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IMPROVEMENT OF NUMERACY AND ACCOUNTING LITERACY THROUGH FINANCIALLY CONTEXTUALIZED LEARNING ASSISTANCE

Zalikha [1*], Noviyanti [1]

[1*] Universitas Islam Kebangsaan Indonesia

Coresponding Author : zalikha.se82@gmail.com

Abstract

This community service activity aims to improve numeracy and accounting literacy through contextual financial-based learning assistance. The background of this program is the low level of numeracy skills and basic accounting understanding among students and community members, which affects their ability to manage financial information in daily life. The activity was implemented using a mentoring approach that integrates mathematical concepts with basic accounting practices through real-life financial contexts. Data were collected through observation, interviews, and documentation. The results indicate that contextual learning assistance effectively enhances participants' understanding of numeracy concepts, financial calculations, and simple accounting records. In addition, participants demonstrated increased motivation and confidence in applying numeracy and accounting skills in practical financial situations. Therefore, contextual financial-based learning assistance is recommended as an effective approach to strengthen numeracy and accounting literacy in educational and community settings.

Keywords: Numeracy Literacy, Accounting Literacy, Contextual Learning, Financial Education, Community Service

INTRODUCTION

Numeracy literacy and basic accounting literacy are fundamental competencies that support individuals' ability to manage financial information and make rational decisions in everyday life. Numeracy literacy enables individuals to understand numerical concepts, perform calculations, and interpret quantitative data, while accounting literacy supports systematic financial recording, transparency, and accountability. In the context of education and community empowerment, these two literacies are increasingly recognized as essential life skills in the modern economy (OECD, 2021).

However, various studies indicate that numeracy literacy and basic accounting understanding among students and community members remain relatively low. Mathematical concepts are often taught abstractly without sufficient connection to real-life financial situations, while accounting is frequently perceived as complex and difficult to apply in daily contexts. According to Wijaya (2021), the separation between mathematical instruction and practical financial application contributes to learners' limited ability to use numeracy skills for financial problem-solving.

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Contextual learning has been widely promoted as an effective approach to overcoming these challenges. Contextual learning emphasizes the integration of learning materials with real-life situations, enabling learners to construct knowledge through meaningful experiences. In the field of mathematics education, contextual approaches have been shown to improve numeracy skills, problem-solving abilities, and learning motivation by connecting mathematical concepts to everyday activities such as shopping, budgeting, and financial planning (Suryadi, 2022).

Similarly, accounting education benefits significantly from contextual and practice-based learning. Basic accounting concepts such as income, expenses, profit, and cash flow become easier to understand when introduced through real financial cases. Research by Putri and Nugroho (2023) highlights that contextual financial learning enhances learners' comprehension of accounting concepts and increases their awareness of financial responsibility. This approach is particularly relevant in community service programs that aim to empower participants with practical and applicable skills.

In addition to educational contexts, numeracy and accounting literacy play a crucial role in strengthening individuals' financial resilience and decision-making capacity in daily life. The ability to calculate costs, compare prices, manage income and expenses, and record simple financial transactions is essential not only for students but also for community members. Lusardi (2021) emphasizes that individuals with stronger numeracy and basic accounting skills tend to make better financial decisions and demonstrate higher levels of financial well-being.

From the perspective of mathematics education, numeracy literacy is no longer limited to mastering arithmetic operations but extends to the ability to apply mathematical reasoning in real-world contexts. Steen (2022) argues that numeracy should be taught as a contextual and functional competence, enabling learners to interpret quantitative information in practical situations, including financial transactions and economic activities. This perspective reinforces the importance of contextual learning approaches that bridge mathematical concepts with authentic financial experiences.

Accounting literacy at the basic level is also increasingly viewed as an interdisciplinary competence closely related to numeracy. Basic accounting practices require mathematical understanding, logical reasoning, and accuracy in numerical processing. Kartika and Sari (2023) state that integrating accounting concepts into numeracy learning activities helps learners better understand the relevance of mathematics in managing real financial data, while also fostering systematic thinking and accountability.

Community service programs have been identified as effective platforms for implementing integrative and contextual learning models. Through direct mentoring and hands-on activities, community service initiatives allow participants to engage actively with learning materials while receiving immediate guidance and feedback. Lestari et al. (2023) argue that mentoring-based community service programs are particularly effective in enhancing practical competencies, as they emphasize experiential learning and real-life problem solving rather than theoretical instruction alone.

Furthermore, the integration of numeracy and accounting literacy within financial contexts aligns with current educational policies emphasizing numeracy and financial literacy as core competencies. The Indonesian Ministry of Education, Culture, Research, and Technology (2022) highlights the importance of strengthening numeracy literacy through contextual and

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interdisciplinary learning models to prepare learners for real-world challenges. At the global level, the World Bank (2023) also emphasizes financial literacy as a strategic factor in supporting economic resilience and individual well-being.
Despite the growing recognition of the importance of integrated numeracy and accounting literacy, its implementation in educational and community settings remains limited. Learning activities often rely on conventional instructional methods and lack structured mentoring that enables participants to apply concepts in authentic financial situations. Research by Hakim (2024) indicates that without contextual guidance and sustained assistance, improvements in numeracy and accounting literacy tend to be superficial and short-term.

Therefore, structured community service programs that combine contextual learning and continuous mentoring are urgently needed. Suharto (2025) emphasizes that well-designed community service initiatives can bridge the gap between theoretical knowledge and practical application, particularly in strengthening essential financial competencies. In this regard, the present community service activity focuses on improving numeracy and accounting literacy through contextual financial-based learning assistance.

By integrating mathematical reasoning and basic accounting practices within real-life financial contexts, this program aims to enhance participants' understanding, motivation, and confidence in applying numeracy and accounting skills. The program is expected to contribute to strengthening essential financial competencies and to provide a practical, replicable model of contextual learning that can be adopted in similar educational and community service settings.

RESEARCH METHODS

This community service activity employed a participatory and descriptive approach through mentoring-based contextual learning to improve numeracy and accounting literacy. This approach was chosen because participatory methods actively involve participants in the learning process and emphasize practical skill development aligned with real-life financial contexts. According to Lestari et al. (2023), mentoring-based community service programs are effective in strengthening applied competencies and fostering sustainable learning outcomes.

The activity was conducted with selected community participants as the primary partners. Participants consisted of learners/community members who required support in understanding basic numeracy concepts and simple accounting practices related to daily financial activities. Facilitators acted as mentors who guided participants throughout the learning process, while participants were encouraged to actively engage in discussions, problem-solving, and practice-based activities.

The implementation of the program was carried out in several systematic stages. The first stage was a needs analysis, conducted through preliminary observations and informal interviews to identify participants' initial levels of numeracy skills and accounting understanding. This stage aimed to ensure that the learning materials and activities were relevant to participants' real financial needs, as suggested by Wijaya (2021), who emphasizes the importance of needs-based program design in literacy development initiatives.

The second stage involved the design of contextual learning materials, integrating numeracy concepts such as basic arithmetic operations, percentages, and data interpretation with simple accounting topics, including income and expense recording, budgeting, and basic financial

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reporting. Learning activities were developed using real-life financial cases to help participants connect abstract concepts with practical applications. Contextual learning design is widely recognized as an effective strategy for enhancing numeracy and financial literacy (Suryadi, 2022).

The third stage was the implementation and mentoring process, where participants engaged in guided learning sessions facilitated by the service team. During this stage, mentors provided explanations, demonstrations, and hands-on exercises related to numeracy and accounting tasks. Participants practiced solving financial problems, completing simple bookkeeping records, and discussing real financial scenarios. Continuous mentoring was applied to ensure participants' understanding and to provide immediate feedback, which is crucial for effective adult and community learning (Putri & Nugroho, 2023).

The final stage was evaluation, conducted descriptively through observation, participant feedback, and documentation. The evaluation focused on participants' engagement, improvement in numeracy and accounting understanding, and their ability to apply learned concepts in contextual financial situations. A descriptive qualitative evaluation approach was considered appropriate, as the main objective of this community service activity was to capture practical changes and learning processes rather than to produce statistical generalizations (Hakim, 2024).

Data collected from observations, interviews, and documentation were analyzed using descriptive qualitative analysis. The analysis emphasized identifying patterns of improvement in numeracy reasoning, accounting practices, and participant confidence in handling financial tasks. The results of this analysis served as the basis for assessing program effectiveness and formulating recommendations for future community service activities.

RESULTS AND DISCUSSION

Results of the Implementation

The community service activity aimed at improving numeracy and accounting literacy through contextual financial-based learning assistance was implemented according to the planned stages. The mentoring sessions were conducted using real-life financial contexts, such as daily expenditure calculations, simple budgeting, percentage calculations, and basic income–expense recording. Participants actively engaged in discussions, problem-solving activities, and hands-on exercises, indicating a positive response to the applied learning approach.

During the implementation, participants demonstrated increased interest and motivation in learning numeracy and accounting concepts. Learning activities that directly connected mathematical calculations to financial situations enabled participants to better understand abstract concepts and apply them in practical contexts. Observation results showed noticeable improvements in participants' ability to perform basic numerical calculations, interpret simple financial data, and record financial transactions systematically. This finding supports Suryadi (2022), who states that contextual learning significantly enhances learners' conceptual understanding and engagement.

In addition to cognitive improvements, positive changes were also observed in participants' learning behavior. Participants became more active in asking questions, engaging in

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discussions, and collaborating with peers during group activities. The mentoring approach encouraged participants to express ideas, clarify misunderstandings, and learn collaboratively. This behavioral change indicates that contextual financial-based learning not only improves skills but also fosters active learning attitudes.

Furthermore, participants showed improved ability to transfer learned numeracy skills to various financial situations. Those who initially struggled with percentage calculations demonstrated better understanding when applying concepts to discounts, savings, and simple profit margins. This transfer of learning suggests that the mentoring process facilitated deeper conceptual understanding rather than rote memorization, in line with the view of Steen (2022).

Participants also demonstrated increased awareness of the importance of systematic financial recording. Several participants who previously did not maintain financial records began to consistently record daily income and expenses using simple accounting formats introduced during the mentoring sessions. This result indicates that contextual learning effectively bridges the gap between numerical understanding and accounting practice, reinforcing the findings of Kartika and Sari (2023).

Differences in participants' initial competency levels were also observed. Participants with lower numeracy skills benefited significantly from guided practice and repeated contextual examples, while those with moderate skills showed faster progress and were able to assist peers during group activities. This peer-assisted learning dynamic contributed to a more inclusive and supportive learning environment, which is recognized as a strength of mentoring-based community service programs (Lestari et al., 2023).

To summarize the observed improvements, the results of participants' numeracy and accounting literacy development are presented in Table 1.

Table 1. Observation Results of Numeracy and Accounting Literacy

Indicator Observed	Before Implementation	After Implementation
Understanding of basic arithmetic in financial contexts	Low–Moderate	High
Ability to calculate income and expenses	Limited	Improved
Accuracy in numerical calculations	Inconsistent	More accurate
Ability to record simple financial transactions	Very limited	Consistent
Confidence in solving financial problems	Low	Increased

The table shows an overall improvement across all observed indicators following the implementation of contextual learning assistance. Participants demonstrated better mastery of numeracy skills related to financial calculations and improved understanding of basic accounting practices. These findings are consistent with the results reported by Putri and Nugroho (2023), who found that contextual financial learning strengthens both numeracy competence and accounting awareness.

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Discussion

The results of this community service activity indicate that contextual financial-based learning assistance is an effective strategy for improving numeracy and accounting literacy. By integrating mathematical concepts with real-life financial situations, participants were able to construct meaningful understanding and directly apply knowledge to daily activities. This supports the argument of Steen (2022) that numeracy should be taught as a functional competence rather than as isolated arithmetic skills.

From the perspective of accounting education, the mentoring approach enabled participants to understand basic accounting concepts more concretely. Financial recording activities such as documenting daily income and expenses helped participants recognize the importance of systematic financial management. According to Kartika and Sari (2023), introducing accounting concepts through practical financial cases enhances learners' accountability and financial awareness, which was evident in participants' improved recording practices.

The mentoring-based implementation played a significant role in achieving these positive outcomes. Continuous guidance and immediate feedback allowed participants to correct misunderstandings and build confidence gradually. Lestari et al. (2023) emphasize that mentoring is a key component in community service programs aimed at developing practical competencies, as it supports sustained learning and effective skill application.

Moreover, the use of contextual financial problems increased participants' motivation and engagement. Participants were more enthusiastic when learning activities reflected real financial challenges encountered in daily life. This finding aligns with Hakim (2024), who states that contextual learning enhances learners' intrinsic motivation by emphasizing relevance and usefulness.

Despite the positive outcomes, several limitations were identified. The evaluation relied primarily on qualitative observations, and the duration of the mentoring activities was relatively short. As a result, the long-term impact of the program on participants' financial behavior and decision-making could not be fully assessed. Nevertheless, the observed improvements indicate that contextual learning assistance provides a strong foundation for strengthening numeracy and accounting literacy.

Overall, the findings demonstrate that integrating numeracy and accounting concepts through contextual financial-based learning within community service programs is both practical and effective. This approach not only improves participants' cognitive understanding but also enhances their confidence, engagement, and readiness to apply numeracy and accounting skills in real life financial situations.

CONCLUSION AND SUGGESTIONS

The community service activity aimed at improving numeracy and accounting literacy through contextual financial-based learning assistance was successfully implemented and produced positive outcomes. The integration of numeracy concepts and basic accounting practices within real-life financial contexts effectively enhanced participants' understanding, accuracy in numerical calculations, and ability to record simple financial transactions. Participants also

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demonstrated increased confidence and motivation in applying numeracy and accounting skills to daily financial situations.

The findings indicate that contextual learning supported by a mentoring approach provides meaningful learning experiences for participants. By connecting mathematical reasoning and accounting concepts to authentic financial problems, participants were able to construct deeper understanding and transfer their knowledge to practical applications. This approach not only improved cognitive outcomes but also fostered active learning behavior, collaboration, and financial awareness.

The mentoring component played a crucial role in ensuring the effectiveness of the program. Continuous guidance, hands on practice, and immediate feedback helped participants overcome initial difficulties and gradually build competence in numeracy and accounting. The results confirm that mentoring-based community service programs are particularly suitable for strengthening applied competencies, especially when learning objectives are closely related to everyday life.

Despite the positive results, this activity has several limitations. The evaluation relied mainly on descriptive qualitative data, and the duration of the program was relatively short. Therefore, the long-term impact of the program on participants' financial behavior and decision-making has not yet been fully explored.

Based on these findings, it is recommended that contextual financial-based learning be adopted as a regular strategy in educational and community empowerment programs aimed at strengthening numeracy and accounting literacy. Future community service initiatives are encouraged to involve longer mentoring periods, incorporate quantitative assessment instruments, and integrate digital financial tools to enhance learning effectiveness. By implementing these improvements, similar programs can contribute more sustainably to the development of numeracy and accounting competencies in various educational and community contexts.

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