Implementation of Strengthening Numeration Literacy and Adaptation of Technology

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Abstract

It turns out that education held in elementary schools still experiences many obstacles. The obstacles in question include the lack of professional teachers, low student ability, limited infrastructure, and so on. This is the kind of thing that is still being experienced by SDN KI Hajar Dewantara 01. Therefore, the aim of this service is that the team wants to inform the school about the causes of students' low ability in numeracy literacy. Apart from that, the team wants to provide solutions to teachers to improve students' abilities, especially in terms of strengthening numeracy literacy. Not only that, another goal is that the team wants to increase teachers' knowledge in adapting technology for learning. This service includes solving cases so that the suitable method used to analyze data is descriptive qualitative. The research results show that it is not enough to rely solely on school teachers to increase the strengthening of numeracy literacy. For this reason, contribution, collaboration and consistency from various interested parties are needed. Thus, the success of education at the elementary level needs to be fought for better continuity of further education.

Keyword: Literacy strengthening; Technology adaptation; Learning

Abstrak

Pendidikan yang diselenggarakan di sekolah dasar ternyata masih mengalami banyak kendala yang dihadapi. Kendala yang dimaksud itu di antaranya adalah minimnya guru profesional, rendahnya kemampuan siswa, keterbatasan sarana prasarana, dan sebagainya. Hal seperti itulah yang hingga kini masih dialami SDN KI Hajar Dewantara 01. Oleh sebab itu, tujuan dilakukan pengabdian ini adalah tim ingin memberitahukan kepada pihak sekolah penyebab rendahnya kemampuan siswa dalam literasi numerasi. Selain itu, tim ingin memberikan solusi kepada guru-guru untuk meningkatkan kemampuan siswa terutama dalam hal penguatan literasi numerasi. Tak hanya itu, tujuan lainnya adalah tim ingin meningkatkan pengetahuan para guru dalam adaptasi teknologi untuk pembelajaran. Pengabdian ini termasuk penyelesaian kasus sehingga metode yang cocok digunakan untuk menganalisis data adalah deskriptif kualitatif. Hasil penelitian menunjukkan bahwa tidak cukup hanya mengandalkan guru sekolah untuk meningkatkan penguatan literasi numerasi. Untuk itu, diperlukan kontribusi, kolaborasi, dan konsistensi dari berbagai pihak yang berkepentingan. Dengan demikian, keberhasilan pendidikan di tingkat SD perlu diperjuangkan untuk keberlanjutan pendidikan selanjutnya yang lebih baik.

Kata kunci: Penguatan literasi; Adaptasi teknologi; Pembelajaran

INTRODUCTION

Education is the most essential thing in life at school and in society. However, education held in elementary schools still faces many obstacles. The obstacles in question include the lack of professional teachers, low student literacy skills, limited infrastructure, and many more. The emergence of the second case, namely the low ability of students due to the length of online learning during the pandemic. In addition, the first and third obstacles, namely the absence of professional teachers and inadequate infrastructure in schools also contribute to the causes of students' inability to be literate.

That way, these problems are very closely related, like a chain that will never be broken. Things like that are still being experienced in several schools in Indonesia. One of the schools in question is KI Hajar Dewantara 01, Bogor Regency. It turns out that there is still a very significant disparity in education for one of the elementary schools in Bogor Regency. What is most concerning is that there are students who still cannot read and understand arithmetic questions. They were already in the upper grades of elementary school. It is also possible, if this matter is not immediately handled together, the quality of the graduates will not be able to compete in good secondary schools.

In addition, aspects of their behaviour and discipline are weak due to the lack of monitoring of their activities by the teacher. Student behaviour that needs to be highlighted is in terms of speech that is less polite. The use of impolite language like that can lead to social conflict, even reaching the realm of law (Maryam et al., 2020). Such things can be categorized into language crimes. Therefore, it is necessary to apply polite language starting from the family environment so that students get used to speaking well at school (Pratikno, 2020).

Therefore, the purpose of this activities is that the writer wants to find out what causes the low ability of students in numeracy literacy. Apart from that, another goal is that the writer wants to explore how the solution must be done to improve students' abilities, especially in terms of strengthening their numeracy literacy. Text literacy in question is the extent to which students can read a piece of writing and how they can understand the contents of the text. Meanwhile, numeracy literacy is the ability of students to understand and answer questions in the form of numbers in a table, graph or chart. Thus, numeracy literacy is inseparable from mathematics lessons at school (Ekowati et al., 2019).

GENERAL DESCRIPTION OF THE COMMUNITY, PROBLEMS AND TARGET SOLUTIONS

General description

In addition, in the learning aspect, teaching and learning activities at Ki Hajar Dewantara 01 are still carried out manually, namely face-to-face directly coming to school. Even so, the learning system implemented there still uses an offline learning system, namely during learning, each class is filled with 100% of the total class students. However, the technique is to

divide 2 shifts. The first shift that comes in is students of grades 1, 2, 3, and 6 by conducting offline learning from 08.00 to. 10.00. Meanwhile, students in grades 4 and 5 conduct lessons from 10.00 to. 11.30 WIB. Offline learning is difficult because there are several factors, one of which is the short duration of learning time.

In the end, students' abilities become less, both in terms of cognitive and academic. In fact, there are still students who cannot read, write, and count. They are already sitting in grades 3, 4, and 5 of elementary school. Not only that, students who can read also have a problem, namely their interest in literacy is very low. One reason is the change in reading habits due to technological developments so that their ability to understand texts is reduced (Setyawati et al., 2021). General information obtained from direct field observations included the identity of this school named Ki Hajar Dewantara 01. This school has the status of a state-owned government. The inauguration took place in 1982 with a land area of 990 m2. However, something is worrying, namely the physical condition of the school building is starting to deteriorate. Therefore, this needs to get the government's attention so as not to endanger students.

Problem

Lack of information on technology

Based on the educational problems above, especially those related to educational resources, there needs to be immediate, comprehensive treatment. If it is not handled well, the problem will spread further, hurting students. They will become lazy, less creative, and less disciplined.

Target Solution

the target of this service is to increase students' interest in numeracy literacy. Apart from that, the team will also provide interesting and solution learning through the introduction of technological adaptation.

METHOD

This service is included in collaborative activities. This collaboration is carried out between schools, namely teachers and universities, through assignments to students who are guided by field supervisors. The data source that the writer uses is primary data. comes from the results of direct observation of the target school. The school that was the target of the observation was SDN KI Hajar Dewantara 01. The school is located in Jeletreng Village, RT 04 RW 04, Cogrek Village, Parung District, Bogor Regency, West Java. In addition, the authors also collected data through interviews with one of the teachers there to find out information about the school and how the administration is managed. The object of research was students who were active in school at Ki Hajar Dewantara 01. which coincided with teaching and learning activities at the school. This is done to see directly the physical condition of the school, starting from the schoolyard, teachers' room, classrooms, and other spaces. In addition, during the initial observation, the authors mapped out school problems, starting from general information, learning aspects, technology adaptation, and school administration. With the results of these observations, the problem can be identified and then analyzed to find a solution.

RESULTS AND DISCUSSION

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In overcoming the educational problems above, it is necessary to create a clear planning concept map. The planning concept was discussed through discussions via zoom between the student team and the supervisor to get clear and concrete directions. Many things were conveyed when discussing planning concepts in the zoom meeting. This includes additional teaching assistance, technology adaptations, and school administration.(Masita & Amalia, 2018)

Based on the results of the joint discussion, it can be said that it is not enough to just rely on school teachers to increase the strengthening of numeracy literacy for students. Therefore, there is a need for collaboration and elaboration with a qualified team according to their competence. They are sometimes willing to give time outside study hours for additional guidance on learning to read and count. Even so, by holding this activity, of course, they are not just teaching and are not replacing the teacher in the class. The presence of the team here is to work closely with the school, especially the teachers in providing learning experiences to students. In this collaboration, many things can be done, namely the team and the school can share certain knowledge, experiences and expertise. That way, they can fill in and complete something that is lacking in the target school. As a result, students and teachers happily accepted the presence of the team.(Lindberg, 2024; Ponce-Delgado et al., 2024; Shoujiang, 2023)

In the learning aspect, the learning system implemented at Negeri Ki Hajar Dewantara 01 is offline. Even though it is still in a pandemic atmosphere, the school does not divide meetings into sessions for each class. Based on data collected from initial interviews, grades 1, 2, 3, and 6; The lessons are held in the morning, from 08.00 – 10.00 WIB. Meanwhile, for grades 4 and 5, teaching and learning activities take place at 10.00 – 11.30 WIB. The reason the school doesn't divide it into several sessions is that usually when students come home from school, they immediately take part in the study (recitation). After knowing the study time, students make schedules and distribute tasks to their teams to enter these classes. The aim is to find out the characteristics of which students still have a low level of numeracy literacy. Therefore, these students need to get extra attention to be followed up by students through their program. However, before carrying out the follow-up, they need to explore the reasons why the student has not been able to read and write. If you look closely, the student is already in the 3rd grade of elementary school.(Arts et al., 2024; Cepni et al., 2021; Pfeiffer & Landa, 2022)

Supposedly, parents have a high concern for their children's learning abilities, especially in terms of reading. So, if it is felt that learning at school is not optimal enough, especially with the pandemic situation, they don't just rely on teachers at school so that their children can read and count. However, parents also help teach reading to their children when they are at home because they spend more time at home than at school. Thus, collaboration between teachers and parents can be well realized to form students who are smart and diligent in reading so that literacy increases.(Lamptey et al., 2024; Weigel & Armijos, 2023)

After mapping out the root of the problem, the team offered the school to provide additional learning to read for students with weak numeracy literacy. As a result, students, teachers and parents welcomed and enthusiastically accepted the offer. Then, additional reading tutoring activities have been carried out every week, the program must be reported to the teachers and

supervisors to find out the progress and give feedback. Team activity reports can be submitted directly to teachers when they meet at school. In addition, these activities must also be communicated to supervisors every week through zoom meetings.

The additional guidance program is included in the priority program that is urgent to be implemented by the team so that the impact will reduce the number of students who cannot or cannot read. This priority program does not only focus on students with weak literacy. However, along the way, the program also pays attention to students who can already read it fluently. Students who are fluent and able to read are directed to like reading children's literature. That way, later students will have an increased sensitivity to humanity and high social awareness (Fatimah & Kartikasari, 2018).

One of the superior programs for them is the creation of a reading corner. This reading corner will be located in the corner of each classroom. So, the goal is that students don't need to go to the library to read books, but they just stay in their class while reading. They can do this activity when they are waiting for the start of learning or after learning, it can even be during recess. With this reading corner, it is hoped that the classroom atmosphere which was busy and noisy before will become conducive because the children focus on reading even when the teacher is not in the classroom. In the future, it is hoped that there will be literacy discourse for students because of their enthusiastic interest in reading it (Nugraha & Octavianah, 2020). In addition, it is intended that students have a routine habit of reading books during their free time in class. That way, problems regarding literacy can be reduced because these good habits are implemented at SD KI Hajar Dewantara 01. Some of the books in the reading corner come from students, students, supervisors, and the community. At the same time, the team opened book donations through social media. With this advertisement on social media, the wider community can also participate and donate their books for the benefit of students and schools. The following image is a form of the team's creativity in creating a reading corner that also involves students. Students also participate in donating their books so they feel concerned about protecting their books. Students also participated in donating books so they felt they cared about protecting their books. Donating books not only helps those in need, but also strengthens awareness of the importance of preserving and protecting those books. Such actions not only show kindness, but also teach important values of sharing and caring for the community. The results of the reading corner have been used by students to read books that have been donated by donors. That way, there will be an increase in language skills for students (Pratikno, 2023b). The following picture is a form of student enthusiasm in reading books in the reading corner. The proof is that students become more enthusiastic, disciplined and responsible in every task, including literacy activities (Heru Pratikno, n.d.).

Students' enthusiasm for reading books in the reading corner is a positive sign of the positive impact brought by these literacy activities. When students feel motivated and inspired by the books they read, they tend to be more enthusiastic, disciplined, and responsible in their assignments. Reading books not only broadens their knowledge, but also helps develop critical thinking skills, language abilities, and empathy.

When students experience direct benefits from reading, they tend to be more engaged in literacy activities and more committed to improving their reading and writing skills. It can also

strengthen the relationship between students and teachers, as teachers can play an important role in inspiring and guiding students on their literacy adventures. Thus, a supportive literacy environment in schools can have a broad positive impact on students' academic and personal development In terms of technological adaptation, the school did not implement it properly and was not carried out thoroughly. That is, there is still far from the use of technology. At the school there is also no computer room for students, even though this is needed to support learning. Meanwhile, the school administration that occurred at SD Negeri Ki Hajar Dewantara 01 is still relatively rare. So, some student data collection is still done manually, namely by using book records. Several things are the goal or focus of the program in helping students adapt to technology. One of them is that the service team prepares digital learning via devices, namely gadgets or laptops. This is done to avoid boredom in studying among students who always study by listening to lectures and with books. The following is proof of its implementation. Apart from that, the team created social media (social media) for schools. This media contains various information related to schools. This is done so that SD Negeri Ki Hajar Dewantara 01 becomes an active school and is known to the wider community. That way, anyone who wants to find school-related information can access it completely and easily on social media. This is the positive impact of the presence of social media (Kamaruddin & Rizky, 2018). It is planned that the social media will be updated once a week, which will include activities that will be and have been carried out during the program. The social media in question include Instagram and YouTube. The reason for choosing to use the two social media is because the majority of people use it more dominantly

Not only for schools, technology adaptation is also targeted at students and school teachers. Students will be introduced to several applications on their mobile phones or laptops related to learning. That way, students can understand the material; practice doing questions; and take the test in the application. So, students can follow technological developments and use their gadgets carefully. In addition, teachers are also taught how to operate laptops to make teaching materials in the ppt program. In addition, teachers are also taught how to use the zoom application as an online learning tool.

With this application, teachers can also adapt to changes in methods and ways of teaching so that they are even better by following the digitalization era. Students are more enthusiastic if learning is carried out through digitalization because they can see the explanation directly. Apart from that, the online media activities outside of studying that they carry out greatly influence the quality and quantity of their written content (Pratikno, 2023a). This is called digital literacy. Furthermore, (Naufal, 2021) said that digital literacy is a form of ability to obtain, understand, and use information that comes from various sources in digital form. The benefit is that digital literacy can streamline interaction and communication between teachers and students during online learning during a pandemic (Irhandayaningsih, 2020).

Next is about school administration activities. Several things have been implemented in the program regarding the provision of school administration assistance. The programs that have been running include collaborating with teachers in making Learning Implementation Plans (RPP). It didn't stop there, collaboration with teachers was continuously carried out intensively. The goal is that they can manage financial administration well; able to work together in

administrative matters of facilities and infrastructure, and willing to help with data collection of book collections in the school library.

That means it takes contribution, collaboration, and consistency from various interested parties to solve educational problems in these schools. With the existence of programs and activities like the one above, the problems of education in elementary schools can be resolved slowly. The problem of students who are still unable to read and have low interest in literacy, little by little has started to increase in a positive direction. The proof is that they can read even though slowly and some have started to like reading books so they understand what they are reading. Thus, the success of education at the primary school level needs to be fought for a better continuation of further education. In addition to collaboration, the initial way that must be addressed in elementary schools is the system of recruiting elementary school students to target schools. In addition to zoning and minimum age, prospective students must also be selected based on social abilities; reading, writing, and calculating and their creativity. The selection should be held centrally by the local agency. So, this policy will produce students who are ready, mature, and resilient in entering the school world. The readiness of students to go to school can be seen from the child's mentality and self-confidence (Pratikno, 2021).

CONCLUSIONS AND SUGGESTIONS

Based on the results of the discussion above, it can be concluded that it is not enough to just rely on school teachers to improve numeracy literacy. For this reason, contributions, collaboration, and consistency from various interested parties are needed. One of them is the family environment, namely parents. Fathers and mothers should also participate and help teach reading to their children when they are at home. That way, collaboration between teachers and parents can be well realized to form students who are smart and diligent in reading. In addition, the government also plays an important role in shaping quality education, namely through the formulation of popular policies. For example, the policy regarding the recruitment of elementary school students is strict and selective. The goal is to produce students who are ready, mature, and resilient in entering the school world. Apart from that, universities also have a responsibility in this regard, namely sending their best students to target schools that still need help to keep up with the times. Thus, the success of education at the elementary level needs to be fought for the continuation of further education so that it becomes even better.

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