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STUDENT MOTIVATION AND CULTURAL AWARENESS IN LEARNING THE TOBA BATAK SCRIPT: THE ROLE OF MULTI-STAKEHOLDER SUPPORT

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Abstract
This study aimed to examine the motivation, interest, and cultural awareness of elementary school students around Lake Toba regarding learning the Toba Batak script, as well as the role of multi-stakeholder support in its revitalization. A descriptive quantitative design was employed, involving one class from five representative schools across five districts. Data were collected using a 20-item Likert-scale questionnaire covering student interest, motivation, perception, and environmental support for learning the Toba Batak script. The questionnaire was validated by experts and tested for reliability (Cronbach's alpha ≥ 0.70). Data were analyzed descriptively using mean scores and categorized into four levels: low, medium, high, and very high. Results indicated that students exhibited very high interest and motivation, with most mean scores above 3.40. Students viewed learning the script not only as a technical skill but also as a medium for preserving cultural identity. They preferred culturally contextual and creative learning methods, such as storytelling, games, and visual media. Challenges were identified in teacher competence and intergenerational practice, highlighting the importance of teacher training. Furthermore, strong support from schools, parents, government, and community collaboration was crucial for successful revitalization. These findings suggest that integrating the Toba Batak script into the curriculum, employing interactive learning strategies, strengthening teacher capacity, and fostering multi-stakeholder collaboration can effectively enhance students' cultural literacy and identity.

Keywords: cultural awareness, elementary education, motivation, Toba Batak script

Introduction

The Toba Batak script stands as a paramount cultural heritage of Indonesia, embodying the rich literary civilization of the Batak people in North Sumatra. For centuries, this traditional writing system has served as the principal vehicle for cultural and intellectual expression, manifest in diverse forms such as sacred manuscripts, personal correspondences, and religious ritual texts (Sihotang &

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Sitanggang, 2022). Transcending its fundamental communicative function, the Toba Batak script encapsulates the worldview, social values, and intricate symbolic systems that profoundly shape the identity and indigenous wisdom of the Batak community.

However, recent decades have witnessed a substantial decline in the usage of the Toba Batak script. This erosion is largely attributable to the confluence of modernization, globalization, and the ascendancy of the Latin script within formal educational frameworks, which have progressively marginalized indigenous literacy traditions. Beyond merely impacting linguistic patterns, this transformation elicits considerable concern regarding the attenuation of cultural awareness and the diminishing intergenerational connection to ancestral heritage (Lubis & Bowo, 2022; Simanungkalit et al., 2025). Consequently, this pervasive trend portends a potential cultural identity crisis, exacerbated by the accelerating dynamics of global communication.

Extensive research underscores the crucial role of the Batak Toba language and script in safeguarding ethnic identity and conveying the cultural values of its community (Sitinjak & Harianja, 2022). Nonetheless, initiatives aimed at the preservation and revitalization of the Batak Toba script have, to date, been notably limited and fragmented. A key impediment stems from the inadequate integration of cultural preservation strategies with educational technology innovations, thereby hindering the intergenerational continuity of literacy in this script among the younger populace.

In response to this pressing challenge, research has increasingly focused on developing digital technology-based approaches to support the preservation of traditional scripts. One notable innovation is the development of mobile applications for Batak script recognition, powered by artificial intelligence algorithms (Simbolon et al., 2025), which holds the potential to significantly enhance accessibility and stimulate broader public interest in the Batak Toba script. These technological advancements, when integrated with comprehensive educational initiatives and robust cultural campaigns, offer substantial promise for strengthening the long-term viability of Indonesia's rich cultural heritage and linguistic diversity (Rajagukguk et al., 2022).

In 2022, UNESCO underscored the critical role of culturally-grounded education as a mechanism for fostering cultural resilience and safeguarding community identity amidst the pressures of modernity. This perspective aligns closely with ongoing efforts to preserve the Batak Toba script, which is recognized not merely as a traditional orthography but as an intrinsic component of Batak cultural heritage with the potential to significantly enrich the educational domain (Willian et al., 2023). Consequently, numerous studies and pedagogical initiatives have been undertaken to adapt Batak Toba folklore into contemporary instructional resources, particularly for English language acquisition within educational settings (Ginting et al., 2021; Sinamo et al., 2021). This methodological approach involves reprocessing traditional literary works into contextualized learning materials, which concurrently foster a profound connection between students and their cultural heritage while cultivating essential bilingual literacy competencies (Lubis & Bowo, 2022).

The revitalization of the Batak Toba script has increasingly leveraged technological advancements, complementing traditional pedagogical approaches. A

significant development in this regard is the creation of an artificial intelligence and machine learning-based script recognition system, which has substantially expanded public accessibility to this indigenous writing system. This innovation not only underscores the Batak Toba script's inherent adaptive potential but also facilitates its seamless integration into contemporary educational contexts, thereby securing its sustained relevance in the digital era (Napitu et al., 2022).

Building upon this background, the present research endeavors to analyze the degree of motivation and cultural awareness among elementary school students in the Lake Toba region concerning the acquisition of the Batak Toba script, recognizing its integral role in fostering cultural literacy and local identity. Additionally, this study seeks to elucidate students' perceptions regarding the pedagogical relevance of script learning within the framework of the Merdeka Curriculum, alongside assessing their needs and preferences for culture- and creativity-based instructional methodologies. Consequently, the anticipated outcomes of this investigation are expected to yield actionable recommendations for strengthening the preservation of local culture through the thoughtful integration of contextual, interactive, and culturally identity-reinforcing learning strategies.

Method

Type of Research

This study employs a descriptive quantitative design aimed at assessing the needs, motivations, and perceptions of elementary school students within the Lake Toba region regarding the acquisition of the Toba Batak script. This methodological approach enables a systematic characterization of students' engagement, their views on the script's cultural significance, and the broader environmental factors that influence its learning.

Population and Sample

The research population encompassed all primary school students across the Lake Toba region. A representative sample was subsequently drawn, consisting of one class from each participating school. To ensure comprehensive geographic coverage and broad regional representation, five schools were strategically selected, with each representing one of the five distinct regencies: SD N 173280 Lobu Siregar (North Tapanuli Regency), SD 176368 Gurgur (Toba Regency), SD N 030298 Simallopuk (Dairi Regency), SD Negeri Partuko Naginjang (Samosir Regency), and SD N 086 Nagasaribu III (Humbang Hasundutan Regency). The final selection of specific classes was performed using a purposive sampling method, specifically targeting those classes where students demonstrated active engagement in cultural literacy activities.

Research Instruments

The research instrument comprised a 20-item Likert-scale questionnaire, specifically developed to gauge students' interest, motivation, perception, and the environmental support conducive to learning the Toba Batak Script. Responses were solicited via a four-point Likert scale, which included options for Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1). The instrument's design was predicated on determining the extent of student demand for script

acquisition, recognizing its crucial role in fostering literacy and preserving cultural identity.

Validity and Reliability Test

To ensure methodological rigor, the questionnaire's content validity was established via expert review by specialists in education and local culture. Concurrently, its reliability was ascertained using Cronbach's Alpha, with a coefficient of ≥ 0.70 set as the criterion for acceptable internal consistency. These comprehensive validation procedures collectively affirm the instrument's capability to consistently and accurately measure the designated research variables.

Data Collection Procedure

Prior to the commencement of the study, formal authorization was secured from the school administration, and informed parental consent was obtained for all participating students. These essential preliminary steps were taken to uphold research ethics and to ensure the voluntary and appropriate involvement of the student participants. Subsequently, data collection was conducted directly within the classroom environment, with the researcher present to facilitate students' clear and comprehensive understanding of each statement presented.

Data Analysis

Descriptive statistical methods, specifically the calculation of means and subsequent categorization, were employed to ascertain patterns concerning students' interest, motivation, perception, and the perceived support for learning the Toba Batak script. A four-tiered categorization system was established for the data, with score ranges defined as: 1.00–1.75 representing 'Low', 1.76–2.50 'Moderate', 2.51–3.25 'High', and 3.26–4.00 'Very High'. This comprehensive analysis yielded crucial insights into the extent of student needs and the critical contribution of external support—encompassing teachers, parents, educational institutions, and governmental agencies—to the ongoing revitalization of the Toba Batak Script.

Findings and Discussion

To determine the specific requirements for elementary school students in the Lake Toba region to learn the Toba Batak script, this research utilized a questionnaire instrument based on a Likert scale. This instrument incorporated 20 statements designed to evaluate key dimensions, including student interest, motivation, perception, and the presence of environmental support, all pertaining to the acquisition of Batak script as an essential element of cultural literacy.

A four-point Likert scale was employed, comprising response options weighted as follows: Strongly Agree (4 points), Agree (3 points), Partially Agree (2 points), and Disagree (1 point). To ascertain the overall disposition of student responses, the mean score for each statement item was computed. These mean scores were then classified into four distinct categories based on the following established thresholds: 1.00–1.75 (Low), 1.76–2.50 (Moderate), 2.51–3.25 (High), and 3.26–4.00 (Very High).

Table 1 presents a comprehensive overview of the questionnaire results, detailing the distribution of student responses, the corresponding mean scores, and the assigned need level category for each statement.

Table 1. Distribution of Scores from the Student Needs Questionnaire Regarding Toba Batak Script Learning (N = 213)

No	Statement	SS	S	KS	TS	Average	Classification
1.	I love learning Toba Batak script because it's our cultural heritage.	780	51	2	0	3,93	Very High
2.	Learning Toba Batak Script is relevant to strengthen students' cultural identity in the era of globalization.	744	78	2	0	3,90	Very High
3.	I want to know more about the Toba Batak script	672	129	4	0	3,83	Very high
4.	Toba Batak script makes me more familiar with Batak culture	756	69	0	1	3,91	Very high
5.	I would like to learn Toba Batak script at school as a special subject.	600	171	8	1	3,76	Very high
6.	Merdeka Curriculum is suitable for introducing Toba Batak Script to students	564	165	22	6	3,67	Very high
7.	My teacher needs to be taught how to teach Toba Batak Script well	432	183	61	14	3,20	High
8.	Learning Toba Batak script makes me love Batak culture more	692	102	10	1	3,86	Very high
9.	Learning while playing (for example through stories or songs) is more fun than just taking notes	484	222	34	1	3,69	Very high
10.	I understand Toba Batak script better if it is taught through Batak folklore.	540	201	22	0	3,74	Very high
11.	I am excited to learn Toba Batak script if it is associated with Batak customs (e.g. ceremonies, music)	528	228	6	2	3,74	Very high
12.	Pictures and cultural objects (like ulos) help me remember the Toba Batak script.	596	165	6	6	3,78	Very high

13.	Learning the Toba Batak script makes me realize the importance of preserving regional culture	704	99	4	2	3,86	Very high
14.	If we don't learn the Toba Batak script, it will eventually disappear.	492	174	14	25	3,56	Very high
15	I can talk to my grandparents using the Toba Batak script	364	237	46	20	3,16	High
16	I want to use the Toba Batak script in my daily life (for example, to write my name in a book).	484	204	38	5	3,44	Very high
17.	Government must help schools to teach Toba Batak script	640	111	20	6	3,77	Very high
18.	Schools need to provide books and teaching aids to learn Toba Batak script	692	111	6	0	3,86	Very high
19.	My parents support me to learn Batak culture, including the Aksaranya.	596	183	4	1	3,86	Very high
20	Schools and Batak communities must work together to keep the Toba Batak script alive	697	96	4	4	3,87	Very high

Analysis of questionnaire data, collected from 213 students, revealed overwhelmingly positive attitudes toward learning the Toba Batak script, with most indicators categorized as 'very high'. Specifically, 18 of the 20 statements (90%) registered an average score exceeding 3.40, while the remaining two items (10%) were classified within the 'high' category. These findings underscore students' strong endorsement of the Batak script's revitalization, perceiving it as an integral component of cultural identity rather than merely a writing skill. This perspective aligns with prior scholarship emphasizing the critical role of traditional scripts in preserving cultural heritage and shaping student identity (Ginting et al., 2021; Lubis & Bowo, 2022). Furthermore, despite the potential of technology to serve as an innovative learning medium, persistent challenges in script preservation endure, a reality corroborated by the students' positive reception to revitalization initiatives (Willian et al., 2023). Collectively, these data indicate that students are both motivated and prepared to engage with the script. Therefore, revitalization initiatives are likely to achieve greater efficacy through comprehensive strategies, including robust teacher training, the development of innovative educational media, collaborative support from diverse stakeholders, and systematic integration into the curriculum, thereby strengthening cultural literacy and identity.

The statements "I enjoy learning Toba Batak Script because it is our cultural heritage" (M = 3.93) and "Toba Batak Script makes me understand Batak culture better" (M = 3.91) garnered the highest mean scores, indicating that students predominantly perceive the script as a vital source of cultural pride and a means to deepen their comprehension of Batak culture. Moreover, the statement "Learning Toba Batak Script is relevant for strengthening students' cultural identity in the era of globalization" (M = 3.90) further highlights students' acute awareness of the script's pivotal role in preserving self-identity amidst the pervasive influences of globalization. Collectively, these findings underscore that students view the acquisition of the Batak script not merely as a technical skill but fundamentally as an instrumental tool for maintaining cultural identity and fostering a comprehensive understanding of their heritage. This perspective resonates strongly with existing scholarship, which consistently advocates for the integration of cultural heritage into educational frameworks to enhance student engagement and fortify cultural identity (Ezz El-Din, 2019; Ginting et al., 2021).

Furthermore, student perceptions regarding the script's significance for cultural identity preservation underscore the challenges confronting the Batak Toba community amidst contemporary globalization, a point elucidated by Purba (2022). This finding further distinguishes itself from prior research, which predominantly focuses on the academic dimensions of instructional materials, by instead underscoring the vital role of active student engagement and the cultivation of cultural pride associated with the Batak script (Sihombing & Sukmayadi, 2024). The robust student endorsement for Batak Toba script instruction observed in this study, therefore, highlights a significant potential for cultural heritage revitalization. This can be achieved through educational initiatives that actively bridge the younger generation with their intrinsic cultural identity and ancestral wisdom.

High levels of learning motivation are discernible from students' responses to survey statements. Specifically, the statement "I want to know more about Batak Toba script" garnered a mean score of 3.83, while "I want to learn Batak Toba script in school as a special subject" received a mean score of 3.76. These results collectively underscore a strong desire for the formal integration of Batak Toba script instruction into the educational curriculum. Further supporting this prospect, the implementation of the Merdeka Curriculum received considerable endorsement (M = 3.67), thereby significantly enhancing the feasibility of integrating script learning. This collective sentiment highlights students' aspiration for more systematically structured cultural heritage education. This aligns with research by Martínez-Rodríguez et al. (2022), which established that integrating cultural heritage components into the curriculum significantly fosters students' emotional engagement and contributes to identity formation. Furthermore, studies by Batmaz (2023) underscore that culturally informed education cultivates a deeper awareness and appreciation for both indigenous and global heritage. Consequently, the

incorporation of the Batak Toba script into formal educational frameworks is poised to substantially contribute to cultural preservation and sustainability.

Moreover, this investigation underscores the considerable potential of innovative pedagogical strategies, particularly those leveraging digital technologies, to significantly enhance student engagement with cultural content (Ezz El-Din, 2019). While prior research, exemplified by Willian et al. (2023), predominantly focused on the technical dimensions of character recognition, the current study's findings critically illuminate the significance of student motivation and pedagogical relevance within cultural learning paradigms. Consequently, the outcomes of this study substantiate the notion that integrating the Batak Toba script into the curriculum not only fortifies students' cultural identity but also represents an efficacious strategy for revitalizing cultural heritage education amidst the challenges of globalization.

Students' learning method preferences reveal a pronounced inclination toward culture-based and creative pedagogical strategies, particularly those involving storytelling, gamification, or visual modalities. Empirical data from student responses further substantiates this tendency, with significant agreement observed for statements such as "Learning through play is more engaging than merely taking notes" (M = 3.69), "I achieve greater comprehension when instruction is delivered via Batak folk tales" (M = 3.74), and "Visual aids and cultural artifacts facilitate my recall of Batak Toba Script" (M = 3.78). These findings unequivocally underscore the pertinence of integrating ethnopedagogical strategies and contextually relevant instructional media. This observational evidence converges with existing scholarly literature, which consistently highlights the efficacy of ethnopedagogical approaches and visual media in fostering enhanced student engagement, deepening comprehension, and augmenting intrinsic learning motivation (Lestari & Wibawa, 2021; Mahisa et al., 2023; Manipuspika, 2020; Dos Santos, 2020).

While certain prior investigations, such as that by Nguyen and Boers (2019), predominantly focused on the technical dimensions of acquiring discrete content like vocabulary, the present research underscores the crucial significance of cultural integration and active learning experiences. These findings collectively suggest that pedagogical approaches rooted in contextual and interactive engagement not only facilitate deeper comprehension but also substantially reinforce learners' affiliation with their cultural heritage. Consequently, this study highlights the imperative for educators to devise engaging, efficacious, and culturally congruent pedagogical interventions that concurrently contribute to the preservation of cultural patrimony.

Students demonstrate a robust understanding and appreciation of cultural heritage, as evidenced by elevated mean scores for statements such as "Learning Toba Batak Script fosters cultural appreciation" (M = 3.86) and "Realizing the importance of preserving local culture" (M = 3.86). Conversely, assessments revealing lower mean scores for items pertaining to teacher pedagogical proficiency ("My teacher needs to be taught how to teach Toba Batak Script well," M = 3.20)

and intergenerational linguistic transmission ("I can speak with my grandparents using Toba Batak Script," M = 3.16) underscore a perceived lack of adequate instructor training and restricted avenues for transmitting the script across generations. These factors collectively constitute significant impediments to its successful revitalization.

These findings are consistent with the existing literature, which emphasizes the critical importance of comprehensive teacher training and the thoughtful integration of cultural values within educational paradigms (Hammine et al., 2019; Milian & Walker, 2019; Yücel & Yavuz, 2019). The demonstrated readiness of students to engage with the Batak Toba script further corroborates this view, highlighting the significant potential for effective educational reform when educators are equipped to bridge cultural divides and foster robust intergenerational communication. Consequently, a concerted effort to enhance teacher capacity is indispensable for ensuring the sustainable preservation and successful transmission of cultural identity.

The high mean scores attributed to the roles of the government (M = 3.77), schools (M = 3.86), parents (M = 3.86), and school-community collaboration (M = 3.87) unequivocally underscore the perceived significance of external support. This collective endorsement strongly suggests that the effective preservation of cultural scripts is contingent upon comprehensive multi-stakeholder collaboration. This observation is demonstrably consistent with established academic discourse on school-community partnerships, which frequently highlights the pivotal role of robust multi-party involvement in facilitating the successful implementation of culturally responsive and sustainable educational programs (Wyatt, 2010). Such an integrated, collaborative framework not only significantly enriches students' educational experiences but also cultivates a profounder sense of commitment to their cultural heritage.

The findings of the present study are further substantiated by Atashinsadaf et al., (2023), whose work underscores the critical importance of a concerted response among educators, parents, and the broader community in addressing pedagogical challenges. Collectively, these insights affirm that the successful revitalization of the Batak Toba Script is contingent upon an integrated multi-stakeholder support system to achieve its educational and cultural preservation objectives.

The findings of this research bear significant implications for pedagogy, cultural preservation, and educational policy. From a pedagogical standpoint, the study reveals a notably high level of interest and motivation among elementary school students in the Lake Toba region towards learning the Toba Batak Script. This observation underscores the imperative for formal integration of local script instruction into the educational curriculum. Educators must therefore develop innovative culture-based or ethnopedagogical instructional models, incorporating strategies such as storytelling, educational games, and contextual visual media, to foster more engaging and meaningful learning experiences. Moreover, comprehensive professional development for teachers is essential to equip them with the requisite competence to impart the Toba Batak Script, not merely as a

system of writing, but critically, as a vehicle for inculcating cultural values and reinforcing local identity. The judicious integration of digital technologies and interactive media is also paramount to render the acquisition of this script more adaptive to the distinct characteristics of the younger generation immersed in the digital age.

Culturally, this research reveals that students perceive the Batak Toba script not solely as a technical proficiency, but also as a powerful emblem of cultural identity and ethnic heritage. The revitalization of this script thus represents a highly promising strategy for safeguarding Batak Toba cultural distinctiveness amidst the pervasive forces of globalization. Engaging with the Batak Toba script can bolster students' cultural literacy and character development, foster a profound sense of connection to their ancestral legacy, and facilitate intergenerational continuity through the active transmission of cultural values. Consequently, sustained collaboration among educational institutions, families, and indigenous communities is paramount for ensuring the enduring success of this vital cultural preservation initiative.

The observed substantial student receptivity towards learning the Batak Toba script, unequivocally supported by strong endorsements of the roles played by governmental bodies, educational institutions, and communities, underscores a compelling imperative for the establishment of more systematically structured policies to facilitate regional script revitalization. Consequently, it is incumbent upon local governments, in close collaboration with educational institutions, to formulate comprehensive revitalization programs that are seamlessly integrated into the Merdeka Curriculum. Furthermore, these efforts must proactively foster robust synergistic relationships among diverse stakeholders, specifically encompassing educators, parents, and cultural institutions. To ensure the effective and sustainable implementation of these initiatives, the systematic optimization of resource provision, including high-quality textbooks, accessible digital learning materials, and culturally relevant pedagogical media, is critically essential.

Theoretically, the findings of this study provide empirical support for the concept that ethnopedagogy and indigenous wisdom-based learning are pertinent approaches for enhancing learning motivation, strengthening cultural identity, and fostering active student participation within multicultural educational settings. Consequently, this research affirms that the revitalization of the Batak Toba script through both formal education and digital learning platforms constitutes a strategic imperative for reinforcing the cultural literacy, ethnic identity, and local pride of the younger generation in the Lake Toba region. The successful execution of this endeavor is critically contingent upon the preparedness of educators, robust governmental policy support, and the proactive engagement of local communities and cultural organizations, which together form the fundamental pillars for preserving the Batak Toba cultural heritage.

Conclusion

The research findings indicate that elementary school students residing in the Lake Toba region exhibit a profound interest, robust motivation, and heightened cultural awareness regarding the acquisition of the Batak Toba script. This observation is strongly supported by quantitative data, where the vast majority of

questionnaire items yielded mean scores exceeding 3.40. These scores affirm that students perceive script learning not merely as a foundational writing skill, but critically, as an indispensable means for safeguarding their cultural identity and heritage. Such pronounced learning motivation, coupled with strong endorsement for the script's integration into the curriculum—particularly within the framework of initiatives like the Merdeka Curriculum—underscores students' notable readiness for more structured and culturally resonant pedagogical approaches.

Students consistently demonstrate a preference for learning methodologies that are both creative and culturally embedded, particularly those incorporating elements such as folklore, traditional games, and visual media. This inclination strongly affirms the pertinence of employing ethnopedagogical strategies and utilizing contextually appropriate instructional materials. Despite students exhibiting a high degree of cultural appreciation, significant challenges persist concerning teacher competency and the integration of cross-generational practices. Consequently, robust teacher training programs are indispensable for effectively supporting script revitalization initiatives. Furthermore, the successful preservation of the script is critically contingent upon multifaceted external support, encompassing governmental backing, institutional commitment from schools, active parental involvement, and robust collaboration between schools and the wider community. Overall, this research unequivocally confirms that the revitalization of the Batak Toba Script can be most effectively achieved through a comprehensive approach involving curriculum integration, the adoption of contextual and interactive learning methodologies, significant enhancement of teacher capacity, and synergistic multi-stakeholder collaboration to bolster students' cultural literacy and reinforce their identity.

References

Atashinsadaf, A., Ramezani-badr, F., Long, T., Imanipour, M. & , Amini, K. (2023). Facilities, challenges, attitudes, and preferences of nursing students related to e-learning in the Covid-19 pandemic in Iranian context: A cross-sectional study. *BMC Medical Education*, *24*, Article 50. https://doi.org/10.1186/s12909-024-05029-6

Batmaz, O. (2023). Examination of primary school teachers' opinions on cultural heritage education in Life Science lesson. *Journal of Computer and Education Research*, *11*(22), 429–446. https://doi.org/10.18009/jcer.1241337

Dos Santos, L. M. (2020). Technologically assisted teaching approach: The visual-only video teaching strategy in the nursing education classroom. *Universal Journal of Educational Research*, *8*(12A), 7853–7863. https://doi.org/10.13189/ujer.2020.082574

Ezz El-Din, D. (2019). Digital cultural heritage as an emerging tool to develop Egyptian educational programs: Case-study: Applying interactive technologies in tourist guiding education. *International Journal of Heritage, Tourism and Hospitality*, *13*(1), 144–151. https://doi.org/10.21608/ijhth.2019.35111

Ginting, R. I., Lubis, B. N. A., & Sinaga, D. A. (2021). The revitalization of Tugu Silalahi Batak Toba folklore into teaching materials in English subject for junior high school. *Linguistic, English Education and Art (LEEA) Journal*, *4*(2), 240–248. https://doi.org/10.31539/leea.v4i2.1840

Hammine, M., Keskitalo, P., & Sarivaara, K. E. (2019). Sámi language teachers' professional identities explained through narratives about language acquisition. *The Australian Journal of Indigenous Education*, *49*(1), 89–97. https://doi.org/10.1017/jie.2018.22

Lestari, N. P. Y., & Wibawa, I. M. C. (2021). Learning videos to improving students' reading comprehension in elementary school. *International Journal of Elementary Education*, *5*(2), 276. https://doi.org/10.23887/ijee.v5i2.34405

Lubis, D. F., & Bowo, T. A. (2022). Batak Toba script, preserving its authenticity in globalization stream. *Nusantara Science and Technology Proceedings*, 28–34. https://doi.org/10.11594/nstp.2021.1704

Mahisa, R. D. P., Rezeki, Y. S., & Surmiyati, S. (2023). English teaching strategies to students in an inclusive school. *Edukasi: Jurnal Pendidikan*, *21*(2), 316–330. https://journal.upgripnk.ac.id/index.php/edukasi/article/view/6262

Manipuspika, Y. S. (2020). Learning styles of Indonesian EFL students: Culture and learning. *Arab World English Journal (AWEJ)*, *11*(1), 91-102. https://doi.org/10.31235/osf.io/j8vwe

Martínez-Rodríguez, M., Hernández-de la Cruz, J. M., Aso, B., & Ciriza, C. D. (2022). Musical heritage as a means of sustainable development: Perceptions in students studying for a degree in primary education. *Sustainability*, *14*(10), Article 6138. https://doi.org/10.3390/su14106138

Milian, M., & Walker, D. (2019). Bridges to bilingualism: Teachers. *FIRE: Forum for International Research in Education*, *5*(3), 105-128. https://doi.org/10.32865/fire201953138

Napitu, U., Corry, Sihaloho, B., Napitupulu, Y. M., Juniarti, K., & Batubara, H. I. (2022). Revitalization of Batak Toba cultural identities used language as communication in the Sianjur Mula-Mula, Samosir Regency. *Jurnal Gramatika: Jurnal Penelitian pendidikan Bahasa dan Sastra Indonesia*, *8*(1), 96–111. https://doi.org/10.22202/jg.2022.v8i1.5699

Nguyen, C., & Boers, F. (2019). The effect of content retelling on vocabulary uptake from a TED talk. *TESOL Quarterly*, *53*(1), 5–29. https://doi.org/10.1002/tesq.441

Purba, A. (2022). How first and second languages influence Indonesian students' English as a third language: Transfer and interference analysis. *Elsya : Journal of English Language Studies*, *4*(2), 147–156. https://doi.org/10.31849/elsya.v4i2.8704

Rajagukguk, R., Malems, T., & Ginting, M. (2022). Preserving linguistic diversity: Strategies for language preservation and cultural heritage safeguarding. *Jurnal Ilmu Pendidikan Dan Humaniora*, *11*(3), 221–236. https://doi.org/10.35335/jiph.v11i3.25

Sihombing, V. V., & Sukmayadi, Y. (2024). Packaging of vocal teaching materials for the Batak Toba "Andung" region through the utilization of Google Drive. *Proceedings of the Fifth International Conference on Arts and Design Education (ICADE 20222)* (pp. 519–523). Atlantic Press. https://doi.org/10.2991/978-2-38476-100-5_66

Sihotang, M. M., & Sitanggang, T. (2022). Cultural heritage preservation and manuscript conservation: Safeguarding the Laklak Batak manuscript of Batak culture in Indonesia. *Jurnal Ilmu Pendidikan Dan Humaniora*, *11*(2), 85–101. https://doi.org/10.35335/jiph.v11i2.17

Simanungkalit, K. E., Simanjuntak, B., Sinaga, S. H., & Panggabean, L. (2025). Integrasi cerita rakyat dalam pembelajaran bahasa dan sastra: Tinjauan sistematis literatur terhadap peningkatan nilai budaya dan identitas lokal. *SeBaSa*, *8*(1), 238–257. https://doi.org/10.29408/sbs.v8i1.29707

Simbolon, I. N., Herimanto, H., Siahaan, R. D., Lumbantobing, S. A., & Br Sitepu, G. N. (2025). Development of mobile-based Batak script recognition application using YOLOv8 algorithm. *Indonesian Journal of Electrical Engineering and Computer Science*, *39*(2), 1013-1026. https://doi.org/10.11591/ijeecs.v39.i2.pp1013-1026

Sinamo, F. L., Lubis, B. N. A., Barus, T. A. E., & Sembiring, S. J. (2021). The revitalization of Batu Parsidangan Batak Toba folklore into teaching materials in English subject for junior high school. *Linguistic, English Education and Art (LEEA) Journal*, *4*(2), 233–239. https://doi.org/10.31539/leea.v4i2.1824

Sitinjak, V. N., & Harianja, N. (2022). Maintain or shift? Focus on inter-ethnic families in Indonesia. *International Journal on Linguistics of Sumatra and Malay*, *1*(1), 39–45. https://doi.org/10.32734/ijlsm.v1i1.10572

Willian, S., Rochadiani, T. H., & Sofian, T. (2023). Design of Batak Toba script recognition system using convolutional neural network algorithm. *Sinkron*, *7*(3), 1609–1618. https://doi.org/10.33395/sinkron.v8i3.12617

Wyatt, T. R. (2010). Supporting an externally developed model of education in Greenland. *International Journal of Educational Reform*, *19*(3), 156–171. https://doi.org/10.1177/105678791001900301

Yücel, N., & Yavuz, A. (2019). Rethinking intercultural training in teacher training. *Journal of Intercultural Communication*, *19*(3), 1–10. https://doi.org/10.36923/jicc.v19i3.793