategy in education can harness the potential of new technologies and, with the right policy mix, drive efficiency and better outcomes in terms of quality and equity (OECD, 2016). In his book Digital Literacy, Paul Gilster (1997) explains that digital literacy is defined as the ability to understand and use information in various forms from various sources accessed through computing devices. Millennials and Generation Z are unique and different individuals who need to be treated individually in their education process. Students are no longer interested in teacher learning. Students are more interested in learning new things and making their own process-oriented discoveries. This process is better known as a student-centered learning approach (Helaludin, 2019). The higher the competence of students in self-regulated language learning, the greater the effect on learning efficiency, which leads to the achievement of educational goals (Farikah, 2021). The COVID-19 pandemic can have a positive impact when seen from a different perspective (Kemala Sari, 2021). Thus, learning about digital literacy in the context of open access and overcoming related barriers and stereotypes (Edelmann et al., 2020)

Digital literacy training in schools has shown that these activities can be integrated into the curriculum, which can help children understand visual content (Chopra et al., 2019). The digital literacy training model for parents has several advantages, such as saving time, combining theory and practice, and supporting parents to expand their knowledge and skills in the field of digital media (Nurhayati et al., 2022).

The government, through the Ministry of Education, Culture, and Research, has made Merdeka Belajar a policy for 23 episodes. Merdeka Belajar policy is a policy program from the Ministry of Education and Culture launched in accordance with the President's direction to improve the quality of human resources (HR). Merdeka Curriculum is one of the 15th episodes of Merdeka Belajar and was launched on February 11, 2022. This is based on the COVID-19 pandemic; the learning crisis that occurred caused education to fall further behind in terms of learning loss and the widening of learning gaps between regions and socio-economics. To restore post-pandemic learning, it is important to simplify the curriculum. The effectiveness of the curriculum in certain situations underscores the importance of broader changes in curriculum design and delivery strategies.

Pre-pandemic, one-year learning progress (in Grade 1) was 129 points in literacy and 78 points in numeracy. Post-pandemic, learning progress in grade 1 dropped dramatically (learning loss). In literacy, this learning loss is equivalent to six months of learning. In numeracy, the learning loss corresponds to 5

months of learning.

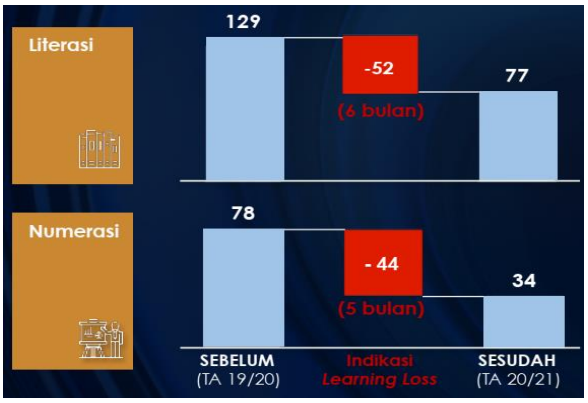


Figure 1. Indication of learning loss (reduced learning progress from grade 1 to grade 2)

The survey was conducted on 18,370 grade 1-3 elementary school students in 612 schools in 20 districts or cities in 8 provinces, showing significant differences in learning outcomes between the 2013 Curriculum and the Emergency Curriculum. PISA results show that 70% of 15-year-old students do not have the minimum ability to read easily or apply basic math concepts. This is reinforced by the fact that PISA scores have not improved significantly in the last ten or fifteen years. Research shows that there are large differences in the quality of learning between regions and socio-economic groups. This is exacerbated by the COVID-19 pandemic. The direction of curriculum change covered in Merdeka Episode 15 Curriculum is a more flexible curriculum structure that focuses on essential materials, provides flexibility for teachers to use different teaching tools according to student needs and characteristics, and provides applications that can be provided by different teachers in developing independent lessons and sharing best practices.

This research was conducted to determine the motivation of teachers to participate in digital literacy training and the completeness of participants in terms of who participated in further training until the end of the activity. In addition, it can find out about literacy's understanding of digital literacy.

METHODS

The research methodology used is research and development. The choice of development method is very important considering that the product or model developed will be widely used in training. This research uses the development research procedure from Borg & Gall (1983). with data collection techniques of documentation, observation, and questionnaires (questionnaires). The development uses the Dick and Carey (2015) system approach, ADDIE (analysis, design, development, implementation, and evaluation).

Table 1. Profile of participants (respondents)

		Frequency	(%)
Gender			
1.	Male	44	22.11
2	Female	155	77.89
School Level			
1.	Elementary School or equivalent level	140	70.35
2.	Junior High School or equivalent level	54	27.14
3.	Senior High School or equivalent level	5	2.51
Type of Training			
1.	Online	162	81.41
2.	Offline	10	5.03
3.	Online and Offline	27	13.57

This approach is used to continuously improve educational products through four main phases: development, design procedures, implementation, evaluation, and control of each stage. The source of research data with data collection techniques through documentation from January to July 2022 The table below shows the development of digital literacy training registrants. The population in the study was all teachers in Rembang Regency. The sample in this study was teachers in Rembang Regency, totaling 199 from various levels and 14 sub-districts. The sample used was digital literacy training participants from various levels, with random sampling techniques for respondents who filled out questionnaires. Data processing uses descriptive quantitative analysis from documentation studies and instruments that

respondents fill out online using the Google Form application. Simple data processing using Excel Simple analysis is used to determine the number and percentage of participants and the data for each indicator in the questionnaire related to digital literacy.

RESULTS AND DISCUSSION

Specifications of the Digital Literacy Training Model

Recent research on innovation and innovation processes has increasingly focused on so-called human-driven, practice-based, or workplace innovation. Traditionally, achieving innovation was seen as a linear process from scientific research to innovative applications in the real world. The innovation process is simultaneously viewed from four different perspectives: (1) innovation viewed as a product; (2) the emergence of innovation; (3) actors involved in the creation or adoption of innovation; and (4) the dissemination or diffusion of innovation. The four perspectives have temporal and spatial dimensions (Halasz, 2021).

(a) (b)

Figure 2. Opening (a) by the Regent of Rembang (b) Offline participants

Involving several related agencies, the activity opened by the Regent was attended by all primary education principals, both in elementary and junior high schools. A total of 326 participants attended offline in the hall of the Rembang Regent's Office, and the remaining 882 participated online. Thus, the digital literacy training was attended by 1,148 participants, consisting of 1,130 who registered online and 18 who registered on the spot. The recapitulation of participants can be seen in the following table:

Tabel 2. Digital Literacy Training Participants

		Frequence	(%)
School Level			
1	Kindergarten and Early Childhood Education	3	0.26
2	Elementary School or equivalent level	774	67.42
3	Junior High School or equivalent level	323	28.14
4	Senior High School or equivalent level	44	3.83
5	Higher Education and Public	4	0.35
Type of Training			
1	Online	822	71.60
2	Offline	62	5.40
3	Online and Offline	264	23.00

The advanced training was conducted offline and online, according to the participants' choice. The Regent of Rembang was the keynote speaker, followed by a plenary session with speakers Indra Charismiadji (Jakarta) and Ary Prabowo (Semarang). Consumption for all participants was facilitated by Siberkreasi-Kemenkominfo RI. Meanwhile, online facilities were assisted by the Communication and Informatics Office of Rembang Regency and Kemenkominfo RI through the Zoom meeting application.

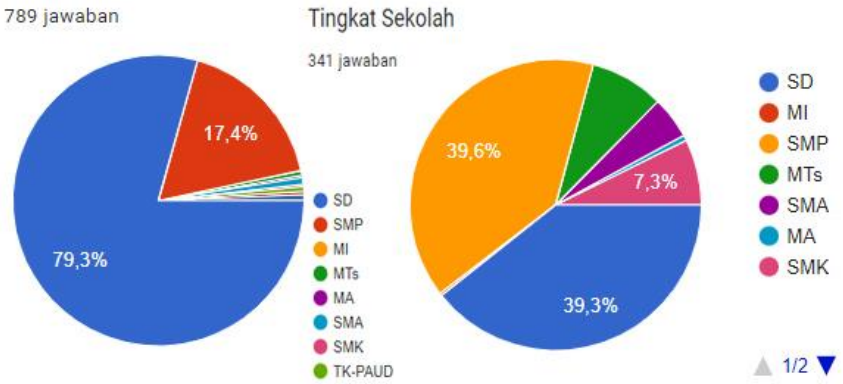


Figure 3. Digital Literacy Training online registration

Of the 1,148 participants who registered and attended the opening, 774 (67.42%) were from elementary school, and 323 (28.14%) were from junior high school. The rest were from SMA, MA, SMK, PT, and general levels. After the opening activity, participants were given a link to fill out the re-registration form for the continuation of the training. A total of 677 participants, or 59% of the 1,148 opening participants, continued with the next material. Consisting of 457 (67.5%) at the elementary level, 173 (25.6%) at the junior high level, and the rest from the MI, MTs, MA, SMA, and SMK levels. Participants were divided into 28 classes containing 24–25 participants. There were 26 online classes and 2 offline classes. Each class was guided by two GMT alumni. After completing the advanced training for 3 meetings, 584 teachers (86.26%) passed the training and were entitled to receive 32 JP training certificates. While the remaining 93 participants (13.74%) were declared unsuccessful and were not given certificates.

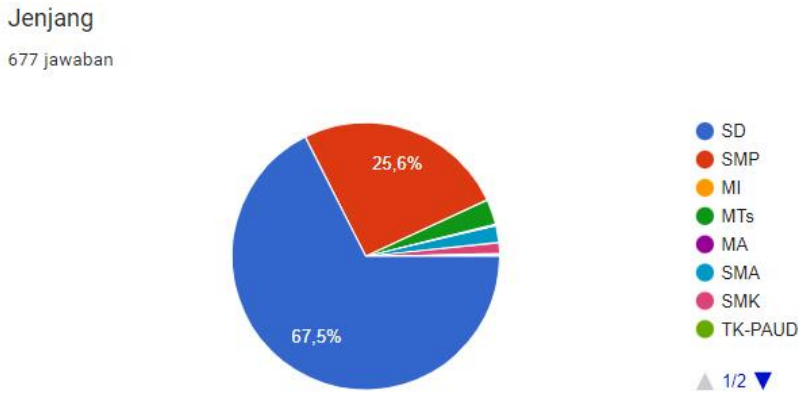


Figure 4. Participants who attended the advanced Digital Literacy Training

Development Design

In design and thinking, it is explained that design quality is influenced by variables such as fixation, creativity, process strategy, and alternative creation. An important part of the design thinking problem-solving process is the ability to summarize information from multiple sources (Cross, 2007; Pink, 2006; Simon, 1996) (Chinggsinggchai, 2015). Design thinking has an interdisciplinary character. The problem-solving process involves not only drawings or sketches but also the creation and use of models, simulations, and prototypes.

From an educational perspective, design thinking (Chinggsinggchai, 2015) has the potential to foster the development of students' creative and adaptive skills and enable them to acquire the knowledge, skills, and attributes required to work collaboratively on complex problems.

ICT tools and skills can provide more flexible and responsive resources that meet the learning needs and interests of different students. Peer learning can be as important in this context as teacher facilitation. Actively engaging with digital objects can be a more effective way to learn than passively absorbing teacher-led learning. However, this new way of learning may be more in line with the current lifestyle of

students enabled by technology. More importantly, new learning methods are more likely to foster designer mindsets and knowledge that are better suited to solving complex societal challenges.

For education to pay more attention to the design characteristic dimension of human culture and civilization and include design thinking as an integral part of education. The development of design thinking among today's students is particularly important in the information age, which is largely driven by technological advances. Design thinking aims to use knowledge and practice to find feasible solutions that meet the needs and interests of society in the context of current social challenges. The student-centered approach of design thinking also encourages empathy and promotes character development in students. In contrast to scientific thinking, which sees uncertainty and ambiguity as threats to knowledge development, design thinking thrives on ambiguity and uncertainty. As such, it enhances students' educational experience by encouraging innovative and reflective thinking, self-awareness, and social awareness. In short, the design thinking approach promotes many desirable characteristics that have been identified as 21st century competencies (Chinggsinggchai, 2015).

Some implications that cannot be separated from digital literacy include the emergence of a digital society, the need to be more concerned with communication ethics, and the need to pay more attention to the legal aspects of the digital world (Kemendikbud, 2018).

(a) (b)

Figure 5. Coordination with (a) the Education Office and (b) the Regent of Rembang

Starting from formulating ideas, analyzing training needs, designing the entire training program, developing, compiling, and making training materials, implementing or applying training programs, and assessing or evaluating the effectiveness of materials (Dessler, 2013). The development design carried out is in synergy with education stakeholders and the National Movement for Digital Literacy under the Ministry of Information and Communication, with the Indonesia Makin Cakap Digital and #jempolwaras programs. It began by coordinating with Siberkreasi representatives of Central Java-DIY, the Education, Youth, and Sports Office of Rembang Regency, and the Communication and Information Office of Rembang Regency, followed by coordination with the Regent of Rembang. From the results of coordination with the Regent, Dinkpora, Office of Communication and Information, IGI, and the Rembang Literacy Activists Association, together with Siberkreasi Central Java-DIY, it was agreed that there would be high-level training.

Deployment and Impact of Digital Literacy Training

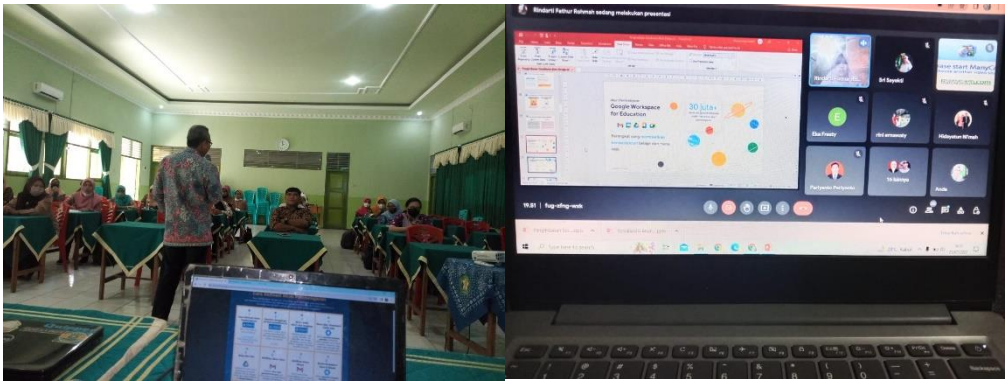
This activity is a dissemination of training results carried out online with the concept of Google Master Trainer (GMT). GMT training graduates are deployed to train participants who take part in offline or online training by utilizing the @belajar.id account.

Teachers who have not had the opportunity to participate in GMT will gain knowledge from GMT alumni. The material provided after the opening and main material includes the utilization of the @belajar.id account for learning, optimizing the utilization of Google Docs, Google Meet, Google Drive, Google Sheets, Google Slides, and other learning support applications facilitated by @belajar.id as well as the @unnes.ac.id account.

The impact of the diffusion and innovation of the digital literacy training model developed is

very beneficial for teachers in optimizing the @belajar.id account for learning. One type of digital literacy, called digital skills, will be accomplished. Meanwhile, the other three types of digital literacy are explained at the opening and on the first day of training.

So far, many teacher quality improvement programs have been implemented only based on qualitative and speculative analysis by decision-makers without accurate data (Sumaryanta et al., 2018). The key element of the teacher education and training model to achieve learning outcomes and competencies in sustainable development is transformative activities. This means not only a theoretical framework as a basic model, which each educational institution individually adapts to its own needs, but also socio-emotional competencies (Puertas-Aguilar et al., 2021).



(a) (b)

Figure 6. Advanced Digital Literacy Training (a) offline (b) online

The community-based teacher training program was well received by the program participants, who successfully improved their skills according to the set objectives. In fact, community-based teacher training can increase synergy between teachers in the community, fostering a culture of collaborative learning among teachers (Sumaryanta et al., 2019). Training should be conducted periodically, and knowledge should be gained through internal and external training (Saidi & Habibi, 2022). Literacy strengthening strategies are steps or efforts to integrate students' literacy skills into assessing learning (Muliantara & Suarni, 2022). Various types of training have not yet existed in the form of massive digital literacy training and workshops. Ivancevich (2010: 394) explains that training is a systematic process for changing the behavior of members in a direction that achieves organizational goals.

Many innovations and technological advances find their place in everyday life. The innovations and technologies physically available in the educational environment are not sufficient for an effective technology integration process. In this context, initial and advanced training is organized to inform teachers about new technologies (Calşkan & Zmirli, 2020).

Another key factor in training is ensuring that desired training outcomes are reinforced when employees achieve or complete them. When training, performance measurement, and rewards are delivered in isolation and not integrated into a broader, more comprehensive HR strategy, they are less likely to receive the appropriate and necessary reinforcement. The tools used to evaluate employee performance should reflect this change.

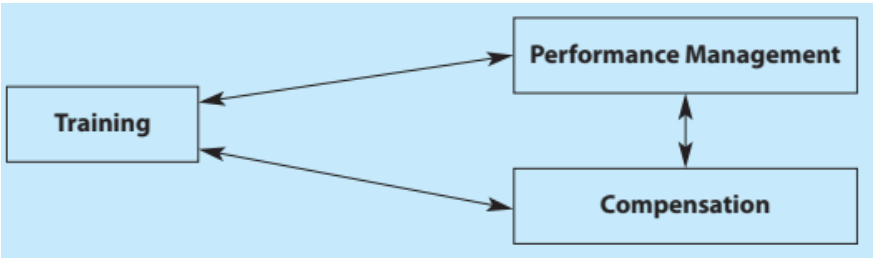


Figure 7. Relationship between Training and Performance (Mello, 2015:397)

The more important the skills are to the organization of strategy, the more weight should

be given to evaluating performance. When employees have acquired new skills and knowledge and successfully applied what they have learned to improve organizational performance.

Participant understanding of digital literacy

The results of the questionnaire filled out by 199 respondents out of 677 training participants related to general literacy, types of literacy, literacy competencies, the school literacy movement, the importance of literacy, literacy habituation, integration, and digital literacy. The results are shown in Table 3.

Table 3. Recapitulation of the average score of respondents

Indikator	Number of indicators	Average score	Average score max	%
General literacy	6	25.04	30	83.5
Types of literacy	6	25.21	30	84.0
Literacy competencies	3	12.62	18	84.2
School literacy movement	9	37.85	45	84.1
The importance of literacy	5	21.24	25	84.9
Literacy habituation	7	35.00	35	82.4
Integration literacy	4	16.28	20	81.4
Digital literacy	10	42.18	50	84.4

From Table 3, it can be seen that the overall score of the indicators related to literacy is above 80%. The percentage is calculated by comparing the average score obtained from respondents' choices against the average maximum score for the indicator concerned.

In the world of education, innovation is needed to change something and create something new that can improve the quality of education. The implementation of an educational innovation has a quality that can give color to the innovation itself (Saleh et al., 2021). The source of new ideas and services is identified as emerging or newly understood needs in society (Schröer, 2021). The innovation decision process is the process that a decision maker goes through from the first knowledge of the innovation to the formation of attitudes towards the innovation, the acceptance or rejection of the decision, the implementation of the new idea, and the confirmation of the decision (Rogers, 1983). The key to effective intervention implementation is moderate or very extensive school implementation and the managerial practices of school administrators (Bae et al., 2019).

Teachers must develop appropriate skills to utilize the innovation. In this context, initial and advanced training courses are organized to inform teachers about new technologies (Calşkan & Zmirli, 2020). Needs-based teacher competency development is a key requirement for schools to improve the quality of education. Needs-based planning and assessment of teachers' competency development needs In line with Industry 4.0 changes and the need to improve staff quality, teacher competency development focuses on improving teachers' ability to assess literacy. Needs-based assessment skill development programs and training are likely to improve teachers' ability to assess and improve the quality of student learning outcomes.

CONCLUSION

The innovation of the community-based digital literacy training management model can be carried out due to breakthroughs, courage to make decisions, coordination, and synergy with various parties, especially education stakeholders. The organizing committee did not spend any money on resources or participants. Offline consumption comes from Siberkreasi, the venue is from the District Government, and participants independently pay for data quotas during online implementation. With the involvement of various parties, the activity, which was attended by 1,148 participants, was highly successful until the end and was opened by the Regent. In fact, it took place in the Regent's office hall, which is usually used for the inauguration of officials in the Regency.

There were 326 participants who participated offline (28.4%) and 882 participants (71.6%). This was because most of the participants worked from their respective schools, and the room could only accommodate 300 participants. The innovation model continued to be diffused to other teachers, having a direct impact, especially on the implementation of digital literacy. Digital literacy training has an impact on the Merdeka Belajar program to improve the quality of education in Indonesia.

ACKNOWLEDGEMENT

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