



The Role of Educational Technology in Enhancing Students' Literacy and Numeracy through the AKM Assessment in the Kampus Mengajar Program

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A B S T R A C T

Literacy refers to the fundamental knowledge required by students to comprehend written texts, while numeracy denotes the ability to understand and apply numerical concepts in everyday life. To assess students' literacy and numeracy skills, it is necessary to administer standardized tests. This study aims to analyze the literacy and numeracy competencies of fifth-grade students at SDN 101914 Kampung Baru through the implementation of the Minimum Competency Assessment (Asesmen Kompetensi Minimum/AKM), as part of the Kampus Mengajar Batch 6 program. The AKM test was conducted in two stages: (1) a pretest for both literacy and numeracy, and (2) a posttest for both domains. The data obtained were analyzed using descriptive statistical methods to calculate students' average scores. The findings indicate that the Kampus Mengajar program contributed to improvements in students' literacy and numeracy skills. This is evidenced by an increase in correct responses, with literacy scores rising from 47% in the pretest to 69% in the posttest, and numeracy scores increasing from 27% to 50%. These results suggest that the intervention supported both student learning outcomes and educational innovation.

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1. Introduction

The Kampus Mengajar program is an integral part of the Merdeka Belajar Kampus Merdeka (MBKM) initiative organized by the Ministry of Education, Culture, Research, and Technology of Indonesia (Waldi et al., 2022). This program serves as a platform for students to develop a wide range of skills and foster collaboration by partnering with teachers and schools to enhance learning models, stimulate creativity, and drive educational innovation (Hidayah & Syukur, 2023; Ke-sd-an et al., 2024).

Literacy and numeracy are fundamental competencies essential for students' intellectual development. They play a critical role in establishing a strong foundation for understanding various academic subjects. Literacy is defined as the basic knowledge required by learners to comprehend written texts (Dwi Noerbella, 2022), while numeracy refers to the ability to grasp and apply numerical concepts in everyday contexts (Hidayah & Syukur, 2023; Education, 2023).

Given the vital importance of these skills, this study aims to analyze the literacy and numeracy abilities of sixth-grade students through the application of the Minimum Competency Assessment (Asesmen Kompetensi Minimum/AKM) as part of the Kampus Mengajar Batch 6 program

(Muyassaroh et al., 2022). The AKM serves as a basic competency assessment designed to evaluate students' capabilities in solving literacy and numeracy tasks (Numerasi et al., 2023).

The AKM implementation was conducted in two phases: (1) a literacy and numeracy pretest, and (2) a literacy and numeracy posttest. Following the pretests, student-assistants (university students) carried out planned intervention programs designed to improve students' understanding and performance, leading up to the administration of the posttests. This process underscores the urgency of strengthening literacy and numeracy foundations to support broader educational success.

2. Research Methods

2.1. Research Design

This study employed a quantitative research approach, with data collected through the implementation of the AKM Kelas (Classroom Minimum Competency Assessment) under the Kampus Mengajar Batch 6 program. The assessments included a literacy pretest, a numeracy pretest, a literacy posttest, and a numeracy posttest. The collected data were then analyzed using descriptive statistical methods, specifically by calculating the students' mean scores, in order to provide a comprehensive overview of their literacy and numeracy competencies.

2.2. Research Subjects

The subjects of this study were 26 fifth-grade students at SDN 101914 Kampung Baru. The selection of fifth-grade students as research subjects was based on the consideration that at this stage, students are undergoing significant cognitive development and are capable of engaging in more complex learning activities. Moreover, the selection aligns with the official guidelines of the Kampus Mengajar Batch 6 program, which stipulates that fifth-grade students are to participate in the AKM Kelas assessments.

2.3. Classroom and Teacher Selection

The selection of the classroom was conducted purposively, by choosing one fifth-grade class that represented the diversity of students at SDN 101914 Kampung Baru. The teacher involved in the study was the homeroom teacher of the selected class, who also served as the mentor teacher. This teacher had several years of teaching experience and acted as a supervisor during the implementation of the AKM Kelas activities.

3. Results and Discussion

Literacy and numeracy are two essential minimum competencies required for students to effectively learn and contribute meaningfully to society. The purpose of the Classroom Minimum Competency Assessment (AKM Kelas) is to evaluate the quality of educational outcomes at the school level. All AKM Kelas test items are centrally prepared by the Ministry of Education, Culture, Research, and Technology (Kemendikbudristek). The following diagrams illustrate the implementation of the AKM Kelas system by the Kampus Mengajar Batch 6 students:

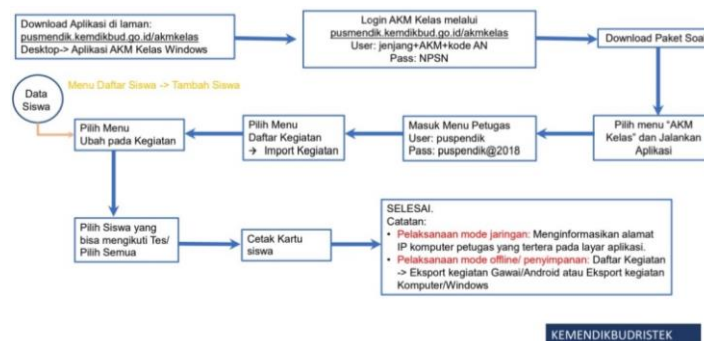


Figure 1. Workflow of the Computer-Based AKM Kelas Application for Test Administrators

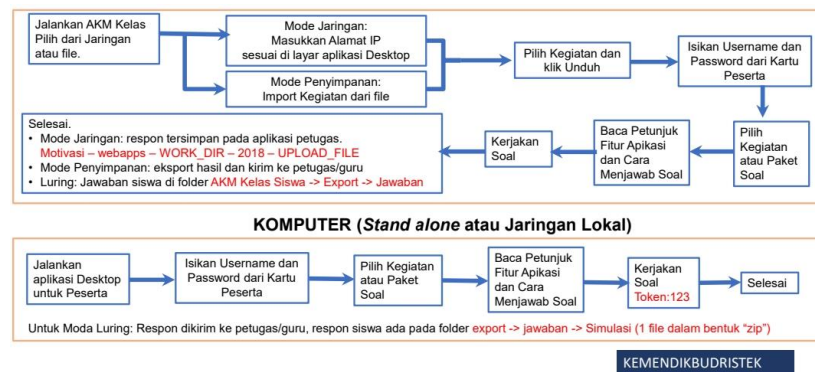


Figure 2. Student Interface of the AKM Kelas Application

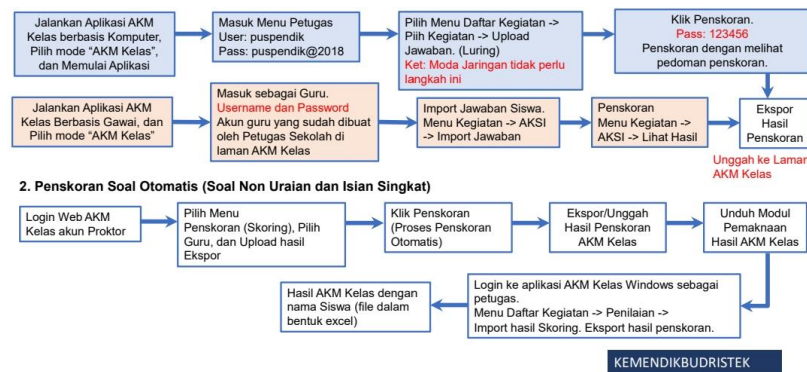


Figure 3. Scoring Interface of the AKM Kelas Assessment Application

The AKM Kelas assessments were conducted in two stages: the pretest for literacy and numeracy was administered on August 26, 2023, followed by the posttest on November 20, 2023. A total of 26 fifth-grade students participated. Due to limited infrastructure, several students used Android smartphones to access the test platform.

The scoring was conducted through the official AKM Kelas dashboard at <https://pusmendik.kemdikbud.go.id/akmkelas/dasbor/kampus-mengajar/penskoran>. The average scores from the pretest and posttest for each student were calculated and presented in Table 1.

Table 1. Individual Student Scores for Literacy and Numeracy (Pretest and Posttest)

No.	Name	Literacy Pretest	Numeracy Pretest	Literacy Posttest	Numeracy Posttest
1	Morganda Siringo-Ringo	0	5	90	55
2	Marison Saputra Malau	0	55	65	50
3	Dionisius Tryvan Tamba	50	65	55	45
4	Yosafat Sianipar	65	0	45	45
5	Gabriel Jadeta Ralusi Sijabat	50	50	95	65
6	Jusmin Immanuel Purba	25	15	55	30
7	Glen Mario Sinaga	85	45	80	70
8	Gabriel Aditya Sihombing	50	10	95	75
9	Dicky Arif Julius Damanik	65	25	85	70
10	Mika Mila Sihombing	70	20	55	50
11	Febriyanti Nathalia Buulolo	65	30	70	45
12	Darmi Siringo-Ringo	35	20	50	15
13	Tondi Pratama Lumban Siantar	50	15	60	55
14	Chelsiana Gho	35	30	65	45
15	Yohana Gres Sela Br Tamba	5	0	65	40
16	Miccel Pratiwi Parhusip	70	45	50	45

No.	Name	Literacy Pretest	Numeracy Pretest	Literacy Posttest	Numeracy Posttest
17	Sonya Angelica Sibuea	70	5	90	45
18	Nikita Greis Kasih Zega	30	25	80	35
19	Mutiara Calorine Parhusip	65	60	80	45
20	Machel Pratama Parhusip	45	20	45	50
21	Windy Vanessya Siringo-Ringo	80	10	70	35
22	Tongam Pranata Sitanggang	45	30	60	45
23	Aprian Elyonay Tamba	40	40	70	70
24	Zaskia Zefanya Br Barus	40	10	95	70
25	Ribka Bulan Juniarti Sinaga	45	25	70	50
Average		47.2	26.2	69.6	49.8

In addition, Table 2 presents the percentage of students who correctly answered competency-based questions during both pretest and posttest stages.

Table 2. Percentage of Correct Responses by Competency

Competency Description	Total Items	Total Students	Avg. Correct Responses	% Correct
Literacy Pretest: Identifying explicit information in narrative texts	20	26	12.1	47%
Numeracy Pretest: Solving simple multiplication/division problems	20	26	6.9	27%
Literacy Posttest: Identifying explicit information in narrative texts	20	26	18.1	69%
Numeracy Posttest: Solving simple addition/subtraction problems	20	26	13.1	50%

The results indicate a significant improvement in student performance. The percentage of correct responses in the literacy test increased from 47% to 69%, while the numeracy test scores rose from 27% to 50%. This improvement reflects the effectiveness of the Kampus Mengajar Batch 6 program, particularly its focus on enhancing literacy and numeracy competencies through structured instruction, appropriate teaching media, and the integration of technology.

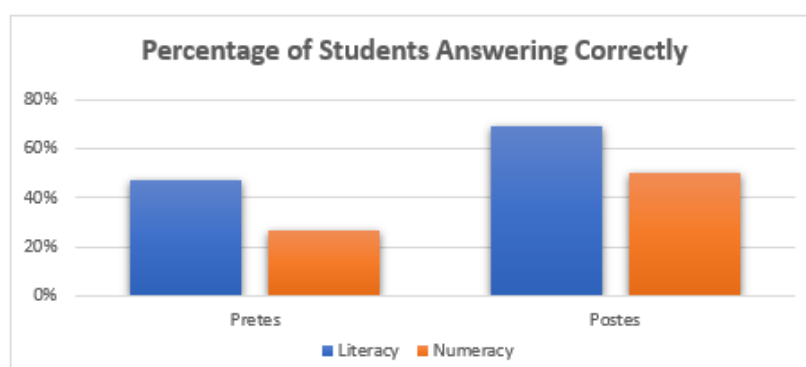


Figure 4. Percentage of Students with Correct Answers

These findings demonstrate that targeted interventions in the form of AKM-based classroom assessments, when supported by teacher collaboration and student engagement, can contribute meaningfully to improving core educational outcomes in elementary school students.

4. Conclusion

Literacy refers to the fundamental knowledge required by students to comprehend written texts, while numeracy encompasses the ability to understand and apply numerical concepts in everyday life. Following the deployment of the Kampus Mengajar Batch 6 students at UPT SPF SDN 101914 Kampung Baru, a significant improvement was observed in the literacy and numeracy skills of the

students. This enhancement is evidenced by the results of the AKM Kelas assessments, where the percentage of correct answers increased from 47% to 69% in literacy and from 27% to 50% in numeracy between the pretest and posttest evaluations. These findings demonstrate the positive impact of the Kampus Mengajar program on strengthening students' foundational competencies.

References

- Dwi Noerbella. (2022). Implementasi Program Kampus Mengajar Angkatan 2 Dalam Meningkatkan Kompetensi Literasi Dan Numerasi Peserta Didik. *Jurnal Cakrawala Pendas*, 8(2), 480-489. <https://doi.org/10.31949/jcp.v8i2.2087>
- Education, A. (2023). *Dafa Implementasi Program Literasi untuk Meningkatkan Motivasi Belajar*. 5(1), 75-90.
- Hidayah, N., & Syukur, M. (2023). *Analisis Kemampuan Literasi Dan Numerasi Siswa Kelas V Di SDN 41 Malewang Melalui Pelaksanaan AKM Kelas (Kampus Mengajar)*. 1(2).
- Ke-sd-an, J. P., Widiyono, A., Irfana, S., Guru, P., Dasar, S., Islam, U., Ulama, N., & Belajar, M. (2024). *KAMPUS MENGAJAR PERINTIS DI SEKOLAH DASAR*. 16(2), 102-107.
- Muyassaroh, I., Masrurah, S. N., Oktaviani, R. P., Bangsa, U. P., & Yarsi, U. (2022). *Attractive : Innovative Education Journal*. 4(2).
- Numerasi, K., Kelas, S., Menyelesaikan, V. D., Akm, S., Program, K., Matematika, P., Pekalongan, U., & Sriwijaya, J. (2023). Available online at <https://jurnal.pascaumnaw.ac.id/index.php/JMN> *The Numeral Ability of Class V Students in Solving Questions for the AKM Campus Teaching Class Program*. 6(1), 108-113.
- Waldi, A., Putri, N. M., Ridalfich, V., Mulyani, D., & Mardianti, E. (2022). *Peran Kampus Mengajar dalam Meningkatkan Literasi , Numerasi dan Adaptasi Teknologi Peserta Didik Sekolah Dasar di Sumatera Barat*. 5(3), 284-292.