

EDUCATIONAL LEADERSHIP IN ORANG ASLI SCHOOLS: A SYSTEMATIC LITERATURE REVIEW OF LEADERSHIP CHALLENGES AND CONTEXTUAL STRATEGIES

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Abstract: *The provision of equitable education for indigenous Orang Asli communities remains a persistent national challenge in Malaysia. This study aims to synthesise the leadership challenges faced by school administrators in Orang Asli schools and to identify contextually relevant strategies for improving educational outcomes. A systematic literature review incorporating thematic synthesis was conducted, analysing 30 peer-reviewed articles published between 2020 and 2026, sourced from Scopus, Web of Science, and Google Scholar. Articles were selected through a structured screening process based on relevance to indigenous education, leadership, and rural schooling contexts. The findings reveal five interrelated dimensions of leadership challenges: (1) core leadership and managerial adaptation, (2) pedagogical and curriculum constraints, (3) socio-cultural and community dynamics, (4) systemic and policy-related limitations, and (5) technological disparities. The review highlights that conventional, centralised leadership models are largely ineffective in indigenous contexts, necessitating adaptive, culturally responsive, and community-oriented leadership approaches. This study contributes to the discourse on indigenous educational leadership by proposing the need for a contextualised, needs-based leadership framework tailored to Orang Asli schools. The review contributes to the growing discourse on indigenous educational leadership by identifying thematic insights that may guide future policy development, leadership practice and research.*

Keywords: *Orang Asli education, educational leadership, indigenous pedagogy, digital divide, socio-cultural dynamics*

Introduction

Providing equitable education for indigenous communities remains a critical national priority in Malaysia, as outlined in recent policy frameworks such as the Rancangan Pendidikan Malaysia (2026–2035) (Ministry of Education Malaysia, 2025). Despite sustained policy attention, Orang Asli schools continue to experience persistent structural and educational disparities (Othman, 2022; Yusoff et al., 2025). These challenges are deeply rooted in geographic isolation, socioeconomic marginalisation, and unequal resource distribution, which collectively constrain access to quality education (Mat Dong et al., 2022; Panchadcharam, 2025). Consequently, dropout rates among indigenous students remain disproportionately high, reflecting systemic inefficiencies in addressing the needs of these communities (Abu Hassan et al., 2023).

Within this context, school leaders occupy a critical yet complex role. They are responsible for translating centralised educational policies into meaningful practices within highly diverse and resource-constrained environments. However, dominant leadership models, largely designed for mainstream and urban schooling contexts, often fail to accommodate the socio-cultural and infrastructural realities of Orang Asli communities (Ahmad et al., 2026; Mohamed Salleh & Abdul Razak, 2024). This misalignment places school administrators in a challenging position, requiring them to fulfil bureaucratic expectations while responding to local community needs.

A significant challenge lies in the disconnect between standardised curriculum frameworks and the lived experiences of indigenous learners. National curricula frequently overlook linguistic diversity, cultural knowledge systems, and experiential learning practices embedded within Orang Asli communities (Abd Jalil & Abdullah, 2023; Idrus et al., 2023). As a result, instructional leadership becomes increasingly complex, as school leaders must guide teachers in adapting pedagogical practices to ensure cultural relevance and student engagement. This challenge is further compounded by the rapid digitalisation of education, which has exacerbated existing inequalities due to limited infrastructure, low ICT literacy, and the incompatibility of standard digital tools with indigenous learning styles (Kamsin et al., 2022, 2023; Nik Azman et al., 2024).

While existing studies have extensively examined pedagogical challenges, student outcomes, and socio-economic barriers in Orang Asli education, there remains a lack of integrated synthesis focusing specifically on educational leadership within this context. Limited attention has been given to how school leaders navigate the intersection of cultural, systemic, and technological challenges in shaping school effectiveness. This gap highlights the need for a comprehensive understanding of leadership practices that are responsive to indigenous contexts.

Therefore, this study aims to synthesise existing literature on leadership challenges in Orang Asli schools and to identify contextually relevant strategies that support effective educational leadership. Specifically, this study is guided by the following objectives:

1. To identify the core managerial and pedagogical challenges faced by school administrators in Orang Asli schools.
2. To analyse the influence of socio-cultural dynamics and systemic policies on leadership practices.
3. To examine technological barriers affecting digital integration and educational equity in indigenous schooling contexts.

By addressing these objectives, this study contributes to the development of a contextualised understanding of educational leadership that is aligned with the unique realities of Orang Asli communities, thereby informing future leadership frameworks and policy interventions.

Literature Review

The Historical Context of Indigenous Education

Indigenous education in Malaysia continues to be shaped by persistent structural inequalities that place Orang Asli communities at a significant disadvantage. Despite ongoing policy efforts to promote educational equity, disparities between rural indigenous schools and mainstream urban institutions remain deeply entrenched (Mat Dong et al., 2022; Panchadcharam, 2025; Yusoff et al., 2025). These inequalities extend beyond geographic isolation and are closely linked to broader socio-economic marginalisation, limited access to infrastructure, and uneven distribution of educational resources (Mat Dong et al., 2022; Panchadcharam, 2025).

Socio-economic constraints play a critical role in shaping educational participation among Orang Asli students. Many families face economic precarity, where immediate livelihood needs take precedence over sustained school attendance (Abdullah et al., 2023; Panchadcharam, 2025). As a result, formal education is often seen as misaligned with daily survival priorities, contributing to irregular attendance and higher dropout rates among indigenous students (Abdullah et al., 2023; Abu Hassan et al., 2023). These patterns reflect not only economic barriers, but also broader issues related to the perceived relevance and accessibility of formal education within indigenous communities (Othman, 2022).

Beyond material constraints, indigenous education is further influenced by distinct cultural and epistemological orientations. Learning within Orang Asli communities is often experiential, relational, and embedded in environmental and communal practices (Kamsin & Khalid, 2023; Rahman & Lee, 2022). Such orientations contrast with the structured, abstract, and standardised nature of formal schooling, which can create a disconnect between students' lived experiences and classroom expectations (Abd Jalil & Abdullah, 2023; Idrus et al., 2023). This mismatch has been shown to affect student engagement, learning motivation, and overall academic outcomes in indigenous contexts (Idrus et al., 2023).

Together, these structural, socio-economic, and cultural dimensions highlight the complexity of educational provision in Orang Asli contexts. Addressing these challenges requires more than policy expansion or infrastructural improvement; it necessitates a deeper understanding of how education systems interact with indigenous realities (Mat Dong et al., 2022; Othman, 2022). This contextual complexity provides a critical foundation for examining the role of educational leadership in mediating these challenges and shaping more responsive schooling practices.

Limitations of Conventional Leadership Models

Educational leadership in Malaysia is largely shaped by conventional frameworks such as transformational leadership and instructional leadership, which emphasise vision-setting, organisational coherence, and the improvement of teaching and learning. These models are widely applied in mainstream schools and are often embedded within centralised educational policies and administrative expectations (Mohamed Salleh & Abdul Razak, 2024; Nordin et al., 2020).

However, these leadership approaches are typically developed on the assumption of relatively stable institutional conditions, adequate resource availability, and culturally homogeneous school environments. In Orang Asli schools, these assumptions are rarely met, as school leaders often operate in settings marked by geographic isolation, limited infrastructure, and socio-cultural diversity (Mat Dong et al., 2022; Yusoff et al., 2025). These contextual constraints significantly influence leadership practices and limit the applicability of standardised administrative models (Ahmad et al., 2026).

Applying conventional leadership models in these settings often leads to a misalignment between policy expectations and local realities. Centralised educational frameworks tend to prioritise uniform curriculum implementation and performance indicators, while overlooking the need for contextual adaptation to indigenous learning environments (Mohamed Salleh & Abdul Razak, 2024; Rahman & Lee, 2022). As a result, school leaders must continuously negotiate between fulfilling bureaucratic requirements and addressing to the socio-cultural and developmental needs of their students and communities (Ahmad et al., 2026).

Moreover, dominant leadership approaches place strong emphasis on instructional supervision and measurable academic outcomes, often assuming consistent teacher capacity, student readiness, and parental support. In Orang Asli contexts, these conditions are highly variable and cannot be assumed (Abdullah et al., 2023; Panchadcharam, 2025). Recent studies highlight that, school leaders frequently extend their roles beyond instructional leadership to include community engagement, welfare coordination, and culturally responsive mediation (Lopez et al., 2022; Mohd Hashim, 2023).

These limitations shows that conventional leadership frameworks, while effective in structured and resource-rich environments, are insufficient for addressing the complexities of indigenous schooling. The mismatch between theoretical assumptions and contextual realities highlights the need for a more adaptive, culturally responsive, and contextually grounded leadership approach tailored to Orang Asli schools (Mohamed Salleh & Abdul Razak, 2024; Othman, 2022).

Theoretical Foundations of Indigenous Educational Leadership

Educational leadership in indigenous contexts requires a broader theoretical perspectives that extends beyond conventional administrative and instructional models. While frameworks such as transformational and instructional leadership offer valuable insights into school improvement processes (Hallinger, 2005; Leithwood & Jantzi, 2005), their applicability limited in culturally diverse and resource-constrained environments such as Orang Asli schools. As previously discussed, these models often rely on assumptions that do not reflect the lived realities of indigenous communities.

In response to these limitations, culturally responsive leadership has emerged as a more contextually relevant approach. This perspective emphasises the importance of aligning school practices with students' cultural identities, values, and lived experiences (Khalifa et al., 2016). School leaders are expected to move beyond managerial roles to become cultural mediators who actively bridge formal education systems with indigenous ways of knowing and learning (Idrus et al., 2023; Othman, 2022). This approach recognises that educational effectiveness in indigenous settings is closely tied to cultural relevance and community engagement.

Indigenous Knowledge Systems (IKS) provide an essential epistemological foundation for understanding learning within Orang Asli communities. These systems prioritise experiential, relational, and community-based knowledge, which often contrasts with the abstract, standardised, and content-driven orientation of mainstream curricula (Battiste, 2019; Kamsin & Khalid, 2023). When leadership practices fail to acknowledge these knowledge systems, formal education risks becoming disconnected from students lived experiences, thereby reducing engagement and learning effectiveness (Rahman & Lee, 2022).

Perspectives on distributed and community-based leadership further highlight the importance of shared responsibility and local participation in school governance (Harris, 2008; Spillane, 2006). In indigenous contexts, leadership is not confined to formal administrative roles but is often shaped through relationships with community members, parents, and local leaders. This underscores the need for school leaders to adopt inclusive and participatory approaches that recognise the collective nature of indigenous communities (Abdullah et al., 2023; Mohd Hashim, 2023).

Taken together, these theoretical perspectives suggest that effective leadership in Orang Asli schools requires a hybrid and context-sensitive approach. Rather than relying solely on conventional leadership models, school leaders must integrate instructional, culturally responsive, and community-oriented practices that are grounded in indigenous realities. This highlights the need for a contextualised leadership framework capable of addressing the complex and interconnected challenges present in indigenous educational settings.

Synthesis Gap in Indigenous Educational Leadership

Despite a growing body of research on Orang Asli education, existing studies remain largely fragmented across distinct domains such as pedagogy, socio-economic challenges, cultural dynamics, and technological access (Othman, 2022; Yusoff et al., 2025). While these studies provide valuable insights into specific aspects of indigenous education, they are often examined in isolation, resulting in a limited understanding of how these challenges intersect within the broader educational system.

More importantly, there is a noticeable lack of integrative research examining these multidimensional challenges through a coherent educational leadership lens. Much of the existing literature prioritises student outcomes, instructional practices, or policy implementation, with comparatively limited attention given to the role of school leaders in navigating and reconciling these complex and overlapping pressures (Ahmad et al., 2026; Mohamed Salleh & Abdul Razak, 2024). Consequently, the leadership dimension of Orang Asli education remains under-theorised and insufficiently synthesised.

Furthermore, although emerging studies have highlighted the importance of culturally responsive and context-sensitive practices, there is still no consolidated framework that comprehensively explains how school leaders adapt their roles across managerial, pedagogical, socio-cultural, and technological domains (Idrus et al., 2023; Kamsin et al., 2022). This absence of an integrated perspective constrains both theoretical development and practical application, particularly in informing leadership strategies responsive to indigenous contexts.

Addressing this gap requires a comprehensive synthesis of existing literature that brings together these fragmented insights into a unified conceptual understanding. Therefore, this study aims to thematically analyse and synthesise recent research on leadership challenges in

Orang Asli schools, with the objective of identifying key dimensions that inform a contextualised and needs-based leadership framework. In doing so, this study contributes to bridging the divide between theory, policy, and practice in indigenous educational leadership.

Materials and Methods

Research Design

This study employed a systematic literature review (SLR) design incorporating thematic synthesis to examine existing research on leadership challenges in Orang Asli schools. The systematic literature review enabled the identification, selection, and synthesis of relevant studies, while the thematic synthesis facilitated the integration of recurring patterns into coherent conceptual dimensions. This design was considered appropriate for examining the complex, context-dependent nature of educational leadership in indigenous school settings.

Data Sources and Search Strategy

A systematic literature search was conducted between January and March 2026, with final verification of the search completed on 15 June 2026, to identify relevant studies on educational leadership in Orang Asli schools. Three academic databases Scopus, Web of Science (WoS) and Google Scholar were selected to ensure comprehensive coverage of peer-reviewed literature in the fields of educational leadership, indigenous education, and rural schooling.

The search strategy employed a combination of keywords and Boolean operators to maximise the retrieval of relevant studies. The primary search focused on the concepts of leadership challenges, Orang Asli schools, educational leadership, indigenous education, and Malaysia. A representative search string was:

("leadership challenges" OR "educational leadership") AND ("Orang Asli" OR indigenous) AND (school* OR education) AND Malaysia

Following the database search, the retrieved records were screened manually for relevance based on their titles, abstracts, and full texts. Additional manual searches of reference lists were undertaken where necessary to identify relevant studies that may not have been retrieved through the initial database search. This iterative approach ensured that the selected literature comprehensively represented the current body of knowledge on leadership challenges in Orang Asli schools.



Figure 1. Systematic Literature Search, Screening, and Study Selection Process

Inclusion and Exclusion Criteria

To ensure consistency and relevance, the selection of articles was guided by predefined inclusion and exclusion criteria.

Table 1: Inclusion and Exclusion Criteria for Article Selection

<i>Inclusion criteria</i>	<i>Exclusion criteria</i>
• Peer-reviewed journal articles • Published between 2020 and 2026 • Indexed in Scopus or Web of Science (with selective inclusion from Google Scholar) • Focus on Orang Asli education, indigenous education, or rural educational leadership • Empirical or conceptual studies relevant to school-level leadership	• Studies focusing on non-educational contexts • Articles unrelated to indigenous or rural schooling • Non-scholarly sources (e.g., reports, news articles, opinion pieces) • Duplicate records across databases

Screening and Selection Process

As illustrated in Figure 1, the study selection process involved a systematic sequence of literature identification, title screening, abstract screening, full-text review, and final article selection. Following the database search, the retrieved studies were screened to ensure their relevance to the objectives of this review. Following this initial evaluation, candidate articles underwent a rigorous full-text review. This critical step ensured both conceptual depth and methodological quality. Ultimately, researchers purposively selected a final, cohesive set of 30

articles for synthesis. This curated collection provides comprehensive empirical coverage of the multifaceted leadership challenges defining Orang Asli schools.

Quality Assessment

To ensure the credibility and relevance of the reviewed literature, each article underwent a qualitative quality assessment before inclusion in the final synthesis. The assessment focused on four key criteria: (i) relevance to educational leadership in Orang Asli or indigenous school contexts, (ii) methodological clarity and coherence, (iii) contribution to understanding leadership challenges or contextual strategies, and (iv) publication quality, with priority given to peer-reviewed studies indexed in Scopus and Web of Science. Google Scholar sources were included selectively, and only when they provided significant contextual or conceptual contributions that were not adequately represented in the indexed databases.

Rather than applying a formal scoring instrument, the studies were evaluated holistically based on their overall methodological rigour, conceptual relevance, and contribution to the objectives of this review. Only studies that demonstrated sufficient academic quality and directly addressed the focus on educational leadership in Orang Asli or comparable indigenous school settings were retained for thematic synthesis. This approach ensured that the final selection of 30 studies provided a credible and comprehensive foundation for identifying the key leadership challenge dimensions discussed in this review.

Data Analysis and Synthesis Procedure

The selected studies were analysed using a thematic synthesis approach to identify recurring patterns, leadership challenges, and contextual strategies across the literature. Similar concepts were systematically coded, compared, and grouped into broader themes, resulting in five interrelated dimensions of educational leadership challenges in Orang Asli schools. Key challenges, patterns, and recurring issues related to educational leadership were thematically identified in each study. These findings were then categorised into five overarching dimensions:

1. Core leadership and management
2. Pedagogical and curriculum challenges
3. Socio-cultural and community dynamics
4. Systemic and policy issues
5. Technological disparities

This categorisation enabled the integration of diverse findings into a structured framework, facilitating a comprehensive understanding of the multifaceted challenges faced by school leaders in Orang Asli schools.

Table 2: Matrix Analysis of Selected Literature (2020–2026)

No.	Authors & Year	Country	Methodology	Main Findings
1	Lopez et al., 2022	Malaysia	Qualitative (Case Study)	Headmasters faced severe logistical barriers during the pandemic, forcing a shift from academic directors to frontline welfare agents.
2	Mohamed Salleh & Abdul Razak, 2024	Malaysia	Mixed Methods (Needs Assessment)	Standard centralized leadership models fail in remote indigenous settings; a localized, needs-based framework is required.

3	Rahmat et al., 2025	Malaysia	Quantitative (Survey)	Successful integration of digital science modules (SeM) is highly dependent on the active technical advocacy of the school principal.
4	Ahmad et al., 2026	Malaysia	Qualitative (Framework Development)	Sustainable inclusive education necessitates a highly contextualized teacher leadership framework that empowers grassroots educators.
5	Mohd Hashim, 2023	Malaysia	Quantitative (Correlational Analysis)	A school headmaster's ability to adapt instructional leadership to honor community norms significantly increases parental engagement.
6	Bennett & Harrington, 2025	Malaysia	Qualitative (Program Evaluation)	Achieving educational equity requires the flexible and culturally sensitive execution of targeted initiatives (e.g., the Jahai Jeli project).
7	Idrus et al., 2023	Malaysia	Qualitative (Case Study)	Mainstream syllabi cause cultural disconnect; integrating familiar cultural elements into English language classrooms improves engagement.
8	Abd Jalil & Abdullah, 2023	Malaysia	Qualitative (Action Research)	Teaching mathematics through localized, nature-based problem-solving techniques resonates deeply with indigenous primary students.
9	Ganapathy et al., 2022	Malaysia	Quantitative (Quasi-Experimental)	Targeted, genre-based pedagogical interventions significantly improve the EFL writing performance of Orang Asli students.
10	Dass et al., 2024	Malaysia	Qualitative (Phenomenology)	School physical and psychological spaces must be redesigned to feel culturally familiar and safe rather than rigid and institutional.
11	Kamsin & Khalid, 2023	Malaysia	Qualitative (Interviews)	Orang Asli students possess distinct educational perspectives shaped heavily by their communal and environmental upbringing.
12	Othman, 2022	Malaysia	Qualitative (Document Review)	Bridging deep educational disparities requires actively aligning formal educational agendas with indigenous community values.
13	Abdullah et al., 2023	Malaysia	Quantitative (Survey)	Indigenous parents frequently perceive mainstream formal education as disconnected from immediate economic and survival realities.

14	Panchadcharam, 2025	Malaysia	Quantitative (Survey)	Entrenched socioeconomic disparities and poverty force marginalized families to prioritize immediate survival over consistent schooling.
15	Abd Jalil & Abdullah, 2025	Malaysia	Qualitative (Interviews)	Cultural dissonance between home life and formal schooling exacerbates difficulties in solving abstract mathematical concepts.
16	Nordin et al., 2020	Malaysia	Qualitative (Legal Analysis)	While national legal frameworks guarantee indigenous education rights, practical implementation at the rural school level falls drastically short.
17	Mat Dong et al., 2022	Malaysia	Qualitative (Spatial Analysis)	Geographic isolation creates profound structural disadvantages, manifesting as unequal resource distribution compared to urban schools.
18	Abu Hassan et al., 2023	Malaysia	Quantitative (Correlational)	High dropout rates among indigenous youth are a direct consequence of inadequate, standardized policy interventions and infrastructural gaps.
19	Rahman & Lee, 2022	Malaysia	Qualitative (Phenomenology)	Standardized classroom practices frequently conflict with the informal, highly experiential home learning cultures of the Semai tribe.
20	Yusooff et al., 2025	Malaysia	Qualitative (Case Study)	Persistent systemic resource disparities hinder the capacity of remote school administrators to provide adequate educational facilities.
21	Kamsin et al., 2022	Malaysia	Design & Developmental Research	Standard digital literacy modules fail to accommodate the distinct, experiential learning styles inherent to indigenous students.
22	Kamsin et al., 2023	Malaysia	Quantitative (Survey)	Orang Asli students' unique learning styles are a primary dictating factor in their overall ICT skills acquisition and proficiency.
23	Nik Azman et al., 2024	Malaysia	Quantitative (Diffusion Theory)	Successful online learning integration requires technology to be diffused gradually without overwhelming existing cultural community norms.
24	Wan Mohd Isa et al., 2025	Malaysia	Applied Research (App Development)	Custom game-based mobile applications effectively transform abstract syllabus concepts into

				engaging, interactive indigenous experiences.
25	Borhan & Abd Rahim, 2025	Malaysia	Quantitative (Experimental)	Augmented Reality (AR) interventions significantly enhance learning motivation and focus among Orang Asli children.
26	Saidi & A. Rahmat, 2025	Malaysia	Quantitative (Quasi-Experimental)	The targeted use of culturally relevant educational videos successfully sparks high learning interest and student participation.
27	Shamala et al., 2025	Malaysia	Quantitative (Survey)	Increased digital connectivity exposes indigenous students to new vulnerabilities, making cybersecurity awareness an urgent educational need.
28	Echano & Carbonell, 2026	Malaysia	Quantitative (Correlational)	Digital leadership is a critical modern competency; a school head's influence directly dictates the rate of classroom technology adoption.
29	Zulkipli et al., 2026	Malaysia	Mixed Methods (Instrument Design)	Tracking the complex rural digital divide requires comprehensive socio-development indices tailored to the realities of marginalized communities.
30	Bala & Tan, 2021	Malaysia	Qualitative (Case Study)	Significant barriers to long-term digital inclusion persist in remote settlements despite the initial installation of rural telecentres.

Results and discussion

The thematic analysis of the selected literature identified five distinct, but interconnected dimensions of leadership challenges. Table 3 presents this thematic synthesis while Figure 2 illustrates these dimensions in a graphic showing their interrelated connections.

Table 3: Thematic synthesis of leadership challenges for the 30 verified references.

Thematic Dimension	Key Focus Areas	Assigned References (Author, Year)	Thematic Justification
1. Core Leadership & Management	Crisis management, community diplomacy, needs-based local frameworks.	(Ahmad et al., 2026; Lopez et al., 2022; Mohamed Salleh & Abdul Razak, 2024; Mohd Hashim, 2023; Rahmat et al., 2025)	These studies directly analyse the administrative role. They highlight how standard national leadership models fail in remote settings, requiring headteachers to adopt dual roles as welfare agents and community diplomats.

2. Pedagogical & Curriculum Challenges	Cultural disconnect in syllabi, indigenous teaching methods, language barriers.	(Abd Jalil & Abdullah, 2023; Bennett & Harrington, 2025; Dass et al., 2024; Ganapathy et al., 2022; Idrus et al., 2023)	This literature addresses classroom implementation. The articles map the specific difficulties leaders face when guiding teachers to adapt mainstream textbooks and implement culturally responsive pedagogies.
3. Socio-Cultural & Community Dynamics	Poverty, parental perceptions, friction between formal and home learning cultures.	(Abd Jalil & Abdullah, 2025; Abdullah et al., 2023; Kamsin & Khalid, 2023; Othman, 2022; Panchadcharam, 2025)	These sources anchor the humanistic element of education. They explore how external socioeconomic pressures and cultural dissonance shape student attendance and academic engagement.
4. Systemic & Policy Issues	Spatial justice, resource inequity, national blueprints, dropout rates.	(Abu Hassan et al., 2023; Mat Dong et al., 2022; Nordin et al., 2020; Rahman & Lee, 2022; Yusoff et al., 2025)	This cluster critiques the broader institutional landscape. The articles map the structural and spatial disadvantages that force local administrators to constantly negotiate rigid bureaucratic policies.
5. Technological Disparities & Future Directions	Digital literacy gaps, immersive technology (AR/Mobile), cyber security, digital inclusion.	(Bala & Tan, 2021; Borhan & Abd Rahim, 2025; Echano & Carbonell, 2026; Kamsin et al., 2022, 2023; Nik Azman et al., 2024; Saidi & A. Rahmat, 2025; Shamala et al., 2025; Wan Mohd Isa et al., 2025; Zulkipli et al., 2026)	These articles project future operational needs. They map the specific technological hurdles rural leaders face in providing modern digital interventions suitable for indigenous learning styles.



Figure 2: Integrated Thematic Framework of Leadership Challenges in Orang Asli Schools

Core Leadership and Management in Remote Contexts

Leading Orang Asli schools requires a high degree of contextual adaptability that goes beyond conventional administrative expectations. Standardised national leadership models are often inadequate in remote indigenous settings, as they do not accommodate the complex socio-cultural and infrastructural realities faced by these communities (Ahmad et al., 2026; Mohamed Salleh & Abdul Razak, 2024). Consequently, school leaders are compelled to develop localised, needs-based approaches that prioritise contextual responsiveness over procedural compliance.

The challenges of leadership in these contexts became particularly evident during the COVID-19 pandemic, which exposed significant logistical and communication barriers within rural indigenous communities (Lopez et al., 2022). In response, the role of school leaders expanded beyond instructional and administrative responsibilities to include welfare coordination and community support. Headmasters were required to manage food distribution, ensure basic well-being, and maintain communication with isolated families, highlighting the multifaceted nature of leadership in indigenous schools (Lopez et al., 2022; Mohamed Salleh & Abdul Razak, 2024).

Beyond crisis management, instructional leadership in Orang Asli schools demands careful contextual adaptation. The successful implementation of digital and pedagogical initiatives, such as the Science Electronic Module (SeM), depends heavily on the proactive support and advocacy of school leaders (Rahmat et al., 2025). Without strong, context-aware leadership, such initiatives risk failure due to infrastructural limitations and mismatches with local learning environments.

Effective leadership in these settings is closely linked to community engagement and cultural sensitivity. School leaders often act as intermediaries between formal education systems and indigenous communities, requiring them to build trust and align school practices with local

values and expectations (Mohd Hashim, 2023). This role extends beyond administrative leadership to include elements of cultural mediation and community diplomacy.

Taken together, these findings suggest that leadership in Orang Asli schools is inherently hybrid and context dependent. Rather than operating solely within conventional managerial frameworks, school leaders must integrate administrative, instructional, and community-oriented roles. This aligns with perspectives of culturally responsive and distributed leadership, where leadership is enacted through relationships, adaptability, and responsiveness to local contexts. These insights reinforce the need for leadership models grounded in the realities of indigenous schooling rather than standardised institutional assumptions.

Pedagogical and Curriculum Challenges

Pedagogical and curriculum implementation in Orang Asli schools is fundamentally constrained by a lack of cultural alignment between mainstream educational content and the lived experiences indigenous learners. Standardised national curricula are largely designed around urban-centric contexts, often overlooking the linguistic diversity, environmental familiarity, and experiential learning preferences of indigenous students (Bennett & Harrington, 2025; Idrus et al., 2023). This misalignment creates barriers to comprehension and engagement, limiting the effectiveness of classroom instruction.

Empirical studies consistently demonstrate that culturally disconnected teaching materials reduce student participation and lead to academic disengagement. For example, conventional English language instruction that neglects indigenous cultural contexts has been shown to hinder meaningful learning, whereas integrating culturally relevant elements significantly enhances student engagement and comprehension (Idrus et al., 2023). Similarly, indigenous-based pedagogical approaches, such as nature-oriented problem-solving in mathematics, have proven effective in making abstract concepts more accessible to Orang Asli students (Abd Jalil & Abdullah, 2023). Targeted interventions, including genre-based teaching strategies, further highlight the importance of adapting instructional methods to improve learning outcomes in indigenous classrooms (Ganapathy et al., 2022).

These findings indicate that pedagogical effectiveness in Orang Asli schools depends not only on curriculum content but also on the extent to which teaching approaches are adapted to reflect students' cultural and cognitive contexts. Language barriers, unfamiliar learning materials, and rigid instructional practices collectively hinder knowledge acquisition, suggesting that curriculum delivery must be recontextualised to align with indigenous ways of learning. This places significant responsibility on school leaders to guide teachers in designing and implementing culturally responsive instructional strategies.

Additionally, the physical and psychological learning environment plays a crucial role in shaping student engagement. Conventional classroom structures are often perceived as restrictive and disconnected from indigenous ways of learning, whereas culturally familiar and flexible learning environments have been shown to enhance student comfort and participation (Bennett & Harrington, 2025; Dass et al., 2024). This highlights the need for a holistic approach to pedagogy that extends beyond curriculum content to include the design of inclusive and culturally relevant learning spaces.

Taken together, these findings suggest that addressing pedagogical challenges in Orang Asli schools requires a shift from standardised curriculum delivery to contextually adaptive teaching

practices. This aligns with the principles of culturally responsive leadership and Indigenous Knowledge Systems (IKS), which emphasise the integration of cultural relevance, experiential learning, and community context into educational practice. Consequently, school leaders play a critical role in facilitating pedagogical transformation by supporting teachers in adopting approaches that are both culturally meaningful and educationally effective.

Socio-Cultural and Community Dynamics

Socio-cultural dynamics are a critical factor shaping educational participation and leadership practices in Orang Asli schools. Beyond structural and pedagogical constraints, school leaders must navigate deeply embedded community values, belief systems, and socio-economic realities that influence how education is perceived and prioritised. In many indigenous communities, formal schooling does not always align with immediate livelihood needs, resulting in varying levels of parental support and student attendance (Abdullah et al., 2023; Othman, 2022).

Empirical evidence indicates that socio-economic pressures and cultural perceptions significantly affect students' engagement with formal education. Studies show that many Orang Asli families prioritise economic survival and community-based responsibilities over consistent school participation, leading to irregular attendance and higher dropout rates (Abdullah et al., 2023; Abu Hassan et al., 2023; Panchadcharam, 2025). Additionally, indigenous learners often bring distinct educational perspectives shaped by experiential, communal, and environment-based learning practices, which may conflict with the expectations of formal schooling (Kamsin & Khalid, 2023; Rahman & Lee, 2022). This divergence creates a cultural disconnect that can hinder students' ability to engage with abstract and standardised academic content (Abd Jalil & Abdullah, 2025; Idrus et al., 2023).

These socio-cultural factors have direct implications for educational leadership. School leaders must move beyond conventional administrative roles and actively engage with communities to build trust, align educational goals, and promote the relevance of schooling (Mohd Hashim, 2023; Othman, 2022). Without such engagement, efforts to improve attendance, retention, and academic performance are likely to remain ineffective. This underscores the importance of culturally informed leadership practices that recognise and respond to the lived realities of indigenous communities (Ahmad et al., 2026).

Furthermore, the relationship between schools and indigenous communities is not merely functional but relational. Effective leadership requires sustained interaction with parents, community elders, and local stakeholders to foster mutual understanding and cooperation (Abdullah et al., 2023; Mohd Hashim, 2023). Such engagement enables school leaders to mediate between institutional expectations and community values, reducing resistance and enhancing participation in formal education (Othman, 2022).

Taken together, these findings suggest that socio-cultural dynamics are central to educational leadership in Orang Asli schools. Addressing these challenges requires leadership approaches that prioritise cultural sensitivity, community engagement, and relational trust-building. This aligns with the principles of culturally responsive and community-based leadership, where leadership effectiveness is shaped by the ability to integrate school practices with the social and cultural fabric of the community.

Systemic and Policy Issues

Systemic and policy-related factors form a significant layer of constraint shaping leadership practices in Orang Asli schools. Beyond school-level challenges, educational leaders operate within a broader institutional framework characterised by centralised governance, unequal resource distribution, and persistent spatial inequalities. These structural conditions disadvantage indigenous schools compared to their urban counterparts, limiting their capacity to deliver equitable educational outcomes (Mat Dong et al., 2022; Nordin et al., 2020; Yusoff et al., 2025).

Empirical studies indicate that geographic isolation and infrastructural limitations contribute to disparities in access to educational resources, facilities, and institutional support (Mat Dong et al., 2022; Panchadcharam, 2025). Although national policies formally guarantee educational access and equity, implementation at the local level often remains inconsistent and insufficient (Nordin et al., 2020; Othman, 2022). As a result, Orang Asli schools frequently face shortages of teaching resources, inadequate infrastructure, and limited systemic support, all of which directly affect teaching and learning processes (Abu Hassan et al., 2023; Yusoff et al., 2025).

These systemic constraints have direct implications for school leadership. Leaders must function not only as administrators but also as advocates who navigate bureaucratic systems to secure resources and institutional support for their schools (Ahmad et al., 2026; Mohamed Salleh & Abdul Razak, 2024). The need to reconcile centralised policy expectations with local realities creates ongoing tension, as rigid performance indicators and standardised requirements may not accurately reflect the contextual challenges faced by indigenous schools (Abu Hassan et al., 2023; Rahman & Lee, 2022). Consequently, school leaders must exercise considerable flexibility and strategic negotiation to ensure that policies are adapted in ways that are meaningful and applicable within their specific contexts.

Furthermore, policy-driven approaches often overlook the cultural and contextual diversity of indigenous communities, resulting in interventions misaligned with local needs. Standardised solutions, while administratively efficient, may fail to address the underlying causes of educational disparities, particularly when they do not account for socio-cultural and environmental factors influencing learning (Mohamed Salleh & Abdul Razak, 2024; Othman, 2022; Rahman & Lee, 2022). This highlights a persistent gap between policy formulation and practical implementation in indigenous education.

Taken together, these findings suggest that systemic and policy constraints are central to understanding the challenges of educational leadership in Orang Asli schools. Addressing these issues requires a shift from uniform, top-down policy approaches towards more flexible, context-sensitive frameworks that empower school leaders to make locally informed decisions. This aligns with perspectives of distributed and context-responsive leadership, where leadership effectiveness is shaped not only by internal school practices but also by the ability to navigate and influence broader institutional structures.

Technological Disparities and Future Directions

Technological disparities present a critical and evolving challenge in Orang Asli schools, particularly as education becomes increasingly digitalised. Although digital tools and online learning platforms are now integral to modern education systems, their implementation in indigenous contexts is often limited by inadequate infrastructure, low digital literacy, and lack of alignment with students' learning preferences (Bala & Tan, 2021; Kamsin et al., 2022, 2023;

Yusooff et al., 2025). These constraints create significant barriers to achieving digital equity in rural and indigenous schooling environments.

Empirical evidence shows that limited access to reliable internet, inadequate technological infrastructure, and insufficient digital skills among students and teachers hinder effective technology integration in Orang Asli schools (Bala & Tan, 2021; Yusooff et al., 2025; Zulkipli et al., 2026). Furthermore, standard digital learning modules are often developed without considering indigenous learning styles, reducing their effectiveness in supporting meaningful learning (Kamsin et al., 2022, 2023; Nik Azman et al., 2024). Studies also highlight that successful adoption of digital tools depends greatly on the leadership capacity of school administrators, particularly in promoting technology use and supporting teachers in implementation (Echano & Carbonell, 2026; Mohamed Salleh & Abdul Razak, 2024; Rahmat et al., 2025).

Despite these challenges, emerging innovations offer promising avenues for enhancing educational engagement in indigenous contexts. Culturally relevant digital interventions, such as game-based mobile applications, augmented reality (AR), and educational videos, have been shown to improve student motivation, participation, and conceptual understanding (Borhan & Abd Rahim, 2025; Saidi & A. Rahmat, 2025; Wan Mohd Isa et al., 2025). These approaches are particularly effective when they align with experiential and interactive learning preferences, highlighting the importance of contextualising technology integration within indigenous learning environments (Kamsin & Khalid, 2023).

The growing digital presence in indigenous communities also introduces new considerations for educational leadership, especially regarding digital safety and responsible technology use. As connectivity improves, students become more exposed to online risks, making it necessary to integrate cybersecurity awareness and digital ethics into school practices (Shamala et al., 2025; Zulkipli et al., 2026). This broadens the role of school leaders to include not only facilitating access to technology but also ensuring its safe, ethical, and meaningful use within the school environment.

Overall, these findings indicate that technological challenges in Orang Asli schools extend beyond access to include issues of relevance, adaptability, and leadership capacity. Addressing these challenges requires a strategic and context-sensitive approach to digital integration, with technology introduced gradually in alignment with local needs, infrastructural realities, and cultural contexts (Mohamed Salleh & Abdul Razak, 2024; Nik Azman et al., 2024). This approach aligns with the concept of digital leadership within a culturally responsive framework, where school leaders play a pivotal role in mediating technology adoption in ways that are both inclusive and educationally meaningful.

Conclusion

This study aims to thematically synthesise the leadership challenges faced by school administrators in Orang Asli schools and to identify contextually relevant strategies for improving educational outcomes. The findings show that educational leadership in indigenous contexts is shaped by a complex interplay of managerial, pedagogical, socio-cultural, systemic, and technological factors. These dimensions are interconnected and collectively influence the capacity of school leaders to deliver equitable and meaningful education.

The review highlights that conventional, centralised leadership models are insufficient for addressing the realities of Orang Asli schools. Effective leadership in these contexts requires a hybrid, context-sensitive approach that integrates instructional, culturally responsive, and community-oriented practices. This underscores the importance of aligning leadership strategies with indigenous knowledge systems, local socio-cultural dynamics, and the structural constraints of rural schooling environments. By synthesising diverse strands of literature into five key dimensions, this study provides a robust conceptual foundation for developing a contextualised, needs-based leadership framework tailored specifically for indigenous schools.

Proposed Conceptual Framework

This review synthesised the existing literature into five interrelated dimensions of leadership challenges in Orang Asli schools: (i) core leadership and management, (ii) pedagogical and curriculum challenges, (iii) socio-cultural and community dynamics, (iv) systemic and policy issues, and (v) technological disparities. Rather than viewing these dimensions independently, the study conceptualises them as interconnected components that collectively shape educational leadership in indigenous school contexts. The proposed framework provides a conceptual foundation for understanding the multifaceted nature of leadership in Orang Asli schools and offers a basis for future empirical model development and validation. Consequently, the framework contributes to the growing body of knowledge on indigenous educational leadership by integrating fragmented evidence into a coherent and contextually responsive perspective.

Future Research

The proposed conceptual framework requires empirical validation across diverse Orang Asli school settings. Future studies may examine the relationships among the five leadership dimensions using qualitative, quantitative or mixed-method approaches. Such research would enable refinement of the framework and contribute to the development of evidence-based leadership models that are responsive to indigenous educational contexts.

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