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Research Paper

Capturing the Voices through Lenses: A Photovoice-Based Needs Assessment of a Public Elementary School

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Abstract

This study conducted a comprehensive participatory needs assessment of one elementary school, located in the geographically isolated Sitio Ronggot in Calamba City, Philippines. The school's remoteness and vulnerability to recurrent natural disasters create persistent educational challenges. These conditions disrupt attendance, instructional delivery, and pupils' learning opportunities, while also undermining teacher well-being and instructional effectiveness. The study involved 20 pupils and 5 teachers, employing *Photovoice* as the primary research design and focus group discussions (FGDs) for triangulation. Data were systematically coded through thematic analysis, with validation achieved via member checking and peer debriefing to ensure credibility and trustworthiness. Findings reveal urgent needs across both learning sites, including improved classrooms, technology access, transportation services, and sanitation facilities for pupils, alongside conducive workspaces and reliable internet connectivity for teachers. The assessment further underscores the necessity of school relocation to enhance accessibility and strengthen community engagement. This research contributes to scholarship on remote schooling and disaster-vulnerable contexts by demonstrating how participatory approaches like Photovoice can surface localized educational needs and inform context-sensitive interventions. Addressing these issues through evidence-based projects is expected to significantly improve the educational experience and overall well-being of the school community. In response, the researcher developed school-community partnership initiatives, namely *Project AKAP (Alay mo, para sa Kinabukasan at Pangarap ng Batang Sitio)* and *Isang Daan, Daan sa Kinabukasan*. It is recommended that these projects be disseminated to appropriate authorities for policy consideration and action.

Keywords: *Evidence-Based Projects, Community, Needs Assessment, Photovoice*

INTRODUCTION

A comprehensive needs assessment is a critical process that enables educational institutions to systematically identify strengths, gaps, and priority areas for development. In schools, it serves as a foundation for informed decision-making, ensuring that programs and interventions are aligned with actual teaching and learning needs. This is particularly important in elementary education, where foundational competencies are developed and where gaps in resources, learner readiness, and instructional support can significantly affect student outcomes.

Schools in underserved and geographically isolated areas face persistent challenges, including limited access to learning materials, inadequate infrastructure, and environmental vulnerabilities. These constraints directly influence teaching effectiveness, learner engagement, and overall academic performance. Empirical studies emphasize that context-responsive needs assessments improve the alignment of interventions with local realities and contribute to more sustainable school improvement efforts (Anderson & Shattuck, 2019; Hallinger, 2020). Similarly, research on rural education highlights how resource limitations and contextual risks shape both instructional delivery and learning outcomes (Azano & Stewart, 2018; Tarrayo, 2021).

In the Philippine context, policies such as the 1987 Constitution, Republic Act No. 9155

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(2001), and the School-Based Management (SBM) Framework advocate for stakeholder participation and decentralized decision-making. However, despite these policy directions, school-level planning often remains procedural, with limited meaningful engagement from learners, teachers, and community members. Traditional needs assessment approaches, which rely heavily on administrative data and standardized tools, may fail to capture stakeholders' lived experiences and context-specific concerns.

Participatory approaches such as photovoice offer a promising alternative. As a visual and community-based methodology, photovoice enables participants to document and reflect on their realities, thereby generating richer and more inclusive data for planning (Catalani & Minkler, 2019; Vaughn et al., 2022). Studies have shown that such approaches enhance stakeholder voice, deepen engagement, and support more responsive educational interventions.

Despite these advancements, a practice gap remains evident in many public elementary schools, including Ronggot Elementary School, where needs assessments are largely top-down and may not fully reflect local conditions. This gap limits the effectiveness of school improvement plans and their impact on teaching and learning outcomes.

Ronggot Elementary School, serving the remote community of Sitio Ronggot in Barangay Lecheria, Calamba City, exemplifies the pressing need for such a focused assessment. The school faces a multitude of challenges, from physical isolation and environmental vulnerabilities to resource limitations. Accessibility remains a concern, as reaching the sitio requires navigating a five-kilometer, unpaved road, with travel becoming even more difficult during inclement weather. Despite these barriers, the community remains resilient, with families committed to staying in the area and ensuring their children's education.

Formerly known as Ronggot Multigrade School, Ronggot Elementary now operates across two sites: the Bukid Learning Hub and Lecheria Integrated School. Both sites cater to diverse learner needs, and the school itself remains vulnerable to environmental hazards such as typhoons and floods due to the region's topography. This needs assessment aims to analyze the present conditions, understand the voices of students, educators, and stakeholders, and identify priority areas for improvement, be it in literacy development, infrastructure, or resource allocation.

This study addresses these gaps by utilizing photovoice as a participatory needs assessment approach to inform school improvement planning. Practically, it contributes to the development of context-responsive school–community partnership initiatives that address identified needs in literacy, infrastructure, and resource provision. Methodologically, the study contributes to the growing body of knowledge by demonstrating the application of photovoice as a participatory planning tool in geographically isolated elementary school contexts, thereby extending its use in primary education research.

Central Question

What are the perceived needs and challenges of Ronggot Elementary School as expressed by its stakeholders through photovoice?

Corollary Question

1. How do pupils and teachers describe their experiences and observations related to the school's current physical, instructional, and socio-emotional environment?
2. What themes emerge from the photographs and narratives that reflect the priority needs of the school community?
3. What evidence-based projects can be developed based on the visual and narrative data gathered from the participants?

LITERATURE REVIEW

Comprehensive Needs Assessment in School Improvement

A Comprehensive Needs Assessment (CNA) is widely recognized as a foundational process in school improvement, providing a systematic and data-driven approach to identifying gaps between current conditions and desired educational outcomes (Cuiccio & Husby-Slater, 2018). Across CNA frameworks, a shared emphasis is the use of multiple data sources to inform planning, prioritize needs, and guide resource allocation (Corbett & Redding, 2017; U.S. Department of Education, 2016). These frameworks consistently position needs assessment as the starting point of a continuous improvement cycle, linking diagnosis to planning, implementation, and evaluation.

However, while existing models highlight technical rigor and data use, they tend to emphasize administrative and performance indicators, often overlooking the lived experiences of key stakeholders. In school-based contexts, particularly in underserved and rural settings, this limitation becomes more pronounced. Studies on rural and geographically isolated schools indicate that contextual factors such as infrastructure gaps, environmental risks, and limited access to resources significantly influence teaching quality and learner outcomes (Azano & Stewart, 2018; Tarrayo, 2021). Across these studies, a consistent finding is that standardized assessment tools may not fully capture localized challenges, suggesting the need for more context-sensitive and participatory approaches.

In Southeast Asian and Philippine settings, school improvement efforts similarly underscore the importance of localized and stakeholder-informed planning, yet empirical evidence suggests that implementation often remains compliance-driven rather than participatory. This reveals a critical gap between the intent of needs assessment frameworks and their actual practice in schools, particularly in elementary education, where context-specific conditions directly shape teaching and learning processes.

Participatory Assessment and Photovoice in Education

Participatory approaches have emerged as a response to the limitations of traditional needs assessments by emphasizing stakeholder voice and contextual understanding. Photovoice, in particular, has gained attention as a method that enables participants to document and interpret their lived experiences through visual and narrative forms (Catalani & Minkler, 2019). Across studies, a common strength of photovoice is its capacity to generate rich, contextually grounded data while fostering engagement and empowerment among participants.

Recent research demonstrates the application of photovoice across various fields, including community development, health, and education. For instance, Li et al. (2024) highlight how photovoice enhances community needs assessments by capturing social and environmental realities that are often missed by conventional tools. Similarly, Trout et al. (2019) and Roberts et al. (2022) show that photovoice promotes critical reflection, deeper understanding of community issues, and active participation, particularly among youth and learners.

Across these studies, a consistent insight is that photovoice not only identifies needs but also strengthens stakeholder ownership of the assessment process. However, despite its growing use, applications of photovoice in primary education, especially in school improvement planning and in geographically isolated or disaster-prone contexts, remain limited. This indicates a gap in both research and practice, particularly within the Philippine basic education setting.

Theoretical and Conceptual Framework

This study is anchored on two complementary frameworks: the Continuous Improvement Model and a Participatory Action Research (PAR) perspective. The Continuous Improvement Model

conceptualizes needs assessment as part of a cyclical process involving diagnosis, planning, implementation, and monitoring, ensuring that school interventions are evidence-based and responsive to evolving conditions. This framework guides the identification of key domains such as physical environment, instructional practices, and resource availability, all of which directly influence teaching and learning outcomes.

Complementing this, the PAR perspective emphasizes stakeholder voice, collaboration, and co-construction of knowledge. Within this lens, photovoice serves as a participatory tool that enables learners, teachers, and community members to actively contribute to the assessment process by documenting and interpreting their experiences. Together, these frameworks provide a theoretical benchmark that integrates systematic planning with inclusive participation, addressing both the technical and human dimensions of school improvement.

RESEARCH METHOD

Research Design

This study employed a participatory qualitative research design, specifically utilizing the Photovoice methodology. Photovoice is a participatory research approach that empowers participants to identify, document, and reflect on their lived experiences and perceived issues through the use of photographs (Wang & Burris, 1997). According to Catalani, as cited in Tobin et al. (2023), this method allows participants to communicate complex experiences and perspectives visually, making it particularly effective in capturing contextual and experiential data. By encouraging participants to take photographs that represent their realities and selecting specific images for group discussion, the research process facilitates deeper conversations that explore the motivations, emotions, and experiences influencing participants' image choices.

The use of participant-generated photographs as visual prompts enhances the ecological validity and richness of the findings. Participants are able to document their experiences in real time and in natural settings, which strengthens the authenticity of the data collected. Furthermore, the presence of visual cues during discussions supports reflection and meaning-making, allowing participants to articulate insights that may be difficult to express through verbal methods alone. Studies by Dunton (2017) and Rhodes (2019) support the effectiveness of Photovoice in producing nuanced, context-sensitive data and fostering participant engagement throughout the research process.

Moreover, the study focused on understanding the specific challenges encountered by one elementary school and its satellite locations. The research aimed to identify the priority needs of both pupils and teachers across these learning sites. Through the participatory nature of the Photovoice method, stakeholders were actively involved in identifying issues and articulating their perspectives. The insights generated from this process served as the basis for developing evidence-based school–community partnership projects designed to address identified needs and support sustainable improvements in teaching, learning, and school environments.

Participants of the Study

The study involved twenty (20) pupils and five (5) teachers from one elementary school, selected through purposive sampling. Participants were chosen based on the following criteria: (a) direct experience with the school environment, (b) willingness to participate, and (c) ability to express insights through photographs and narratives.

Pupil participants were drawn from Key Stage 2 or intermediate levels (Grades 4–6), as they were deemed capable of engaging in reflective and participatory activities. Efforts were made to include a balanced representation in terms of grade level and gender to capture diverse

perspectives. Teacher participants included those assigned across the school's two learning sites, ensuring representation of varied instructional and contextual experiences.

The sample size was considered appropriate for photovoice research, which typically involves small, information-rich groups to allow in-depth engagement and manageable discussion processes. A total of 30 pupils and 7 teachers were initially invited; 20 pupils and 5 teachers consented to participate. Data saturation was achieved when no new themes emerged during the final focus group discussions, particularly after repeated patterns were observed across participant narratives and photo interpretations.

Research Instrument

The study utilized a researcher-developed semi-structured discussion guide for photo-elicitation focus group discussions. The guide was informed by literature on needs assessment, school improvement, and participatory research, and was aligned with key domains such as physical environment, instructional resources, and learner experiences.

The discussion protocol was adapted from the SHOWeD technique commonly used in photovoice research (Wang & Burris, 1997), which includes prompts such as:

- What do you *see* here?
- What is really *happening*?
- How does this relate to *our* lives?
- *Why* does this situation exist?
- What can we *do* about it?

Separate guides were prepared for pupils and teachers to ensure age-appropriateness and contextual relevance. The instruments underwent expert validation by three qualitative research specialists, and revisions were made to improve clarity, alignment, and comprehensiveness.

Data Gathering

Data collection followed a systematic photovoice workflow to ensure transparency and replicability. Participants attended an orientation session covering the purpose of the study, photovoice procedures, ethical considerations (e.g., privacy, consent in photography), and basic photography guidelines. After, the participants were given 5–7 days to capture photographs representing the school's strengths, challenges, and needs. They were asked to take 3–5 photos each and provide brief captions or narratives. Pupils submitted photos through their class advisers, while teachers submitted directly to the researcher via digital platforms. All submissions included accompanying explanations. Then, participants selected key photographs they considered most significant for discussion. Separate FGDs were conducted for pupils and teachers (2 sessions each, 60–90 minutes per session). Discussions were guided by the SHOWeD protocol, allowing participants to interpret and reflect on their images collectively. Finally, all discussions were audio-recorded and transcribed verbatim. Photographs and narratives were compiled and organized alongside transcripts.

Treatment of Qualitative Data

The data collected through Photovoice, narrative reflections, and Focus Group Discussions (FGDs) were analyzed using Thematic Analysis, following the framework proposed by Braun and Clarke (2006). This analytic approach is well-suited for qualitative research as it enables the systematic identification, analysis, and interpretation of patterns of meaning within a dataset. Thematic Analysis provided a flexible yet rigorous method for examining participants' shared experiences and perspectives regarding the needs of one elementary school.

The initial phase of analysis involved data organization and preparation. All photographs, written narratives, and audio recordings from the FGDs were collected, organized, and labeled according to participant codes and group categories (pupils or teachers) to ensure anonymity and systematic data management. Audio recordings from the FGDs were transcribed verbatim to preserve the authenticity and accuracy of participants' responses. This step ensured that all data sources were in a consistent and analyzable textual format.

Following transcription, the researcher immersed in the data by repeatedly reading the photo narratives and FGD transcripts to gain a comprehensive understanding of the content. During this familiarization phase, initial observations, reflective notes, and potential codes were documented. A systematic coding process was then applied to the entire dataset. Key phrases, significant statements, and frequently recurring ideas were identified and tagged with descriptive codes using manual annotation. This process allowed for close engagement with the data and ensured that the analysis remained grounded in participants' own words and experiences.

In the next phase, related codes were examined, compared, and grouped to generate initial themes that reflected recurring patterns and salient issues raised by the participants. These themes were organized around broad categories, including learners' needs, teachers' needs, and school-level needs. This thematic structuring helped clarify the distinct yet interconnected concerns within the school community.

The generated themes were subsequently reviewed and refined to ensure coherence, consistency, and alignment with the overall dataset. Redundant, overlapping, or unclear themes were merged, revised, or redefined to enhance analytical clarity and depth. Final themes were clearly defined and labeled to represent the core insights emerging from the participants' experiences. Each theme was substantiated by direct quotations from narratives and FGD transcripts, as well as by corresponding photographic evidence, which served as visual data to strengthen interpretation and authenticity.

To enhance the trustworthiness and credibility of the findings, triangulation was employed by comparing data across multiple sources (Photovoice outputs, narratives, and FGDs) and across different stakeholder groups. Member checking was also conducted during a validation session, wherein participants were asked to confirm whether the identified themes and interpretations accurately reflected their experiences and perspectives. This process helped minimize researcher bias and ensured the credibility of the analytical outcomes.

Finally, the results were presented thematically, with participant-generated photographs integrated alongside the textual analysis to amplify participant voices and provide contextual depth. The emergent themes directly informed the development of evidence-based school–community partnership project proposals aimed at addressing the identified needs and supporting sustainable school improvement.

Ethical Considerations

Ethical protocols were strictly observed. Approval was obtained from the school head, and informed consent was secured from teachers and parents/guardians, with assent from pupil participants. Participants were informed of their rights, including voluntary participation and withdrawal without penalty.

Confidentiality and anonymity were ensured through coding systems and secure data storage. Specific to photovoice, participants were instructed to avoid capturing identifiable individuals without consent and to prioritize safety and privacy in image-taking. All data were used solely for academic purposes.

FINDINGS AND DISCUSSION

The results of the needs assessment highlighted the major challenges faced by learners, teachers, and the school. The following table categorizes these challenges into initial codes, themes, and their descriptions, followed by a detailed interpretation of the findings.

Participant Profile

Table 1 presents the demographic profile of the participants to contextualize the findings.

Table 1. Participant Demographics

Group	n	Key Characteristics
Pupils	20	Grades 4–6; aged 9–12; mixed gender
Teachers	5	Assigned across both sites; varied teaching experience (3–15 years)

Theme 1: Need for Spaces and Access that Support Learning

Table 2. Summary of Learner Needs

Initial Code	Sub-theme	Description
Inadequate classroom infrastructure	Conducive classrooms	Damaged ceilings and poor structural conditions disrupt learning, especially during severe weather
Safety concerns during commute	Transportation access	Long and unsafe travel affects attendance and punctuality
Limited access to computers	Technology access	Lack of digital tools limits exposure to modern learning resources
Poor sanitation	Safe facilities	Inadequate toilets pose health and hygiene risks

The findings indicate that learners' educational experiences are shaped not only by classroom instruction but also by physical conditions, accessibility, and basic services. Pupils from the Bukid Learning Hub particularly emphasized the impact of damaged infrastructure:

"When it rains, water sometimes gets inside the classroom…" (Pupil P3, Bukid)

"We have difficulty going to school because it is far and the road is muddy…" (Pupil P7, Sitio Ronggot)

These conditions directly affect attendance, concentration, and instructional continuity, especially during adverse weather. Limited access to technology further constrains opportunities for interactive and digital learning:

"We don't have a computer, so we're unable to do research…" (Pupil P11, LIS)

Poor sanitation was also linked to learners' health and comfort:

"Sometimes the restroom is dirty, so we don't want to use it…" (Pupil P5, Bukid)

These findings suggest that inadequate infrastructure and access barriers hinder not only physical attendance but also learner engagement and well-being, which are critical to achieving foundational competencies in elementary education. This aligns with Barrett et al. (2019), who emphasize that safe and well-maintained learning environments significantly influence student outcomes. However, unlike controlled school settings in prior studies, the challenges in Ronggot are compounded by geographical isolation and environmental exposure, indicating a stronger interaction between context and learning conditions.

The school's remote location, limited funding, and exposure to environmental risks contribute to deteriorating facilities and restricted access to services. While most pupils expressed challenges, some viewed the Bukid Learning Hub as a temporary but helpful solution for access to education, suggesting that existing interventions, though limited, still provide value.

Theme 2: Need for Spaces to Collaborate and Access to Create

Table 3. Summary of Teacher Needs

Initial Code	Sub-theme	Description
No workspace for collaboration	Conducive work environment	Lack of shared space limits teacher interaction and planning
Limited internet access	Connectivity	Weak or absent internet restricts instructional innovation

Teachers highlighted how the absence of collaborative spaces and internet connectivity affects instructional practices:

> *"We are separated from each other, so it's hard to collaborate…"* (Teacher T2, Bukid)

> *"It's difficult when there's no internet, especially when teaching using videos…"* (Teacher T4, LIS)

These constraints limit opportunities for lesson planning, resource sharing, and the use of multimedia tools, which are essential for engaging learners.

The findings underscore that teacher effectiveness is closely tied to access to collaborative environments and digital resources. As noted by Kariippanon et al. (2019), flexible learning spaces support interactive and student-centered approaches. However, in contrast to well-resourced settings, teachers in Ronggot face structural and technological barriers that restrict the implementation of such practices. The school's operation across two sites fragments teacher collaboration, while limited infrastructure constrains connectivity. Some teachers reported adapting through informal communication, indicating resilience but also highlighting the absence of institutional support systems.

In addition, technology is the ideal instrument for classroom teachers to have an organized system of support, according to Jones's (2021) study. Teachers can now access and effectively communicate with one another thanks to the installation of a school-wide IT platform. Because technology can document papers, preserve information in one location that is easily accessible by everyone, and connect teachers outside of school hours, it makes it possible for them to succeed. Effective cooperation strategies are facilitated and modeled by administrators, and teachers are best supported when they have a structured communication system.

Theme 3: Need for School Relocation

Table 4. School-Level Need

Initial Code	Sub-theme	Description
Accessibility and hazard exposure	School relocation	Remote, flood-prone location limits safety, access, and sustainability

Both pupils and teachers identified school relocation as a critical long-term solution:

"We hope there will be a new school so we won't have a hard time anymore…" (Pupil P9, Bukid)

"Relocation is the long-term solution for the safety of the children…" (Teacher T1, LIS)

Participants described recurring flooding, difficult terrain, and limited space as major constraints:

"When there is flooding, we still find ways to get the children to school…" (Teacher T3, Bukid)

Relocation is not merely an infrastructure concern but a strategic intervention affecting safety, attendance, and long-term educational access. These findings support Andrade et al. (2024) and Teixeira (2017), who link school infrastructure to improved learning outcomes and reduced dropout rates. However, in this case, the need is more urgent due to environmental vulnerability and geographic isolation, which intensify risks beyond typical infrastructure limitations. The school's current site is prone to flooding and difficult to access, making it unsuitable for sustained educational delivery.

While relocation is widely supported, some participants acknowledged that existing temporary solutions provide short-term relief, highlighting the tension between immediate access and long-term sustainability.

The Proposed School-Community Partnership Projects

Based on the identified themes, two school–community partnership projects were developed. Project AKAP focuses on improving infrastructure and learning spaces through stakeholder support and resource mobilization. Project *ISANG DAAN, PARA SA KINABUKASAN* addresses transportation challenges through fundraising initiatives to provide a service vehicle for learners and school personnel.

These proposed interventions directly respond to the identified needs and aim to enhance access, safety, instructional quality, and learner engagement, thereby supporting sustainable school improvement.

CONCLUSIONS

This study examined the needs of Ronggot Elementary School through a participatory photovoice approach. In relation to the research questions, RQ1 and RQ2 identified three major themes derived from participant-generated photographs, narratives, and discussions: (1) the need for spaces and access that support learning, primarily expressed by pupils; (2) the need for collaborative and technology-enabled work environments, emphasized by teachers; and (3) the need for school relocation, collectively raised by both groups as a long-term solution. These findings demonstrate that stakeholders' experiences converge around issues of infrastructure, accessibility,

safety, and digital connectivity as key determinants of teaching and learning conditions. RQ3 resulted in the development of two context-responsive school–community partnership projects, Project AKAP and Project *ISANG DAAN, PARA SA KINABUKASAN*, designed to address identified needs in infrastructure and transportation.

The study contributes to participatory needs assessment and school improvement literature by demonstrating how photovoice can surface interconnected dimensions of access, safety, and learning resources in geographically isolated schools. The findings support and extend participatory and continuous improvement frameworks by highlighting that stakeholder-generated evidence provides deeper, context-specific insights that are often overlooked in conventional assessment processes.

Practically, the findings suggest several actionable recommendations. In the short term, schools may prioritize the improvement of sanitation facilities, minor classroom repairs, and the mobilization of local resources through stakeholder engagement. In the medium term, collaboration with local government units (LGUs) and community partners may support initiatives such as transportation assistance, provision of digital tools, and improved internet connectivity. In the long term, coordination with the Department of Education and relevant agencies is essential to explore sustainable solutions, including school site development or relocation to address safety and accessibility concerns. These interventions are expected to enhance learner attendance, engagement, and overall instructional quality.

Moreover, this study underscores the value of participatory approaches in capturing stakeholder voices and generating evidence-based, context-sensitive strategies for school improvement in underserved and disaster-prone communities.

LIMITATION & FURTHER RESEARCH

This study was limited to a single school community and its satellite locations, with only 20 pupils and 5 teachers serving as participants. While purposive sampling ensured that the participants were directly affected by the school's challenges, the relatively small sample size restricts the generalizability of the findings to other schools in similar contexts. As a qualitative participatory study employing photovoice and focus group discussions, the results relied heavily on the subjective perceptions and lived experiences of participants, which may have been influenced by their ability to articulate insights or capture meaningful images. The use of digital platforms for photo submissions also introduced limitations related to internet connectivity and access, potentially affecting the completeness of the data. Furthermore, the study was designed primarily to identify needs and propose evidence-based school-community partnership projects, rather than to assess the feasibility, implementation, or long-term outcomes of the recommended interventions.

Future research should consider expanding the scope by including a larger and more diverse group of schools, particularly those in other geographically isolated and disadvantaged areas, to strengthen the transferability of findings. Longitudinal studies may also be conducted to assess the effectiveness and sustainability of the proposed partnership projects, such as Project AKAP and *Isang Daan*, *Daan sa Kinabukasan*, in improving educational access and community engagement. Comparative investigations between rural and urban school contexts could offer further insights into how environmental and social differences shape educational needs and responses. Including the perspectives of parents, local officials, and community partners would also enrich the understanding of school-community dynamics and foster more holistic solutions. Lastly, the use of mixed-method approaches that combine qualitative and quantitative evidence is

recommended to provide more comprehensive findings that can guide both policy-making and program development.

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