



SOCIALIZATION OF DIAGNOSTIC E-ASSESSMENT DEVELOPMENT AS AN EFFORT TO IMPROVE TEACHER COMPETENCE IN ELEMENTARY SCHOOLS

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Abstract

The development of digital technology in education requires teachers to be competent in designing effective electronic-based assessments that meet student needs. One important form of initial assessment in the implementation of the Independent Curriculum is diagnostic e-assessment, which serves to identify students' initial abilities, knowledge gaps, and learning characteristics. This community service activity aims to improve teachers' competency in developing diagnostic e-assessments through outreach and training at Elementary School 064014 Medan. The implementation method included preparation, outreach, demonstrations of electronic-based diagnostic test preparation, and hands-on practical assistance. The results of the activity indicate an increase in teachers' understanding and skills in designing and implementing diagnostic e-assessments in their respective classrooms. This activity contributes to improving the quality of learning assessments and supports the optimal implementation of the Independent Curriculum in elementary schools.

Kata Kunci: Diagnostic E-Assessment; Teacher Competency; Outreach; Independent Curriculum; Elementary School

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1. Introduction

The changing learning paradigm in the digital era requires teachers to adapt to various technological innovations, including in the aspect of learning assessment (Popham, 2017). Assessment plays a crucial role in obtaining information about student learning outcomes, difficulties, and needs, enabling teachers to design targeted learning (Brown, 2018). One form of assessment that is crucial in the implementation of the Independent Curriculum is diagnostic assessment. This assessment is conducted at the beginning of the learning process to identify initial abilities, knowledge gaps, and student characteristics (Kemendikbudristek, 2022a). Effective implementation of diagnostic assessment can help teachers design differentiated learning, a key principle of the Independent Curriculum (Kemendikbudristek, 2022b). However, initial observations at Medan Public Elementary School 064014 indicate that most

teachers still conduct assessments conventionally using paper and have not yet utilized digital technology. Teachers' understanding of the concept, benefits, and technical implementation of diagnostic e-assessments remains limited. Therefore, the socialization activity for the preparation of diagnostic e-assessments was carried out to improve teacher competence in designing digital technology-based assessments in accordance with curriculum demands..

2. Metode

The community service activity was carried out at Medan Public Elementary School 064014 on September 27, 2025. The target group was nine elementary school class teachers and subject teachers. The implementation method used a participatory approach with the following stages:

- a. Preparation Stage: Coordination with the school to determine the schedule, participants, and necessary facilities. The implementation team develops outreach materials, e-assessment guidelines, and prepares technological devices such as laptops, LCDs, and an internet connection.
- b. Socialization and Material Delivery Stage: delivery of the basic concepts of diagnostic assessment, its role in the Independent Curriculum, and the urgency of implementing digital-based assessment (Directorate General of Teachers and Education Personnel, 2022).
- c. Demonstration and Direct Practice Stage: teachers are introduced to the digital platform for creating diagnostic e-assessments, then assisted in compiling test items and attempting the assessment directly.
- d. Mentoring and Evaluation Phase: The team provides individual mentoring and assists teachers in uploading and managing assessments. Evaluation includes pre- and post-tests to measure knowledge gains, as well as participant satisfaction questionnaires.



Figure 1. Coordination With The Principal Of SD Negeri 064014



Figure 2. Coordination With One Of The Teachers At State Elementary School 064014



Figure 3. Tim

3. Discussion

The socialization activity was attended by nine teachers and received a positive response. Pre-test results showed that only 25% of teachers understood the concept of diagnostic assessment, and none had ever used a digital platform for assessment. Following the activity, post-test results showed a significant improvement: 80% of teachers understood the concept of diagnostic assessment and were able to independently develop e-assessments.

Furthermore, teachers reported that diagnostic e-assessments helped them identify students' baseline abilities more quickly and accurately than manual methods. These results align with Brown's (2018) findings, which emphasize that effective assessment can improve the quality of learning. This initiative also encourages a paradigm shift in teachers' understanding of the importance of digital transformation in the learning process. According to Popham (2017), technology-based assessments provide more objective data and can be analyzed in real time, thus supporting more informed instructional decision-making.

Beyond the technical aspects, this activity also had a social impact, namely growing teacher motivation to continue innovating in learning. Teachers felt more confident in using digital technology and committed to integrating e-assessments into daily teaching and learning activities. This strengthened the school's role in supporting the implementation of the Independent Curriculum, which focuses on individual student needs.



Figure 4. Presentation of Material by Resource Person

The material presented by the resource person outlined the types of diagnostic assessments, their importance, and examples of diagnostic assessments that teachers can apply to their future teaching. One example is a diagnostic e-assessment of fifth-grade elementary school students' scientific literacy skills. In this case, the diagnostic e-assessment is a two-tier type.

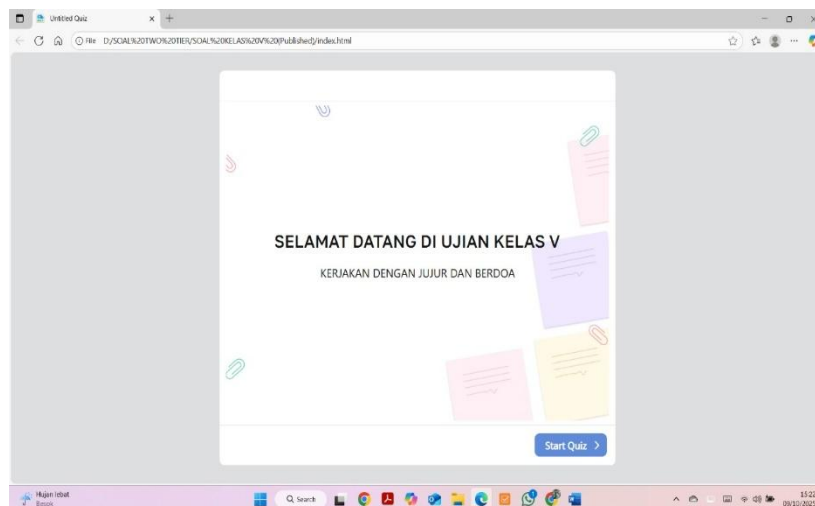


Figure 5. Front view of the Diagnostic e-Assessment

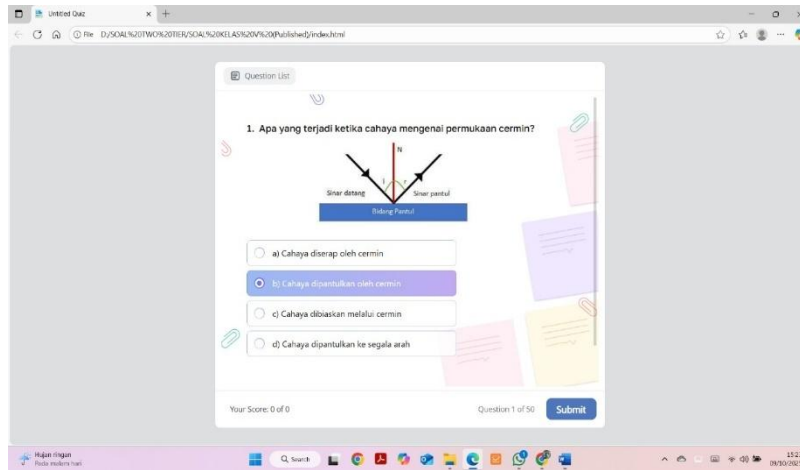


Figure 6. Diagnostic e-Assessment Display (Tier 1)

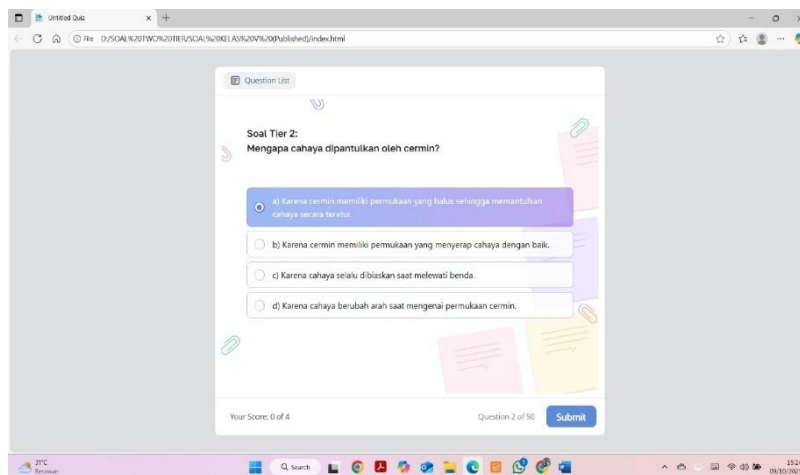


Figure 7. Diagnostic e-Assessment Display (Tier 2)

To determine the success of this Community Service program, an evaluation was conducted using a pre-test and post-test completed by participants. The pre-test and post-test consisted of 10 questions on diagnostic assessment material administered via Google Forms.

Table 1. Pretest and Posttest Results of the Socialization of Diagnostic Assessment Preparation

Question Items	AveragePre-test	Post-test Mean	Improvement
Understanding about objective e - assessment diagnostic	0.3	0.8	0.5
Understanding about implementation e - assessment diagnostic	0.3	0.8	0.5
Understanding about types e - assessment diagnostic	0.4	0.7	0.3
Understanding about e-assessment diagnostic cognitive	0.4	0.8	0.4
Understanding about e-assessment diagnostic non cognitive	0.5	0.8	0.3

Question Items	AveragePre-test	Post-test Mean	Improvement
Identifying instrument in e-assessment diagnostic	0.3	0.7	0.4
Understanding the diagnostic e-assessment preparation process	0.6	0.9	0.3
Understanding the purpose and function of compiling a two-tier diagnostic e-assessment	0.6	0.9	0.3
Understanding the urgency of implementing two-tier diagnostic e-assessment	0.4	0.7	0.3
Understanding the diagnostic e-assessment evaluation process	0.6	0.9	0.3
Average	0.44	0.8	0.36

After the presentation, participants were asked to complete a posttest distributed via a QR code that led to a Google form. The posttest contained the same 10 questions as the pretest. Overall, the posttest results indicated an improvement in participants' understanding of the diagnostic assessment. This was evident in the improvement in the average scores for each question. Participants also expressed satisfaction with the socialization of the diagnostic assessment.



Figure 8. Group Photo of Participants and Resource Persons

4. Conclusion

Conclusion: The socialization activity for the preparation of diagnostic e-assessments at SD Negeri 064014 Medan successfully improved teachers' competency in understanding the concept of diagnostic assessments and implementing them through digital technology. This improvement was seen from the pre-test results, which previously showed participants' understanding

increasing from 0.44 to 0.8 in the post-test results, thus concluding that there was an increase of 0.36 from the difference between the pre-test and post-test. Teachers were able to independently compile diagnostic questions, use the e-assessment platform, and analyze the assessment results to support differentiated learning in accordance with the principles of the Independent Curriculum. The sustainability of this activity needs to be supported through further training, integration of the digital assessment system into the school platform, and ongoing mentoring to ensure optimal digital transformation in assessment. Furthermore, broader collaboration with local education offices is needed to expand the training coverage to teachers in other schools, thereby further expanding the positive impact of this activity.

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