Strategic Governance of School WASH and Physical Education in Ghanaian Basic Schools: A Narrative Literature Review

Oheneba Kofi Nti[1], Peter Agyekum Boateng[2], Jeanette Owusu[2], Racheal Amoah[3]

[1]Department of Nursing and Health Sciences, Valley View University, Ghana

[2]Department of Management Studies, Valley View University, Ghana

[3]Centre for Academic Research and Engaged Scholarship, Valley View University, Ghana

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ABSTRACT

Water, sanitation, and hygiene (WASH) and physical education are both central to healthy schools, yet they are often planned, implemented, and monitored as separate domains in basic education systems. This narrative literature review examined how school governance can connect WASH and physical education within one school health system and identified strategic areas for improving coordination between WASH and physical activity promotion in Ghanaian basic schools. Relevant peer-reviewed studies published mainly between 2021 and 2026 were identified through searching five electronic databases (Scopus, Web of Science, PubMed, ERIC, and Google Scholar), screened for relevance, and synthesised thematically. Twenty studies met the inclusion criteria and were included in the synthesis, of which four were conducted in or specifically about Ghana. The review found that effective coordination depends on governance practices such as policy alignment, role clarity, intersectoral collaboration, resource planning, facility oversight, and routine monitoring. The literature also shows that WASH and physical education interventions often produce mixed results when implementation is fragmented, measurement is inconsistent, or leadership capacity is weak. In the Ghanaian context, governance challenges appear in uneven WASH implementation, limited parental and community participation, weak collaboration, and insufficient support for physical education delivery. The review contributes to school health scholarship by integrating WASH and physical education within one governance framework and argues that strategic governance is essential for creating healthier, safer, and more active school environments.

Keywords: school governance, WASH, physical education, school health, Ghanaian basic schools, narrative literature review

INTRODUCTION

Healthy schools depend on more than curriculum coverage and classroom instruction. They also depend on governance arrangements that shape the conditions under which children learn, move, and maintain healthy routines. Two areas are especially important in this regard: water, sanitation, and hygiene, and physical education. WASH affects whether children have access to safe water, usable sanitation facilities, and opportunities for handwashing and cleanliness. Physical education shapes movement, physical fitness, motor development, and the wider culture of activity within the school day. Both areas contribute directly to children's wellbeing, participation, and learning conditions, yet they are often planned and managed through separate lines of policy and implementation. This separation creates a practical problem because healthy school environments require both safe hygiene systems and active opportunities for movement. When governance treats them as unrelated, schools may miss the opportunity to build a more coherent health system.

Recent literature shows why this issue matters. School WASH interventions in low- and middle-income countries have strong theoretical value, but the evidence on their impact remains mixed because studies vary in design, intervention content, and outcome measurement (Bick et al., 2025). A recent review of WASH conditions in schools in low- and middle-income countries similarly found that inadequate facilities, weak service conditions, and inconsistent standards continue to constrain school health, even where WASH is recognised as

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important (Poague et al., 2022). This suggests that WASH is not only an infrastructure matter. It is also a governance problem involving design, monitoring, and sustainable management. In much the same way, research on physical activity policy in schools shows that policy can support improved outcomes, but that effectiveness depends strongly on implementation quality, school organisation, and context (Woods et al., 2021; Stylianou et al., 2022). These findings indicate that school health improvement depends less on policy presence alone than on how institutions coordinate and govern policy in practice.

The case for stronger coordination becomes clearer when WASH and physical education are viewed together. Both rely on whole-school structures rather than single lessons or isolated activities. WASH depends on maintenance, supervision, behavioural reinforcement, access, and staff responsibility. Physical education and wider physical activity promotion depend on scheduling, teacher support, whole-school participation, facility use, leadership support, and continuity across the school day. Recent studies on whole-school physical activity implementation show that schools are more likely to expand movement opportunities when they use coordinated strategies rather than narrow subject-based delivery (Morris et al., 2023; Ourda et al., 2025). Similarly, school health leadership research shows that effective health promotion depends on shared direction, staff support, capacity building, and collaboration with school communities (Adams et al., 2023; Leksy et al., 2024). Together, these insights suggest that WASH and physical education should not be managed in isolation. They should be connected through a broader school governance framework that aligns policy, roles, monitoring, and implementation support.

The Ghanaian context makes this question especially urgent. Recent evidence shows that school-based health programmes in Ghana face barriers including resource constraints, weak parental and community participation, poor collaboration among stakeholders, leadership and management problems, and governance challenges (Adomako Gyasi et al., 2024). Research on WASH in Ghanaian basic schools also shows uneven implementation and practical gaps in facilities and operations (Duah, 2024; Ismaila et al., 2023). At the same time, Ghana's physical education reform agenda has introduced a new curriculum for primary schools, but analysis of the curriculum points to continuing challenges in teacher support, teacher education, and effective implementation (Sofo & Asola, 2023). These studies indicate that Ghanaian basic schools are working within a policy environment that recognises both WASH and physical education as important, yet practical governance and delivery remain uneven. The issue is therefore not whether these domains matter, but whether governance can connect them into one workable school health system.

Against this background, this narrative literature review examines how school governance can connect WASH and physical education in basic schools and identifies strategic areas for improving coordination between WASH and physical activity promotion. It has two objectives. The first is to examine how school governance can connect WASH and physical education in basic schools. The second is to identify strategic areas for improving coordination between WASH and physical activity promotion. The article responds to a fragmented evidence base in which WASH studies, physical activity studies, school health leadership studies, and Ghanaian school implementation research are often treated separately. By bringing these strands together, the review seeks to clarify what the literature collectively shows about governance, coordination, and implementation in healthier schools.

The article begins by clarifying the core concepts used in the review, then presents the theoretical foundations that explain how governance operates in school health systems. It next outlines the review method, followed by a thematic review of the literature, an integrative synthesis, research gaps, implications, and conclusion. This structure is intended to ensure analytical flow and avoid repetition across sections.

Conceptual Background

Strategic Governance

In this review, strategic governance refers to the institutional processes through which schools and related education actors set priorities, align policy, assign responsibilities, coordinate implementation, oversee resources, monitor practice, and sustain improvement over time. The term is used in a broader sense than routine administration. It includes both school-level decision making and the wider institutional arrangements that shape what schools can do. Recent school health leadership literature supports this broader meaning by showing that

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health promotion depends on accountability, support, shared leadership, capacity building, and community engagement rather than on administrative compliance alone (Adams et al., 2023; Leksy et al., 2024). In the Ghanaian context, studies on school-based health barriers and policy implementation further suggest that governance includes district structures, stakeholder relations, and institutional communication as well as headteacher action (Adomako Gyasi et al., 2024). Strategic governance is therefore defined here as leadership plus system coordination.

School Wash

School WASH refers to the water, sanitation, and hygiene systems that support healthy school environments. It includes access to safe water, toilets or latrines, handwashing facilities, waste disposal, cleaning routines, hygiene practice, and the institutional arrangements that keep these systems functional. WASH is important not only because it reduces health risk, but also because it shapes attendance, comfort, dignity, and the quality of the school environment. Recent reviews show that school WASH interventions in low- and middle-income countries are highly diverse and often difficult to compare because of varied intervention designs and outcome measures (Bick et al., 2025). Poague et al. (2022) similarly show that WASH conditions in schools in low- and middle-income countries often remain inadequate. In the present review, school WASH is understood both as an infrastructure domain and as a governance domain involving maintenance, oversight, behaviour reinforcement, and monitoring.

Physical Education and Physical Activity Promotion

The concept of physical education and physical activity promotion is used broadly in this review. Physical education refers to the structured curriculum-based teaching of movement, sport, fitness, and health-related knowledge. Physical activity promotion refers more widely to school practices that create opportunities for children to move during and beyond formal lessons. Woods et al. (2021) and Stylianou et al. (2022) both show that school physical activity policy spans several areas, including physical education, sport and extracurricular activity, active breaks, active travel, and whole-school activity. McMahon et al. (2024) and Ourda et al. (2025) further show that whole-school physical activity implementation requires broader school engagement than PE lessons alone. In this review, physical education is therefore treated as both a curriculum area and a governance concern because its effective delivery depends on scheduling, teacher capacity, facilities, and strategic support.

Coordination Between WASH and Physical Education

A central concept in this article is coordination. Here, coordination refers to deliberate efforts to connect WASH and physical education within one school health system so that policies, routines, spaces, and responsibilities work toward healthier school conditions in a complementary way. WASH and physical education are often governed through different policy channels and school routines, yet both shape student wellbeing and safe participation in school life. Coordination does not mean collapsing them into one programme. It means aligning them strategically so that hygiene, sanitation, safe facilities, active routines, supervision, and health promotion reinforce one another rather than compete for attention. This interpretation reflects the growing emphasis on whole-school health and whole-school physical activity approaches in the recent literature (Morris et al., 2023; Ourda et al., 2025).

School Health System

The phrase school health system in this review refers to the organised set of policies, roles, routines, facilities, relationships, and supervisory processes through which a school supports health. It is broader than one policy or one intervention. It includes WASH systems, physical education delivery, school culture, stakeholder engagement, and the leadership processes that hold these together. This concept is especially useful because it prevents the article from treating WASH and physical education as separate technical domains. Instead, it allows them to be analysed as connected components within a broader school health structure.

Scope and Boundaries of the Review

The scope of the review is intentionally focused. It concentrates on governance and strategy in relation to WASH and physical education in Ghanaian basic schools. It does not attempt to review every area of school health such

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as nutrition, counselling, sexual health, or mental health, except where these issues briefly help clarify governance or whole-school logic. It also does not focus on tertiary institutions or purely clinical health settings. Ghana is the primary context because recent research points to school health barriers, WASH implementation gaps, curriculum implementation challenges, and governance issues in the basic school system (Adomako Gyasi et al., 2024; Duah, 2024; Ismaila et al., 2023; Sofo & Asola, 2023). At the same time, international peer-reviewed studies are used to provide wider conceptual and empirical grounding where Ghana-specific evidence remains limited. Where the review draws conclusions that extend beyond the four Ghana-focused studies, this is explicitly noted and claims are presented as cautious interpretations informed by international evidence rather than direct evidence from Ghanaian settings.

Theoretical Foundations

The first theoretical lens for this review is the health-promoting schools and whole-school health perspective. This perspective is useful because it treats school health as a coordinated organisational process rather than as a set of isolated projects. Adams et al. (2023) and Leksy et al. (2024) both show that school leaders are central to embedding health promotion in school structures, which makes this lens particularly suitable for examining how WASH and physical education might be brought into one governance framework. In this perspective, governance matters because it shapes whether health becomes central to school culture or remains fragmented.

A second useful lens is whole-school physical activity implementation thinking. Recent studies show that physical activity is more effectively promoted when schools move beyond single-class interventions and adopt whole-school strategies that involve leadership, teachers, scheduling, and institutional coordination (Morris et al., 2023; McMahon et al., 2024; Ourda et al., 2025). This lens is relevant here because it highlights how governance can expand physical education into a broader activity-supportive school culture. It also helps explain why PE cannot be improved only through curriculum content. It requires strategic organisation.

A third perspective comes from implementation science and institutional coordination. McLoughlin et al. (2021) show that school health policy implementation can be examined through determinants and outcomes such as adoption, fidelity, acceptability, and sustainability. Wendt et al. (2023) likewise demonstrate that physical activity policy adoption is shaped by resources, staff willingness, stakeholder engagement, and access to information. This perspective is useful because it explains why WASH and PE often show mixed outcomes despite policy support. Success depends on the alignment of people, processes, context, and monitoring rather than on policy text alone.

Together, these perspectives support one central idea. WASH and physical education in Ghanaian basic schools are best understood not as separate delivery problems, but as parts of one school health system whose effectiveness depends on strategic governance, implementation capacity, and whole-school coordination.

Review Method

Design Rationale

This article adopts a narrative literature review design because the topic is broad, conceptually layered, and draws together different but related strands of scholarship on WASH, physical education, school health governance, policy implementation, and Ghanaian basic education. A narrative review is appropriate where the aim is to interpret and synthesise diverse literature, identify patterns and contradictions, and build a conceptual understanding of how governance can connect domains that are often discussed separately. Recent review method literature emphasises that strong narrative reviews should still explain how the literature was identified, screened, and organised, even when they are not protocol-driven in the manner of systematic reviews (Chigbu et al., 2023; Kelley & D'Souza, 2025). This principle guided the design of the present review.

Search Strategy

The literature search was conducted across five databases: Scopus, Web of Science, PubMed, ERIC, and Google Scholar. These were selected because the topic spans public health, education, leadership, school governance,

and physical activity research. The last search was completed in early 2025. Search terms were built around the core concepts of the review, including combinations of "school WASH," "water sanitation hygiene in schools," "school physical education," "school physical activity policy," "whole-school physical activity," "school governance," "school health leadership," "implementation," "Ghanaian basic schools," and "school health system." Additional terms such as "coordination," "strategy," "policy implementation," and "school health promotion" were used when refining the search.

Inclusion and Exclusion Criteria

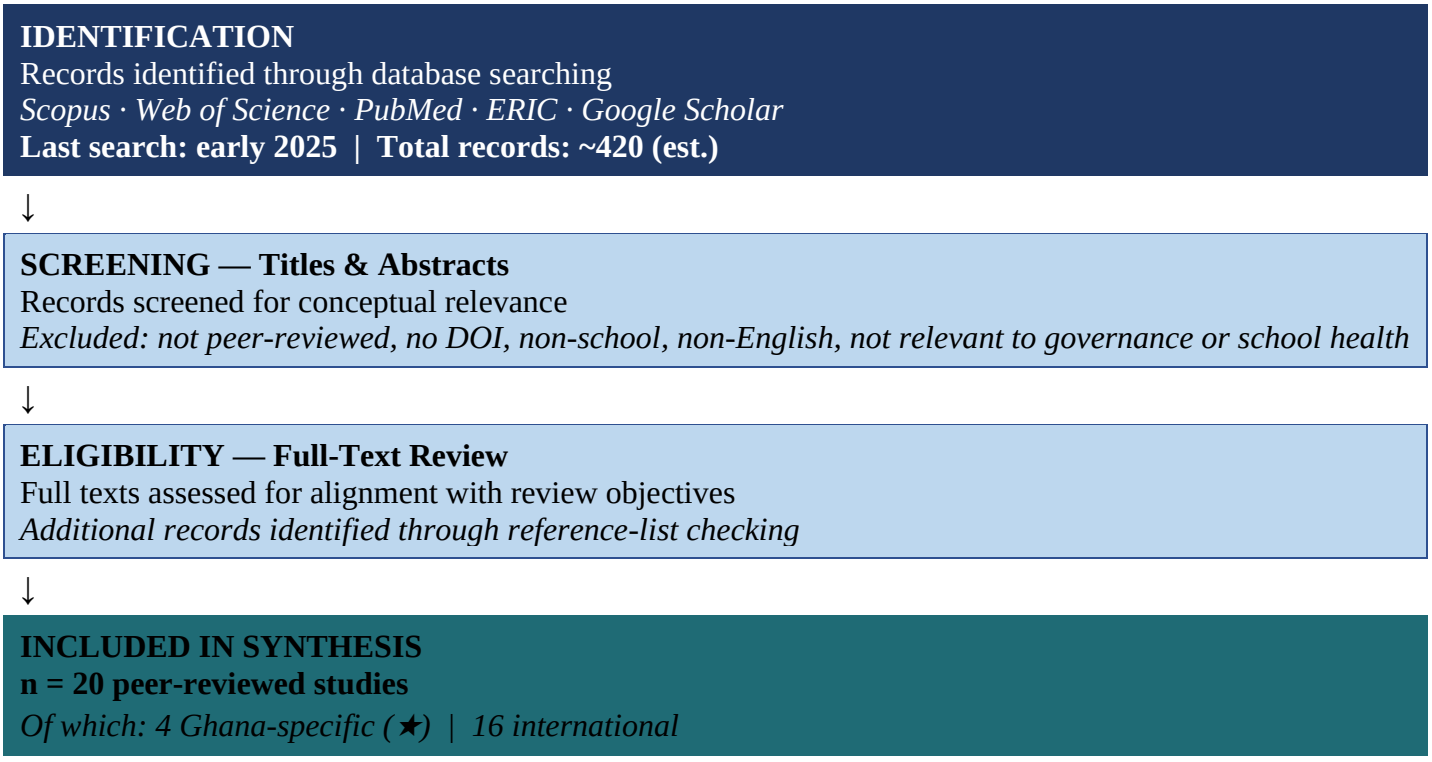
The review prioritised peer-reviewed journal articles written in English and carrying DOI addresses. Studies published mainly between 2021 and 2026 were given priority, though closely relevant post-2020 studies were retained where necessary to maintain continuity in the literature. Included studies had to address at least one of the following: WASH in schools, physical education or physical activity policy in schools, whole-school physical activity implementation, school health leadership, school governance for health, or Ghanaian school health implementation. Preference was given to studies addressing school-level organisation, implementation challenges, or institutional coordination rather than narrow clinical outcomes alone.

Studies were excluded if they were not peer reviewed, were not in English, lacked DOI information, focused solely on non-school settings, or had no clear relevance to governance or school health implementation. Reports, policy documents, theses, and dissertations were not used in the article itself.

Screening Procedure and Selection Summary

Screening took place in stages. Titles and abstracts were first examined for conceptual relevance, followed by full-text reading of papers that aligned with the review objectives. Reference lists of selected articles were also checked for additional relevant peer-reviewed studies. After selection, studies were organised into recurring themes rather than discussed one study at a time. The selection process is summarised below.

Figure 2. Literature Search and Selection Flow Diagram



Note. The search was conducted across five databases. Record counts are approximate estimates based on the narrative search process; this review does not claim full systematic reproducibility. The 20 included studies were selected through iterative title/abstract screening, full-text review, and reference-list checking. Studies are listed in full in the Included Studies table (Table 1) and reference list.

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Approach to Synthesis and Evidence Weighting

After selection, the literature was read in full and organised into recurring themes rather than discussed one study at a time. This approach follows current recommendations for publishable narrative review work, which favour thematic organisation, synthesis, and critical interpretation over article-by-article cataloguing (Chigbu et al., 2023; Kelley & D'Souza, 2025).

An important transparency note concerns how Ghanaian and international evidence are used. Four of the 20 included studies are set in or specifically focused on Ghana (Adomako Gyasi et al., 2024; Duah, 2024; Ismaila et al., 2023; Sofo & Asola, 2023). These studies are treated as the primary contextual evidence for the review's conclusions about Ghanaian basic schools and are given explicit weight when the review makes claims about Ghanaian governance challenges. The remaining 16 international studies provide conceptual and comparative grounding. Claims that go beyond what the four Ghana-specific studies directly support are presented as evidence-informed propositions rather than established findings, and the review does not imply direct transferability of international findings to the Ghanaian context without stating that limitation.

As with all narrative reviews, the method has limitations. It does not claim exhaustive reproducibility or formal risk-of-bias scoring for every included study. However, the field under review is conceptually broad and requires interpretive integration more than narrow statistical aggregation. The review remains narrative in design but transparent in scope, source selection, and thematic procedure.

Table 1 Included Studies: Setting, Design, Health Domain, Leadership Focus, and Key Findings

Author(s) & Year	Setting	Design	Health Domain	Leadership / Governance Focus	Key Finding Used in Synthesis
Adomako Gyasi et al. (2024) ★	Ghana (basic schools)	Qualitative	School health barriers	Leadership/governance barriers to health programme delivery	Management, leadership, governance, and weak stakeholder collaboration identified as main implementation barriers.
Duah (2024) ★	Ghana (public basic schools)	Survey/observational	WASH	WASH practice implementation levels	WASH practices unevenly implemented across Ghanaian public basic schools; functionality gaps persist.
Ismaila et al. (2023) ★	Ghana – Wa Municipality	Empirical/observational	WASH	WASH facility conditions	Most schools had some facilities, but quality and functionality remained significant barriers to healthy school conditions.

Author(s) & Year	Setting	Design	Health Domain	Leadership / Governance Focus	Key Finding Used in Synthesis
Sofo & Asola (2023) ★	Ghana (primary schools)	Documentary analysis	Physical education	New PE curriculum analysis	Curriculum is comprehensive but effective delivery is hindered by weak teacher support and teacher education gaps.
Bick et al. (2025)	LMICs (scoping review)	Scoping review	WASH	Health/education/gender outcomes of school WASH	Heterogeneous outcomes and intervention designs; WASH evidence base mixed; governance and measurement gaps noted.
Poague et al. (2022)	LMICs (systematic review)	Systematic review	WASH	WASH conditions in schools	WASH conditions remain inadequate; gap between normative expectations and actual school practice.
Adams et al. (2023)	International (systematic review)	Systematic review	School health leadership	Leadership for health promotion	Leadership attitudes, accountability, capacity building, and community engagement central to embedding health promotion.
Leksy et al. (2024)	Europe (multi-country)	Conceptual/review	School health leadership	School leaders and health promotion	School leaders are central to initiating and sustaining health promotion; calls for systematic professional development.
Sasaki et al. (2024)	Indonesia (primary schools)	Qualitative	School health implementation	Principal leadership for school health	School health depends on principal coordination, cross-sector

Author(s) & Year	Setting	Design	Health Domain	Leadership / Governance Focus	Key Finding Used in Synthesis
					collaboration, and capacity building.
Morris et al. (2023)	UK (Bradford)	Mixed-methods	Physical activity	Creating Active Schools implementation	Successful whole-school PA implementation depends on school culture, stakeholder self-efficacy, and sustained support.
McMahon et al. (2024)	Dubai (multi-school)	Mixed-methods	Physical activity	Whole-of-school PA implementation	Whole-school lens reveals where PA opportunities are concentrated/weak; PE teachers carry most implementation burden.
Ourda et al. (2025)	Europe (6 countries)	Survey/qualitative	Physical activity	Stakeholder perceptions of whole-school PA	Teachers and stakeholders value whole-school approach; need collaboration, continuity, and practical implementation strategies.
Woods et al. (2021)	International (systematic review)	Systematic review	Physical activity policy	Policy impact on PA outcomes in schools	School policy supports PA but effects are conditioned by implementation quality, context, and evaluation rigour.
Stylianou et al. (2022)	International (systematic review)	Systematic review	Physical activity policy	PA policies and actual school practices	Mixed associations between written PA policies and actual practices; policy presence does not guarantee delivery.
McLoughlin et al. (2021)	International (systematic review)	Systematic review	Implementation science	School health policy measurement	Implementation should be assessed through determinants and

Author(s) & Year	Setting	Design	Health Domain	Leadership / Governance Focus	Key Finding Used in Synthesis
					outcomes (adoption, fidelity, acceptability, sustainability).
Wendt et al. (2023)	International	CFIR framework study	Physical activity policy	Barriers/facilitators to PA policy adoption	PA policy adoption shaped by resources, staff willingness, stakeholder engagement, and information access.
Hall et al. (2022)	Australia	RCT (cluster)	Physical activity policy	Implementation intervention for PA policy	Implementation support increased school delivery of mandatory PA policy and improved student outcomes.
Hall et al. (2023)	Australia	Evaluation study	Physical activity policy	Scale-up of PACE implementation	Effective scale-up of PA implementation intervention (PACE) documented; system-level support key.
Chigbu et al. (2023)	Methods/conceptual	Methods article	Review methodology	Science of literature reviews	Transparent search, identification, selection, and synthesis are essential quality markers for narrative reviews.
Kelley & D'Souza (2025)	Methods/conceptual	Methods article	Review methodology	Narrative review guidelines	Narrative reviews should explain identification, screening, and organisation procedures even without protocol-driven design.

Note. ★ denotes Ghana-specific studies. These four studies (Adomako Gyasi et al., 2024; Duah, 2024; Ismaila et al., 2023; Sofo & Asola, 2023) are given primary weight in claims about Ghanaian basic school governance. International studies provide conceptual and comparative grounding. LMICs = low- and middle-income countries. PA = physical activity. PE = physical education.

Thematic Review of the Literature

Why WASH and Physical Education Should Be Connected in School Health

The reviewed literature increasingly suggests that WASH and physical education should not be treated as separate school concerns because they shape the same broad outcome: a healthy, safe, and participatory school environment. WASH affects whether children can learn in hygienic conditions, reduce infection risk, and participate in school life with dignity. Physical education affects whether children move enough, develop motor competence, and experience school as a health-promoting environment rather than a sedentary one. Although these domains are often managed separately, they share common governance needs such as scheduling, facility upkeep, role clarity, monitoring, and behaviour reinforcement. This makes them suitable for integrative analysis within a single school health systems perspective.

The WASH literature provides strong reasons to take coordination seriously. Bick et al. (2025), in a scoping review of school-based WASH across LMICs, show that interventions produce a complex and heterogeneous evidence base, with many unique outcome measures and varied intervention designs that complicate synthesis. Poague et al. (2022) similarly found inadequate WASH conditions across schools in low- and middle-income countries, highlighting the gap between normative expectations and actual school conditions. These findings suggest that WASH is not just an engineering or facility issue. It is a systems and governance issue. The mixed effects of WASH interventions are partly a function of uneven design, implementation, maintenance, and measurement.

A similar pattern appears in the physical activity and physical education literature. Woods et al. (2021) conclude that school policy actions can support physical activity outcomes, but caution against one-size-fits-all assumptions and call for more attention to implementation and evaluation. Stylianou et al. (2022) likewise found mixed associations between formal written school physical activity policies and actual school practices or children's activity behaviours. This means that physical education and school activity promotion also face a governance challenge: strong policy does not guarantee strong delivery. Just as WASH interventions vary in design and effectiveness, physical activity promotion varies in how well schools organise and sustain it.

When these literatures are read together, a key implication emerges. Both WASH and physical education require whole-school coordination to become meaningful. WASH depends on infrastructure, routines, inspection, cleaning, and behavioural reinforcement. Physical education depends on curriculum time, teacher support, broader movement opportunities, and school commitment. In both cases, isolated planning leads to fragmented results. The literature therefore supports the idea that strategic governance should connect these domains inside one school health system rather than treat them as unrelated functions.

Governance and Leadership in School Health Implementation

A second major theme is that governance and leadership are central to whether school health priorities become embedded or remain peripheral. Adams et al. (2023), in a systematic review, identify leadership attitudes, accountability, support, capacity building, shared leadership, and parent or community engagement as important for health promotion in schools. Leksy et al. (2024) similarly argue that school leaders are central to initiating and sustainably anchoring health promotion. Sasaki et al. (2024) reinforce this by showing that school health implementation depends on principal coordination, collaboration across sectors, and capacity building within schools.

These studies matter for the present review because they show that school health depends on more than policy wording or technical guidance. It depends on governance functions that help schools turn goals into routine practice. In a WASH and PE context, this means leaders must do more than acknowledge their importance. They must align priorities, organise staff, coordinate actors, maintain facilities, and follow up on implementation. Governance is therefore not an external support to school health. It is part of the school health process itself.

The Ghanaian evidence aligns with this interpretation, though the reader should note that this alignment is drawn from a small set of Ghana-specific studies. Adomako Gyasi et al. (2024) identify management, leadership, governance, and stakeholder collaboration as barriers to school-based health programme implementation in

Ghanaian basic schools. This suggests that the challenge in Ghanaian schools is not only insufficient facilities or limited funding, but also weak institutional coordination. Duah (2024) and Ismaila et al. (2023) similarly show that WASH implementation remains uneven in Ghanaian basic schools, even where some facilities are present. This reinforces the argument—grounded directly in Ghanaian evidence—that governance must address functionality, maintenance, oversight, and behavioural systems rather than assuming that availability of infrastructure on paper equals healthy school practice.

Strategic Areas That Can Connect WASH and Physical Education

The literature points to several strategic areas through which governance can connect WASH and physical education within one school health system. The first is policy alignment and whole-school planning. One reason WASH and PE remain separate is that they are often handled through different administrative channels. Yet whole-school physical activity research suggests that school-wide planning improves the reach and sustainability of health promotion efforts (Morris et al., 2023; Ourda et al., 2025). In the same way, WASH literature shows that interventions often combine infrastructure, hygiene promotion, and governance support rather than relying on facilities alone (Bick et al., 2025). A governance implication follows: schools need planning structures that place WASH and physical education within a shared school health agenda rather than in parallel silos.

The second strategic area is role clarity and coordination. WASH and PE often suffer when responsibility is diffuse. Whole-school physical activity studies repeatedly show that effective implementation requires collaboration across staff roles rather than leaving the work to physical education teachers alone (McMahon et al., 2024; Morris et al., 2023). WASH implementation likewise depends on maintenance, teacher practice, school management, and behavioural oversight. Governance can connect the two domains by making responsibilities clearer across management teams, teachers, support staff, and community structures.

The third strategic area is resource allocation and facility oversight. Physical education requires spaces, scheduling, and material support. WASH requires water systems, sanitation facilities, maintenance, and hygiene materials. In both areas, weak governance often appears not only as lack of resources, but as poor stewardship of the resources already available. Duah (2024) and Ismaila et al. (2023) show that WASH quality in Ghanaian schools depends on maintenance and usability, not simply presence. Sofo and Asola (2023) similarly show that the new Ghanaian PE curriculum faces challenges in teacher support and practical implementation. Together, these four Ghana-specific studies provide direct evidence that governance should pay closer attention to resource use and facility oversight across both domains in the Ghanaian basic school context.

The fourth strategic area is monitoring, review, and accountability. Mixed outcomes in both WASH and physical activity are partly tied to weak evaluation and inconsistent measurement (Bick et al., 2025; Woods et al., 2021; Stylianou et al., 2022). McLoughlin et al. (2021) show that school health policy implementation should be assessed through implementation determinants and outcomes, including adoption, fidelity, acceptability, and sustainability. This suggests that governance should include simple but meaningful school-level monitoring systems that track whether WASH and PE are being implemented as intended, not merely whether policies exist.

Whole-School Physical Activity and Implications for Governance

The physical activity literature provides particularly strong insight into coordination because it increasingly frames activity promotion as a whole-school task. Morris et al. (2023) show that successful implementation of Creating Active Schools depended on acceptability, school culture, stakeholder self-efficacy, and long-term support rather than on narrow programme delivery. McMahon et al. (2024) found that a whole-of-school lens provided useful insight into physical activity implementation, but also revealed that physical education teachers often bore most of the implementation burden and that promotion during regular classroom time remained weak. Ourda et al. (2025) similarly found that stakeholders and educators saw a whole-school approach as important and highlighted the need for teacher collaboration, longevity, stakeholder engagement, and knowledge of implementation.

These findings have clear implications for the present review. First, they show that physical education should not be treated as a stand-alone subject that can carry school health on its own. Second, they show that governance

should distribute responsibility more widely across the school. Third, they show that whole-school health requires coordination that goes beyond formal policy adoption. This logic can be applied to WASH. If schools need a systemic approach to movement, they likely need a systemic approach to hygiene and sanitation as well. The two domains can therefore be linked through similar governance principles: school-wide planning, broad participation, clear roles, and ongoing monitoring. Direct evidence for this specific parallel in Ghanaian schools remains limited, and this connection is therefore presented as an evidence-informed proposition informed by the international literature rather than a direct empirical finding.

Ghanaian Evidence on WASH, PE, and Governance Challenges

The Ghanaian evidence is especially valuable because it highlights both existing structures and unresolved problems. The review draws directly on four Ghana-specific peer-reviewed studies. On the WASH side, Ismaila et al. (2023) found that many basic schools in Wa Municipality had some form of WASH facilities, which suggests that schools are not always starting from total absence. However, they also found that functionality and quality issues remained important barriers. Duah (2024) similarly reports that WASH practices are unevenly implemented in public basic schools in Ghana. These two studies provide direct empirical evidence that governance should focus not only on access, but on sustained operational quality in the Ghanaian context.

On the physical education side, Ghana's reform context is important. Sofo and Asola (2023) analysed Ghana's new physical education curriculum for primary schools and found that although the curriculum is comprehensive and aligned with national standards, effective implementation is hindered by weak teacher support and insufficient teacher education. This study provides direct evidence that PE governance in Ghana requires stronger institutional backing if the curriculum is to influence actual school practice. When read together with the WASH findings, a shared problem becomes visible: both domains suffer when formal policy or curriculum is not matched by support, coordination, and implementation capacity. This conclusion is grounded in Ghanaian evidence.

Broader school health evidence from Ghana reinforces this interpretation. Adomako Gyasi et al. (2024) identify leadership, governance, and collaboration problems as part of the barriers to school-based health programmes, providing direct evidence that institutional coordination problems affect school health delivery in Ghanaian basic schools. In practical terms, the Ghanaian challenge is not simply that WASH and PE are important. It is that they remain undercoordinated within a governance environment where schools face multiple health-related demands without adequate institutional alignment.

Toward a Strategic Governance Framework for Connecting WASH and PE

When the reviewed evidence is considered together, it points to a strategic governance framework built around five connected governance functions. The first is policy alignment, where WASH and PE are placed within one school health agenda. The second is role clarity and coordination, where responsibilities for facilities, instruction, supervision, and behaviour reinforcement are clearly distributed. The third is resource planning and oversight, where facilities, teaching conditions, and maintenance are managed strategically. The fourth is stakeholder collaboration, where school leaders work with teachers, communities, PTA structures, and external support actors. The fifth is monitoring and accountability, where implementation is reviewed regularly and improved.

This framework is not taken from a single study. It is an interpretive synthesis of recurring themes across WASH, physical activity, school health leadership, and Ghanaian implementation literature. Its value lies in showing that WASH and physical education can be coordinated if governance is treated as a unifying mechanism rather than as a background condition. The literature therefore supports a central conclusion: strategic governance is the bridge that can connect school WASH and physical education within one healthier school system.

Synthesis of Literature Findings

Taken together, the reviewed literature suggests that the effective coordination of school WASH and physical education depends less on the separate existence of policies and more on the quality of strategic governance that connects them. Across the literature, a consistent pattern is that both WASH and physical education are widely recognised as essential to healthy schools, yet both produce mixed or uneven outcomes when implementation is

fragmented. Bick et al. (2025) and Poague et al. (2022) show that school WASH evidence remains heterogeneous and difficult to synthesise because interventions, outcomes, and evaluation approaches vary substantially. Woods et al. (2021) and Stylianou et al. (2022) reach a similar conclusion for physical activity policy, showing that policy matters but its effects are conditioned by implementation quality, clarity, and evaluation. When these literatures are considered together, they show that the problem is not lack of relevance. It is lack of coordinated execution. This is the first major synthesis point: WASH and physical education are both health-promoting domains whose effectiveness depends on strategic governance rather than on policy presence alone.

A second major pattern is that governance matters because it shapes organisational coherence. The leadership and school health promotion literature repeatedly shows that healthy school change requires direction, accountability, capacity building, collaboration, and follow-up (Adams et al., 2023; Leksy et al., 2024; Sasaki et al., 2024). This logic applies directly to WASH and physical education. WASH interventions require safe facilities, cleaning routines, hygiene reinforcement, and maintenance systems. Physical education and physical activity promotion require curricular time, teacher readiness, wider school participation, and supportive environments. Neither domain can be sustained by technical instruction alone. Both require governance to align goals, roles, spaces, and behaviour. The broader implication is that strategic governance is not separate from school health. It is one of the main mechanisms through which school health becomes operational.

A third synthesis point is that WASH and physical education share common implementation problems. In both domains, the literature points to limited coordination, uneven resource support, and weak monitoring as recurring sources of underperformance. In the WASH literature, this appears through inadequate operational conditions, maintenance gaps, and inconsistent service delivery (Bick et al., 2025; Poague et al., 2022; Ismaila et al., 2023; Duah, 2024). In the physical activity literature, it appears through weak translation of policy into broad school practice, uneven staff participation, and insufficient implementation support (Woods et al., 2021; Morris et al., 2023; McMahon et al., 2024). What makes this pattern important is that it reveals a shared governance problem across two apparently different domains. This means that schools may be able to improve both areas simultaneously if governance focuses on common institutional functions rather than on isolated technical fixes.

The whole-school physical activity literature is especially instructive in explaining why coordination matters. Morris et al. (2023) found that successful implementation of a whole-school physical activity approach depended on perceived quality, cultural fit, stakeholder self-efficacy, and sustained support. McMahon et al. (2024) show that a whole-of-school lens helps schools understand where physical activity opportunities are concentrated and where they remain weak, especially outside formal PE. Ourda et al. (2025) further show that teachers and stakeholders want practical strategies, collaboration, and continuity when implementing a whole-school approach. These studies suggest that physical education becomes stronger when governance expands beyond the PE timetable and begins to think systemically. This insight is directly transferable to WASH governance as a conceptual proposition: hygiene and sanitation improve not only when facilities exist, but when systems of oversight, role distribution, and behavioural reinforcement are built around them. The combined lesson is that both WASH and PE need whole-school governance logic.

The Ghanaian evidence adds a crucial contextual layer grounded directly in local research. The four Ghana-specific studies paint a consistent picture. Adomako Gyasi et al. (2024) found that leadership, governance, and weak stakeholder collaboration are among the barriers to school-based health programme implementation. Duah (2024) and Ismaila et al. (2023) show that WASH conditions and implementation remain uneven. Sofo and Asola (2023) show that the new PE curriculum faces teacher support and teacher education challenges. These studies indicate that the Ghanaian issue is not only one of separate sectors or competing priorities. It is one of coordination within a system where schools may be expected to deliver multiple health-related goals without adequate institutional alignment. Claims in this review about Ghanaian schools are anchored in these four studies; where claims extend beyond what they directly show, this is indicated explicitly.

The literature also shows broad agreement that governance must extend beyond school leaders acting alone. In both school health and whole-school physical activity work, successful implementation is linked to staff collaboration, stakeholder participation, and system support (Adams et al., 2023; Morris et al., 2023; Ourda et al., 2025). This is especially important for WASH and PE, because both require action from multiple actors. WASH depends on facility management, cleaning and maintenance, hygiene monitoring, and behavioural

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reinforcement. PE depends on teachers, scheduling, curriculum support, and wider school culture. This means that the governance of healthier schools should be interpreted institutionally rather than individually. The question is not only whether the headteacher values WASH or PE, but whether the school and its support systems are organised to connect these domains productively.

At the same time, the evidence remains mixed in one important respect. There is broad agreement that governance matters and that whole-school coordination is needed, but there is less agreement on the exact form that good coordination should take across different settings. Some schools may benefit from stronger leadership direction, while others may need more teacher collaboration, community engagement, or district support. Similarly, not all WASH or physical activity interventions require the same configuration of actors, resources, or monitoring. This means that the field is strong in diagnosing the governance problem, but less definitive in prescribing one universally optimal governance model. In low-resource settings such as many Ghanaian basic schools, this variation is especially relevant because structural realities limit what coordination can look like in practice.

Even so, the overall message of the literature is clear. School WASH and physical education should be understood as connected parts of a single school health system rather than as administrative islands. Strategic governance becomes the mechanism that links planning, implementation, oversight, and improvement across these domains. That is why the present review interprets governance as the bridge variable. WASH and physical education may start from different traditions, but within real schools they converge in the shared task of creating healthier, safer, and more active learning environments.

The synthesis of the reviewed literature therefore suggests that strategic governance acts as the central mechanism through which school WASH systems and physical education can be aligned, coordinated, implemented, and sustained in Ghanaian basic schools, as illustrated in Figure 1 below.

Figure 1

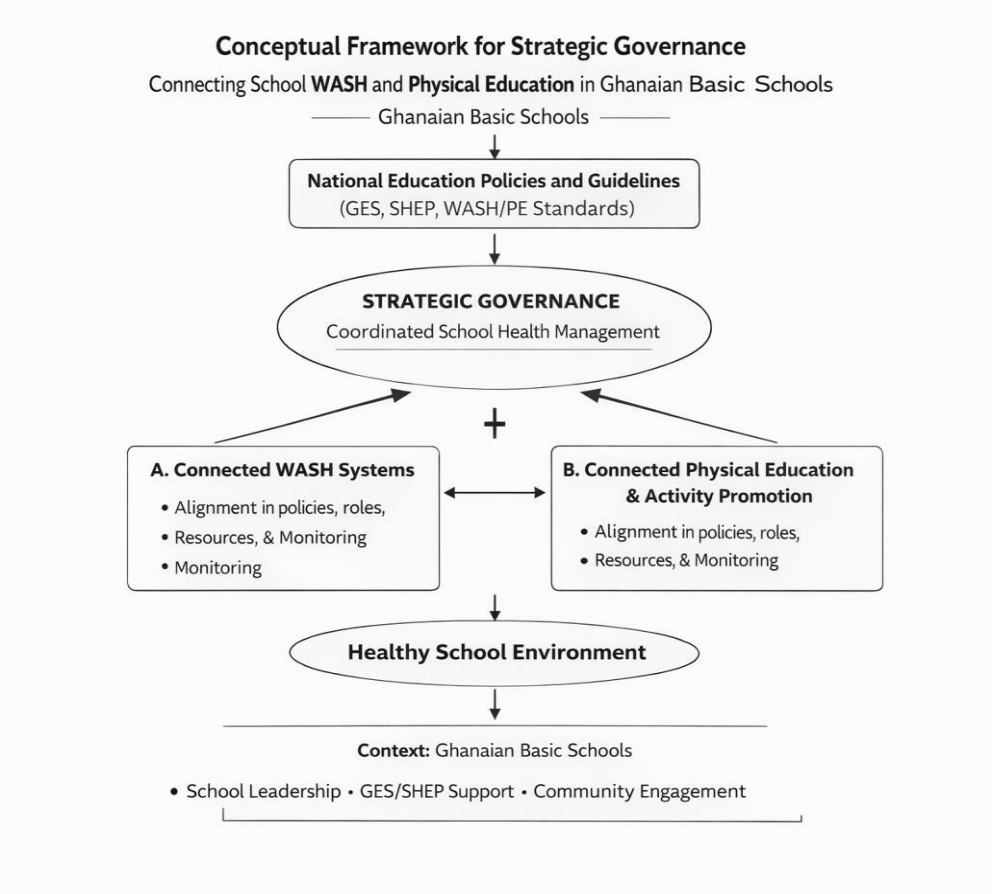

Figure 1. Strategic governance connecting school WASH and physical education within one school health system in Ghanaian basic schools.

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Note. The framework is derived from the synthesis of the reviewed literature (see Section 5.6 and Table 1). It shows how four core governance functions—policy alignment and planning, role clarity and coordination, resource allocation and facility oversight, and monitoring, review, and accountability—operate through strategic governance of school health to connect WASH systems and physical education/activity promotion within the Ghanaian basic school context. The framework draws primarily on Adomako Gyasi et al. (2024), Duah (2024), Ismaila et al. (2023), and Sofo and Asola (2023) for its Ghanaian grounding, and on Adams et al. (2023), Leksy et al. (2024), Morris et al. (2023), and McLoughlin et al. (2021) for its governance and implementation science grounding. When these processes are active and aligned, they contribute to a healthier school environment, stronger delivery of WASH and PE, and better student wellbeing and participation.

Figure 1 presents a conceptual framework derived from the synthesis of the reviewed literature. The framework positions strategic governance of school health as the central mechanism linking key governance actions to coordinated delivery across WASH systems and physical education/activity promotion. It identifies four core governance functions: policy alignment and planning, role clarity and coordination, resource allocation and facility oversight, and monitoring, review, and accountability. These governance processes support coordinated school health implementation and help connect safe hygiene systems with broader physical education and activity opportunities. The framework further shows that when these processes are active and aligned, they contribute to a healthier school environment, stronger delivery of WASH and PE, and better student wellbeing and participation. The model is situated within the Ghanaian basic school context, where governance is shaped by school resources, GES or SHEP structures, and wider community conditions.

Research Gaps and Future Research Directions

Important gaps remain in the literature. Conceptually, WASH and physical education are still often studied as separate areas of school health even though they share important governance and implementation challenges. The field needs stronger integrative models that explain how governance can align infrastructure, curriculum, routines, and behaviour reinforcement across multiple health domains inside one school system.

Theoretical gaps are also clear. Recent studies support health-promoting schools, whole-school physical activity, and implementation science perspectives, yet these are not always brought together within one coordinated governance framework. Future work should more deliberately integrate these theoretical lenses so that governance can be analysed as a linking process rather than a background condition.

Methodologically, the field still depends heavily on heterogeneous intervention studies, cross-sectional work, and implementation snapshots. The WASH literature in particular suffers from outcome inconsistency, while the physical activity literature often identifies implementation challenges without enough comparative evidence on long-term governance arrangements. More longitudinal, mixed-methods, and comparative studies are needed to show how coordinated governance develops across schools over time.

Contextually, there is a clear need for more Ghana-focused research on the coordination of WASH and physical education specifically. Existing Ghanaian studies show WASH gaps, curriculum implementation challenges, and general school health barriers, but there is still limited direct evidence on how schools can strategically govern these domains together. The present review includes only four Ghana-specific peer-reviewed studies, which means Ghanaian claims rest on a modest evidence base. Future research should therefore examine integrated school health governance models in Ghanaian basic schools, including rural-urban comparison and stronger attention to district and school-community structures.

Theoretical Implications

This review contributes to theory by showing that WASH and physical education should not be treated as separate school functions if the goal is to understand healthier schools in a realistic and integrated way. Much of the literature has approached WASH as an infrastructure and hygiene domain and physical education as a curriculum or activity domain. The present review suggests that this separation is analytically limiting. In real schools, both depend on governance, school culture, facility use, routine reinforcement, and institutional support. The review therefore helps reposition these domains within a common school health systems framework. This

is an important theoretical shift because it moves the analysis from sectoral separation toward systemic interpretation.

A second theoretical implication is that the review deepens the value of the health-promoting schools perspective by showing that governance is the mechanism that gives coherence to whole-school health ideas. Whole-school health is often described in broad conceptual terms, but the practical literature reviewed here shows that alignment, coordination, role clarity, oversight, and accountability are the elements that make whole-school health operational. This means that governance should not be treated as an external condition around school health. It should be treated as part of the internal architecture of health-promoting schools.

A third implication is that the review extends the logic of whole-school physical activity beyond physical activity itself. The physical activity literature now strongly supports whole-school approaches, especially because isolated PE provision is insufficient for sustained behaviour change (Morris et al., 2023; Ourda et al., 2025). By bringing this insight into conversation with WASH research, the review shows that whole-school thinking can also be applied to sanitation, hygiene, facility management, and healthy school conditions more broadly. This gives the concept of whole-school strategy a wider theoretical reach.

A fourth theoretical contribution lies in the way the review uses implementation science. WASH and PE both produce mixed outcomes in the recent literature, and this review shows that implementation science helps explain why. Mixed results are often not signs that school health does not matter. Rather, they are signs that implementation determinants vary across contexts. The review therefore reinforces the value of implementation concepts such as adoption, fidelity, acceptability, sustainability, coordination, and contextual fit for analysing school health.

The review also contributes by centring strategic governance rather than isolated leadership. In some school health studies, leadership is framed mainly through the individual principal. The evidence reviewed here suggests that this is too narrow, especially for Ghanaian basic schools. WASH and physical education implementation are shaped by school management, teachers, supervisory structures, school-community participation, and resource conditions. Governance therefore offers a broader and more accurate theoretical lens than leader personality or isolated headteacher action.

Finally, the review offers a context-sensitive contribution by grounding school health governance in Ghanaian basic education realities. Ghanaian evidence on WASH gaps, school health barriers, and PE curriculum implementation shows that governance is shaped by support structures, collaboration problems, resource limits, and implementation conditions. This means that theories of school health governance must account for institutional realities, not only formal policy design.

Practical Implications

The practical implications of this review are substantial for schools, district actors, and policymakers in Ghana. The first implication is that WASH and physical education should not be planned as separate school concerns managed through unrelated routines and responsibilities. The reviewed evidence suggests that schools will be healthier when governance deliberately connects sanitation, hygiene, movement, and physical activity promotion under one school health direction. This means that school leaders should not treat WASH as a maintenance issue only and PE as a timetable issue only. Both should be included in school improvement and school health planning as related parts of the same environment.

A second practical implication concerns planning and policy alignment. Schools need clearer internal plans showing how WASH and PE contribute jointly to healthy school conditions. In practical terms, this may mean including both domains in annual school health plans, improvement discussions, or health and wellbeing targets. Strategic planning can reduce this imbalance by making both visible at the same time. School management teams should therefore review how sanitation routines, access to water, PE scheduling, active breaks, facility use, and student participation fit together in daily practice.

A third implication is the need for role clarity. Many school health failures occur because responsibilities are unclear or assumed rather than deliberately assigned. WASH may be seen as the duty of support staff or health

teachers, while PE may be left to one teacher or treated as secondary to examination subjects. Schools therefore need clearer distribution of roles. Leadership should define who is responsible for facility oversight, hygiene reinforcement, PE delivery, activity support, maintenance reporting, and health review.

A fourth practical implication relates to resource stewardship. Both WASH and PE require material support, but governance must go beyond requesting more resources. It must also ensure that existing facilities and opportunities are used well. In WASH, this includes checking whether water points function, handwashing materials are available, sanitation facilities are usable, and cleaning routines are sustained. In PE, this includes protecting curriculum time, making available spaces usable, supporting teachers, and ensuring that activity opportunities do not disappear under academic pressure. In low-resource settings, good governance can still make an important difference by improving organisation, prioritisation, and maintenance even before major new funding arrives.

The review also points to the importance of monitoring and review. Mixed outcomes in both WASH and physical activity are partly the result of weak implementation follow-up. Schools therefore need simple internal systems for checking whether governance decisions are being translated into practice. The purpose of such monitoring is not to create excessive reporting. It is to make implementation visible enough to improve.

Another implication concerns teacher support and capacity building. The literature on PE in Ghana and on whole-school physical activity more broadly suggests that implementation weakens when teachers lack support, guidance, or confidence. Strategic governance should therefore view teachers as key implementation actors in both domains and provide them with manageable support rather than simply adding responsibility.

The review also implies that school-community structures should be used more effectively. Ghanaian evidence already points to weak parental and community participation as a barrier in school health (Adomako Gyasi et al., 2024). This suggests that better governance should not be confined inside the school gate. Parent-teacher associations, community leaders, and local support structures can strengthen school health if schools actively engage them in discussions about WASH conditions, physical activity opportunities, and student wellbeing.

A further practical implication concerns the role of district and supervisory structures. Schools cannot coordinate WASH and PE effectively if system-level guidance remains fragmented. Education authorities should therefore support schools with integrated guidance rather than separate and disconnected expectations. Schools are more likely to perform well when system expectations also reflect integration.

The review also suggests that implementation tools matter. If policymakers want better WASH and PE coordination, schools need usable tools such as checklists, routine review formats, school health dashboards, or planning templates that help them link these domains practically. Such tools should be simple and context-sensitive. In many Ghanaian basic schools, governance is already stretched. Therefore, effective support will come from practical instruments that help schools organise action, not from additional policy statements alone.

Finally, the practical message of the review is that healthier schools require more than separate interventions. They require coordinated governance. Ghanaian basic schools do not only need better WASH or better PE in isolation. They need strategic governance capable of connecting safe facilities, healthy routines, active opportunities, teacher support, school-community engagement, and ongoing review. That is the most actionable lesson from the literature. Stronger outcomes are likely where governance organises school health as one connected system rather than a collection of separate tasks.

CONCLUSION

This narrative literature review examined how school governance can connect WASH and physical education in basic schools and identified strategic areas for improving coordination between WASH and physical activity promotion in Ghanaian basic schools. Drawing on 20 peer-reviewed studies—four of which are directly grounded in the Ghanaian context—the review showed that both domains are central to healthy schools but are too often planned and managed separately. Across the literature, a recurring pattern emerged: WASH and physical education produce stronger and more sustainable results when they are supported by coordinated governance rather than by fragmented implementation.

The review identified several major findings. First, mixed results in both WASH and physical activity research are closely linked to uneven design, implementation, and measurement. Second, school health leadership and governance are central because they shape planning, coordination, resource use, stakeholder engagement, and monitoring. Third, the Ghanaian context—evidenced directly by Adomako Gyasi et al. (2024), Duah (2024), Ismaila et al. (2023), and Sofo and Asola (2023)—shows that weak collaboration, uneven WASH conditions, and limited implementation support for physical education remain important barriers. These findings indicate that the challenge is not simply the importance of WASH or PE, but the weakness of the governance systems that connect them.

The main contribution of the review lies in bringing WASH and physical education into one school health governance framework. By doing so, it shows that strategic governance is the bridge through which separate policies and routines can be aligned into a healthier school system. Although the literature supports this direction, important conceptual and methodological gaps remain. Future research should therefore pay greater attention to integrated governance models, comparative school studies, and Ghana-focused analyses of how WASH and physical education can be coordinated in practice. Overall, the field now points toward a clear conclusion: healthier schools will require stronger governance, not only stronger programmes.

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