Innovative Knowledge Management in Minangkabau: A Comparative Study of Librarians and Teachers for Literacy Improvement

Resty Jayanti Fakhlina[1]*, Septevan Nanda Yudisman[2], Lailatur Rahmi[3], Ghazali Mohamed Fadzil[4], Fitri Ramadhani[5], and Sabrina Latifa Zahra[6]

[1,2,3,5,6] Faculty of Adab and Humanity, Universitas Islam Negeri Imam Bonjol Padang, Indonesia
[4] GKM Consultancy and Persatuan Pustakawan Malaysia

ABSTRACT

This study aims to explore and compare knowledge management practices in Minangkabau, implemented by librarians and classroom teachers in the context of primary education, and their impact on improving students' literacy skills. Knowledge management has significant potential in optimizing learning outcomes through effective knowledge management. This research uses a qualitative method with a comparative approach to understand the best strategies for improving student literacy. Results suggest that librarians have a better literacy skill level than teachers. Through comparative analysis between librarians and classroom teachers, it is hoped that it can provide in-depth insights into effective collaboration and how to overcome challenges in improving the quality of literacy in primary schools.

Correspondence Address:
restyjf@uinib.ac.id

1.   INTRODUCTION

Knowledge management (KM) plays an important role in improving students' literacy skills in primary education (Sobandi, A., Suryadi, E., Ramdhany, M. A., & Rasto, R., 2021; Lazić, S., Talić, T., & Marinković, D., 2021). However, implementing knowledge management can be complex and requires both librarians and classroom teachers to have a deep understanding of the concept (Asad, M. M., Rind, A. A., & Abdulmuhsin, A. A., 2022; Fakolade, O. A., & Adeleke, A. A., 2020; Williams, K. M. 2022).

Kimiz Dalkir (2017), an expert in the field of KM, highlights that KM can significantly affect learning outcomes. Through proper practice, KM can optimize learning, help manage and disseminate knowledge effectively, and improve the quality of education.

Nonaka and Takeuchi's concept (1995) of knowledge creation in organizations also has relevant implications in the context of primary education. The importance of knowledge sharing and the creation of new knowledge as the foundation for innovation and continuous improvement in organizations (Azeem, M., Ahmed, M., Haider, S., & Sajjad, M., 2021; Singh, S. K., Gupta, S., Busso, D., & Kamboj, S., 2021; Fakhlina, R. J., Zulkifli, S. B., & Rifai, A., 2024; Allameh; 2018). These ideas can be applied to encourage collaboration between librarians, classroom teachers, and other education staff in the primary school context to improve student literacy. Effective practices in knowledge management can help optimize learning and create an innovative learning environment (Chaurasia, S. S., Kaul, N., Yadav, B., & Shukla, D., 2020; Zabolotniaia, M., Cheng, Z., Dorozhkin, E., & Lyzhin, A., 2020).

Among the dynamic development of science and technology, KM is a vital strategy in effectively managing and sharing information (Huang, X., Lin, Y., Lim, M. K., Tseng, M. L., & Zhou, F., 2021; Deng, H., Xu, Y., Deng, Y., & Lin, J., 2022). The role of librarians and teachers, especially in Minangkabau, as education leaders is increasingly important in improving primary school students' literacy levels. Minangkabau, with its rich culture and traditions (Anwar, S., Aziz, I., & Susanti, D., 2020; Susanti, I., 2024; Shamad, I. A., & Chaniago, D. M., 2022), provides a unique context for the implementation of KM.

Adat basandi syarak, syarak basandi kitabbullah' (ABS-SBK) is a basic principle in Minangkabau culture (Hafizah, H., Ananda, A., Fatimah, S., & Ilham, M., 2021; Efrizon, E., Mz, M. D., Santoso, S., & Badawi, A., 2022). This principle makes Minangkabau culture inherent to the way librarians and teachers conduct KM. The active involvement of librarians and teachers in managing knowledge not only helps students understand the subject matter but also shapes their critical thinking skills and creativity.

Librarians   with   expertise   in   managing   knowledge   resources (Redkina,N.,2020;Kumbar,R.,2021;Williams,D.,&Wavell,C.,2021). Thensome teachers havee there sponsibility of delivering and integrating knowledge to students (Ferguson,T., Roofe,C.,&Cook,L.D.,2021). Both professionals have crucial roles. However, their approaches and methods can differ significantly.

Librarians are responsible for providing structured and easy access to a wide range of learning materials. They are skilled in organizing, storing and classifying knowledge and providing reference services that help users find accurate and relevant knowledge. In addition, librarians often develop knowledge literacy programs to teach students research skills and technology utilization, helping them to become more independent and critical users of

information. (Ali, M. Y., & Gatiti, P., 2020; Williams, D., & Wavell, C., 2021; Redkina, N., 2020; Kumbar, R., 2021)

On the other hand, teachers' main role is to deliver and integrate knowledge to students through the classroom teaching process. They use a variety of pedagogical methods, ranging from lectures and discussions to practical activities, to ensure students' understanding of the subject matter. Teachers also play a role in assessing students' progress and providing constructive feedback to support their academic and personal development. Teachers' approaches are often more hands-on and interactive, focusing on creating deep and meaningful learning experiences. (Ferguson, T., Roofe, C., & Cook, L. D., 2021)

Therefore, this study focuses on the comparative KM practices between librarians and classroom teachers to better understand the best strategies to improve students' literacy in Minangkabau. Hopefully, this research will provide a deep insight into how these two groups can work together and overcome challenges in an effort to increase student literacy in primary schools.

2. METHODS

This research uses a qualitative method with a comparative study approach focusing on in-depth interviews as the main data collection technique (Haesebrouck, T., 2022). This approach was chosen to understand and compare how librarians and classroom teachers in one primary school manage knowledge to improve students' literacy. The interviews were semi-structured to allow in-depth exploration of the respondents' views, experiences, and KM practices. The interview questions focused on methods of identifying students' literacy needs, knowledge-sharing strategies, and information literacy utilization and maintenance. Data analysis was conducted by comparing responses from librarians and classroom teachers to identify similarities and differences in their KM approaches. The results of this analysis are expected to provide in-depth insights into best practices and challenges in KM in primary schools and contribute to the development of KM theory in the context of primary education.

3. RESULTS AND DISCUSSION

The learning process takes place in a combination of knowledge of the subject matter and knowledge to deliver the material appropriately and in accordance with pedagogical knowledge supported by learning media and technology (Scheiner, Carrillo, & Pino-Fan, 2019). In primary education studies, knowledge is recognized as not only a building block of sustainable competitive advantage but also a value for educational institutions, so the knowledge perspective in educational institutions implies the exploration of knowledge internally and externally both as a resource and as a result of the KM development process carried out by schools and teachers as key agents. By using KM, teachers are encouraged to become human capital so that recognition of the quality of a teacher is not only based on length of service but also the extent to which the teacher is part of the use of KM in schools. The measurement and dimensions of KM refer to the model in an organizational context: knowledge acquisition, knowledge storage, knowledge distribution, and knowledge use (Gonzalez & Martins, 2017).

To explore and compare KM practices in Minangkabau, implemented by librarians and classroom teachers in the context of primary education, and their impact on improving students' literacy skills. The following will be examined: the role of librarians and teachers within KM in Minangkabau, innovative strategies, challenges faced when implementing KM for school literacy, impacts on literacy, and perceived professional identity.

3.1.   The Role of Librarians and Teachers within KM in Minangkabau

Both librarians and teachers play an important role in literacy development in Minangkabau. While librarians tend to focus on providing information resources and services, teachers emphasize direct teaching and developing reading and writing skills (Lewis, M. A., 2021). School Librarians can also be said to be the architects of maintaining a reading culture among students. Therefore, it is necessary to develop effective ways to promote a reading culture.

Librarians at SDN 08 Surau Gadang play a crucial role in KM that focuses on improving student literacy. They are responsible for managing and enriching the library's book collection and utilizing the collection in innovative literacy programs. School librarians, also known as teacher librarians, are in charge of providing effective education for primary school children as well as primary-aged students' learning (Priestley, J., 2021). Librarians should endeavor to return books to the community and work hard to ensure that reading culture is re-awakened in children from an early age, especially regarding the location of this study in Padang City, West Sumatra. Likewise, in assessing students 'reading and writing skills, especially in terms of reading fluency, writing accuracy, and comprehension of reading content, this is in accordance with what was conveyed by teachers and librarians that both teachers and librarians have a similar approach in assessing students 'reading and writing skills.

The teacher revealed this, "We pay attention to students' reading fluency, check the accuracy of writing in assigned tasks, and evaluate comprehension of reading content. By taking this approach together, we can provide a more complete picture of students' literacy skills. This helps us identify areas for improvement and design literacy programs that suit students' needs. We believe that collaboration between teachers and librarians is essential to create a supportive and effective learning environment for students." (interview with the teacher of SDN 08 Surau Gadang Nanggalo Padang on 31 May 2024)

The results showed the important role of librarians and teachers in improving literacy. The study found that collaboration between librarians and teachers is essential in creating a conducive learning environment that promotes a reading culture among students. Innovations in KM at SDN 08 Surau Gadang Nanggalo Padang have been implemented to support literacy. Librarians and teachers work together to integrate library resources into the curriculum and teaching and learning activities. This approach encourages students to develop good reading habits and utilize the library as a valuable learning resource. Shaghaghi, Ghaebi & Ahmadi (2020) hinted that knowledge creation and awareness are key issues in the 21st century that should not be ignored by any professional, including teachers who are respected professionals. With the right orientation, awareness, and application of KM, educational institutions can provide better educational facilities, administrative services, student retention, cost savings, data transfer, and so on.

Collaboration between teachers and librarians at SDN 08 Surau Gadang Nanggalo Padang helps improve student literacy. What is librarians' role in supporting students' curriculum and literacy needs? This is in accordance with what was conveyed by teachers and librarians: Teachers and librarians collaborate effectively because teachers and librarians ensure student access to quality literacy resources. Librarians manage the book collection, select materials according to the curriculum, facilitate loans, and provide guidance on library use. They also organize literacy programs such as book clubs and writing workshops to improve students' reading interests and literacy skills. In the context of the School Literacy Movement (Gerakan Literasi Sekolah, GLS), one of the Indonesian government's efforts, collaboration between teachers and librarians is crucial. GLS aims to foster interest in reading and literacy skills among students from an early age. Through innovative KM, teachers and librarians can work together to create interesting and educational literacy programs and activities (Srirahayu, D., Kusumaningtiyas, T., & Harisanty, D., 2021). At SD 08 Surau Gadang Nanggalo Padang, this collaboration has proven effective.

Teachers and Librarians act as knowledge custodians and facilitators, ensuring students' access to diverse and quality literacy resources. Librarians manage collections of books and reading materials and play a role in selecting materials relevant to the school curriculum and students' needs. They organize literacy resources into easily accessible catalogs, facilitate book loans, and guide students on library use. In addition, librarians also play a role in designing and implementing engaging literacy programs, such as book clubs, storytelling performances, or writing workshops. Through active collaboration with teachers, librarians assist in integrating literacy into the school curriculum and support efforts to improve students' reading and writing skills. Thus, the librarian's role in the KM process of GLS involves managing literacy resources and providing support that is essential for literacy development in the primary school. (Purwandari, S., & Awaliya, E. M., 2020)

Through collaboration, teachers and librarians can create a supportive environment and motivate students to continue developing their literacy skills. This is in line with efforts to revive the reading culture, where the role of librarians is crucial in forming good reading habits and utilizing library resources effectively. Teachers and librarians are involved in creating literacy content or materials to support students' literacy development. This could include creating reading materials, writing literacy guides, or developing engaging literacy programs, as stated by teachers and librarians, "Collaboration between teachers and librarians to provide reading materials for students to support lessons, librarian involvement in the creation of literacy content or materials in daily implementation. By providing library programs that increase students' interest in reading and emphasize the importance of maximum procurement and services in the library, Teachers also conduct discussions in one phase of what material will be given to students according to the curriculum, as well as sharing literacy information with colleagues is done by utilizing WhatsApp Group media in sharing information, conducting discussions in solving problems needed." (interview with the librarian of SDN 08 Surau Gadang Nanggalo Padang on 31 May 2024)

The findings show that librarians and classroom teachers are important in improving students' literacy levels. The librarian acts as a library guardian who provides diverse reading resources relevant to students' interests. Meanwhile, classroom teachers act as educators who teach reading and writing skills and monitor students' progress. Based on the data collected, it was found that students who were actively involved in the librarian's literacy program showed significant improvements in reading interest and ability compared to students who relied solely

on literacy instruction from the class teacher. However, the combined approach of the librarian and classroom teacher showed optimal results in improving students' literacy. Lack of coordination between librarians and classroom teachers can be an obstacle in knowledge management. Limited time and resources are also a challenge in implementing literacy programs in primary schools.
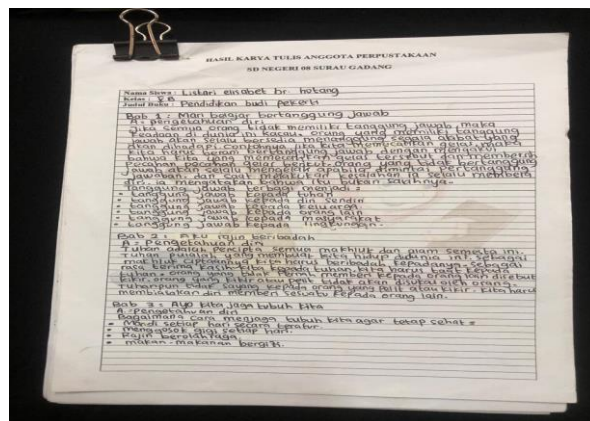

Figure 1. *Written work of library members (source: doc. personal 2024)*

To support students' reading skills, the library has implemented a program for all students at SDN 08 Surau Gadang, namely in the form of reviews and discussions on books the students have read. Then, the student's work results will be drawn with the student's names at the end of the semester to get rewards from the library. This helps to inculcate reading as early as possible. This will train students to focus and create interest in the available reading material. The programs improve reading and writing skills and help students develop public speaking and critical thinking skills. Thus, the book collection managed by the librarian becomes a very useful tool in literacy activities, creating an interactive learning environment and supporting the development of students' overall literacy skills. This is in line with information literacy theory, which emphasizes the importance of accessing and using information effectively, and collaborative learning theory, which underlines the importance of social interaction in the learning process. (Moreno-Morilla, C., Guzmán-Simón, F., & Garcia-Jimenez, E., 2021).

Some may think KM is only relevant for business. However, according to Cheng & Chu (2018), KM in the school context is a planned effort by school management or leaders to support and motivate teachers and students to acquire information, encourage them to use the information, share knowledge, and regularly evaluate the results. Schools are the river and reservoir of innovative knowledge and intangible assets. Therefore, it is more beneficial for teachers to implement KM well. KM is crucial to the success of any type of organization, especially educational institutions. Although educational institutions are known to be knowledge-rich organizations, discussions on KM as a strategy to improve organizational practices, program implementation, and teaching and learning processes in education are still rare.

In the KM process of GLS activities at SD N 08 Nanggalo Padang, the role of teachers is very important. They not only act as facilitators in delivering learning materials but also as key holders in transferring knowledge to students and encouraging creativity and innovation in learning. Teachers are responsible for identifying relevant literacy resources, integrating them into the curriculum, and developing learning strategies that motivate students to engage in the

teaching-learning process actively. In addition, teachers also have a role in managing and distributing knowledge, both in the form of direct teaching and through extracurricular activities that strengthen students' reading and writing habits. By actively collaborating with librarians, teachers can effectively utilize library resources and expand students' access to a variety of literacy materials. Finally, the role of teachers in this process includes teaching and inspiring leaders, learning facilitators, and prime movers who can help realize a dynamic and sustainable literacy culture in schools.

An important step for successful KM development by schools would be for teachers to realize the key factors that drive knowledge creation, storage, and sharing in schools (Nair & Munusami, 2019). Schools must encourage the capture and consolidation of knowledge through effective metaphors, analogies, and models, integrate and disseminate knowledge to people across the organization, and present explicit knowledge as an experience for living learning. Nair & Munusami (2019) noted that teachers are always aware of and engaged in KM.

3.2.   Innovative Strategies

Librarians and teachers at SDN 08 Nanggalo Primary School in Padang use various innovative strategies in KM, including embedding elements of Minangkabau culture in various activities to improve student literacy. They also utilized project-based and collaborative learning methods to increase student and teacher engagement. The occurrence of KM in GLS at SD 08 Surau Gadang Nanggalo Padang involves close collaboration between teachers, librarians, and students. The following is the form of the process with examples of appropriate activities while still introducing Minangkabau elements based on KM theory (Dalkir, 2017; Migdadi, M. M., 2022; Allameh, S.M., 2018):

1.   Knowledge Capture and Collection
       Teachers and librarians collect Minangkabau folklore and local literature, and students are invited to find information about local figures and Minangkabau history in the subject with the collection at school. According to the results of the teacher interview, "It is important that students are introduced to local cultural heritage so that it can help them develop a sense of pride in their own identity. In the subject, students are told to find information about local figures and Minangkabau history using the school library's collection." (interview with the teacher of SDN 08 Surau Gadang Nanggalo Padang on 31 May 2024) Librarians add, "The library collection includes a wide range of resources relevant to the needs of the school curriculum, including those related to Minangkabau. In addition, we also teach students how to use the library collection to find information about local figures and Minangkabau history." (interview with the librarian of SDN 08 Surau Gadang Nanggalo Padang on 31 May 2024)

2.   Knowledge Organization
       Librarians organize reading materials and literacy resources in relevant categories such as Minangkabau folklore, history, and customs. Teachers integrate these materials into the curriculum. Through observations, it was seen that teachers and librarians work together to enrich students' literacy with Minangkabau cultural heritage. Librarians organize reading materials in relevant categories such as folklore and history. Teachers integrate these materials into the curriculum. This collaboration gives students a more meaningful learning experience while strengthening their pride in Minangkabau culture.

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3. Knowledge Distribution

    The knowledge collected and organized is shared through various media and activities with students, such as in the MADING (wall magazine) and on the social media of teachers and librarians. Knowledge distribution at SDN 08 Surau Gadang Nanggalo Padang is done systematically through collaboration between teachers and librarians. This approach includes using various media, such as notice boards and social media, to share knowledge with students. In addition, the school also organizes activities that actively involve students, such as workshops and digital literacy. This shows that the school implements effective KM practices by utilizing technology and interactive learning methods to improve student engagement and understanding. The distribution of knowledge at SDN 08 Surau Gadang Nanggalo Padang is carried out systematically through collaboration between teachers and librarians according to the results of teacher interviews, "...using various media such as notice boards and social media…"(interview with the teacher of SDN 08 Surau Gadang Nanggalo Padang on 31 May 2024)

    The librarian also added, "Apart from notice boards and social media, there are also workshops and digital literacy programs involving students...".(interview with SDN 08 Surau Gadang Nanggalo Padang librarian on 31 May 2024).

4. Knowledge Application and Innovation

    Teachers and librarians encourage students to use their acquired knowledge in creative and innovative projects, such as competitions and school-stage activities. This is in accordance with the results of observations and interviews conducted at SDN 08 Surau Gadang Nanggalo Padang, where the results of interviews with teachers that, "We encourage students to use their acquired knowledge in creative and innovative projects, such as scientific competitions and stage activities at school".(interview with the teacher of SDN 08 Surau Gadang Nanggalo Padang on 31 May 2024)

5. Assessment and Feedback

    Teachers and librarians hold discussion forums with students and parents to evaluate literacy activities. Students provide input on the activities they like and those that need to be improved. In accordance with the results of interviews with school teachers at SDN 08 Surau Gadang Nanggalo Padang, "literacy activities at school have been running well and have received positive responses from students, especially at events such as literacy week and writing competitions" .(interview with the teacher of SDN 08 Surau Gadang Nanggalo Padang on 31 May 2024) and the school librarian also added that," there are things that need to be improved to make literacy activities more interesting and effective. There is a need for more creative variations of activities with technology integration, such as using digital reading apps and online literacy content, to suit students' interests". (interview with the librarian of SDN 08 Surau Gadang Nanggalo Padang on 31 May 2024), to increase their effectiveness, librarians suggest a more creative variety of activities with technology integration, in line with knowledge management principles that emphasize the importance of optimizing knowledge resources to achieve organizational goals. Technology integration, such as using digital reading apps and online literacy content, will help present information in an engaging manner and according to students' interests, creating a more dynamic and relevant learning environment.

3.3. Challenges Faced

KM at SDN 08 Nanggalo Padang based on the results of research in the field and interviews with librarians, namely, "... these challenges include structural, cultural, technological, and resource constraints that affect our ability to manage knowledge optimally".(interview with the librarian of SDN 08 Surau Gadang Nanggalo Padang on 31 May 2024)

Teachers at SDN 08 Surau Gadang play an important role in KM by integrating literacy into the curriculum and working closely with librarians to improve students' literacy skills. As per the interview, there is a major challenge in literacy KM in schools where teachers revealed, "The challenge is the influence of mobile phones... they play games instead of looking for information or lessons on their mobile phones." (interview with the teacher of SDN 08 Surau Gadang Nanggalo Padang on 31 May 2024)

Some of the main challenges teachers and librarians face in conducting KM in Minangkabau culture: 1) Limited Resources, limited budgets, and physical resources such as books, equipment, and facilities can be obstacles in implementing KM in schools. 2) Curriculum Development: Integrating local literacy and Minangkabau culture into the official school curriculum can be challenging because it requires creativity and courage to overhaul or adjust the existing curriculum. 3) Understanding and Skills: teachers and librarians may need additional training in KM and information technology to support school literacy efforts. 4) Parent and Community Involvement: gaining support and active participation from parents and the community in supporting literacy efforts in schools can be challenging, especially if there is ignorance or indifference to the importance of literacy. 5) Evaluation and Feedback: Another challenge is Assessing the literacy program's effectiveness and applying feedback from various parties (students, teachers, parents) for continuous improvement. 6) Applying Local Culture and integrating Minangkabau culture into literacy activities requires a deep understanding of local values, traditions, and practices, which may require extra research and program development effort. 7) Changing Perceptions and Attitudes: changing students' perceptions and attitudes towards reading and literacy can also be a challenge, especially if a culture is less supportive of literacy activities outside of class time.

3.4. Impact on Literacy

The innovative approaches implemented by librarians and teachers have positively impacted literacy in the Minangkabau community. Students improve their reading and information comprehension skills, which helps them be better prepared for academic challenges and everyday life. The impact of efforts to improve literacy in schools, as was the case in the research on innovative KM in Minangkabau at SD 08 Surau Gadang Nanggalo Padang, will have great potential to bring about positive changes. Integrating Minangkabau culture into literacy activities will strengthen students' identity with their cultural heritage, while improved reading and writing skills will give them a better academic edge. Moreover, literacy programs that involve parents and communities will strengthen their involvement in their children's education, creating

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a stronger link between school, family, and community. As a result, students will feel more confident, knowledgeable, and motivated to continue developing their literacy skills, making a sustainable contribution to their future as cultured and highly literate members of society. "Integrating Minangkabau culture into literacy activities will strengthen students' identity and cultural heritage. In addition, improved reading and writing skills will give them a better academic edge".(interview with the teacher of SDN 08 Surau Gadang Nanggalo Padang on 31 May 2024). Then the librarian also added that "...literacy programs that involve parents and communities will strengthen their involvement in children's education. This will create stronger links between schools, families, and communities…". (interview with SDN 08 Surau Gadang Nanggalo Padang librarian on 31 May 2024).

Integrating Minangkabau culture into literacy activities in schools can strengthen students' identity and cultural heritage, which aligns with the concepts in KM theory that emphasize the importance of KM and utilization in the context of organizational culture. Improving students' literacy skills can also give them a better academic edge, supporting their knowledge and skills growth. In addition, involving parents and communities in literacy programs will strengthen their involvement in their children's education, creating a stronger link between schools, families, and communities, in line with KM principles that emphasize the importance of collaboration and knowledge sharing to achieve common goals.

3.5. Perceived Professional Identity

Librarians and teachers see their roles in KM and teaching. Many librarians identify themselves as educators, emphasizing the importance of information literacy as an integral part of students' education. Educators and librarians have strong and important perceptions of professional identity in the context of efforts to improve literacy in schools.

Teachers see themselves as agents of change responsible for students' intellectual and character formation. They realize that they are not only teachers but also mentors and role models who influence students' development in terms of reading, writing and understanding the world around them. Teachers as educators strengthen their professional identity with efforts to integrate local cultural values into the curriculum and create a conducive learning environment. (Svendsen, B., 2020; Ferguson, T., Roofe, C., & Cook, L. D., 2021; Hamsiah, A., Muzakki, A., Nuramila, N., & Fauzi, Z. A., 2022; and Lian, B., Kristiawan, M., Ammelia, D., Primasari, G., Anggung, M., & Prasetyo, M., 2020).

On the other hand, librarians see themselves as knowledge custodians and facilitators, whose role is to provide students with access to diverse and quality literacy resources. They recognize that they have a key role in supporting and expanding literacy in schools and promoting reading habits and a love of knowledge. Thus, the perceived professional identity of educators and librarians in the context of improving literacy strengthens their commitment to holistic student development and the achievement of broader educational goals. (Hirsh, K., 2020; Kumbar, R., 2021; Williams, D., & Wavell, C., 2021; Redkina, N., 2020).

CONCLUSION

This study concludes that comparatively analyzing the roles of librarians and classroom teachers in Minangkabau primary schools provides greater insight into the importance of collaboration between the two roles. The results show that effective collaboration between librarians and classroom teachers contributes greatly to improving the quality of literacy in primary schools. Furthermore, this research describes how innovative KM can be applied in Minangkabau and other areas with similar cultural and educational characteristics. In addition, this research also identifies the challenges faced in this collaboration and provides recommendations to overcome them so that it can support the creation of a better learning environment and improve student literacy. In turn, this research can make a real contribution to improving the quality of education and literacy in Indonesia.

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