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Implementation of Ghana's Standards-Based Physical Education Curriculum for Primary Schools: Classroom Teachers' Perspectives

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Abstract

Study purpose. In Ghana, generalist classroom teachers are responsible for teaching physical education (PE) in primary schools. This study examined Ghanaian classroom teachers' perspectives on the implementation of Ghana's standards-based PE curriculum.

Materials and methods. This study utilized a convergent mixed methods design. The Physical Education Curriculum Questionnaire (PECQ) and semi-structured interviews served as the primary data sources. Teachers' likelihood of meeting the requirement to teach the PE lesson (RTPE) twice a week (30 minutes per period) or once a week (60 minutes per period) served as the response variable. The predictor variables included: teacher knowledge, support, resources, policy, teacher education, professional development, and demographic factors. Participants were 1432 public primary school classroom teachers (39.53% male and 60.47% female) from 14 regions of Ghana. Thirty-four semi-structured interviews were conducted.

Results. The results indicated that 21.4% of participants taught PE as required, 9.7% teachers did not teach PE during the school year. Only 47.42% of teachers reported familiarity with the PE curriculum. Slightly over one-third indicated that their teacher education programs adequately prepared them to teach the primary PE content. Additionally, 60.41% of the classroom teachers reported that trained physical education specialists, rather than classroom generalists, should be responsible for teaching PE in primary schools. A fitted binary logistic regression showed that teacher knowledge, the number of years teaching current class, teacher education (training), teaching experience, sex, resources, region, policy, and certification were significant predictors of RTPE. The qualitative data identified seven themes: non-teaching of PE, teacher knowledge, curriculum relevance, teacher education, lack of support, lack of monitoring and supervision, and continuous professional development.

Conclusions. School physical education can play an active role in preventing physical activity-related diseases. The study highlights the need for policymakers to redefine the PE curriculum to align with the nation's social and cultural contexts.

Keywords: Curriculum, Physical Education, Primary School, Ghana.
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Introduction

Emerging African countries have for decades implemented reforms to make African-oriented content the focus of their educational systems (Ebewo & Sirayi, 2018). At the heart of these reforms are primary school curricula, which comprise the foundation of every educational system. The goal of education in Ghana is to produce well-balanced individuals with the requisite knowledge and skills to be functional and productive citizens (Ministry of Education [MOE], 2025). At the center of Ghana's pre-tertiary education reform is a shift from an objective-based to a standards-based curriculum.

The primary school physical education curriculum, the focus of the current study, was revised from an objective-based to a standards-based curriculum in 2018 and implemented in 2019 (National Council for Curriculum and Assessment [NaCCA], 2019). Physical education is the only school subject that focuses on educating children through physical activity. It seeks to educate children to become physically active for life, through physical literacy (Graham et al., 2025), as research has shown a positive association between physical literacy and physical fitness (Ferdiansyah et al., 2025). The International Physical Literacy Association (IPLA) describes physical literacy as "the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life" (IPLA, 2017). The decline in participation in physical activity in school settings underscores schools' active role in public health by promoting physical activity (Jourdan et al., 2021). Motor competence shows an indirect association with body weight and a direct correlation with cardiorespiratory endurance, suggesting it may promote long-term health and wellbeing in children and young people (Slotte et al., 2017). Moreover, research shows a reciprocal relationship between elementary children's motor skill competence and cardiorespiratory fitness, underscoring the importance of developing both to achieve long-term physical health (Ferdiansyah et al., 2025). The need for high-quality physical education programs in primary schools is justified because early-life experiences strongly influence health outcomes later in life (Capio et al., 2021).

Movement competence and regular participation in physical activity not only have health benefits but also improve the cognitive, social, and psychological development of children (Zarazaga-Celáez et al., 2024). They influence cognitive development by affecting executive function higher-order cognitive processes that are basic to children's learning and academic achievement (Biino et al., 2023). Executive functioning is associated with mathematics and predicts early writing, reading, and school readiness (Escobar et al., 2024).

Despite these benefits, numerous factors interfere with the teaching of physical education in primary schools. The most prominent causes are ineffective physical education teacher training and the lack of professional development opportunities (Donkor & Hormenu, 2021), inadequate teacher engagement in the curriculum reform process (Agbofa et al., 2023; Danquah & Poku, 2024), and the degradation of PE in relation to the examinable subjects (Donkor, 2021). According to Otomo et al. (2025), inconsistencies between stated and implemented curricula can be ascribed to inadequate teacher knowledge. Training programs must equip teachers with the knowledge and skills to implement the curriculum effectively and incorporate instructional strategies that promote active learning and student engagement (Asim, 2024). Addressing these

limitations is crucial to the success of standards-based curricula, as it requires educators' acceptance of new teaching approaches. Teachers play an important role in curriculum implementation as they are responsible for translating the curriculum guidelines into classroom practice. Therefore, their understanding, preparedness, and acceptance of the new curriculum are essential for its success (Kim, 2021).

Rogan and Grayson's theoretical framework for curriculum implementation (RGCI) (Rogan & Grayson, 2003) guided the study. The RGCI assesses curriculum implementation with reference to the availability and accessibility of resources, teacher preparation, and the level of support to schools. The first principle relevant to the present study is the quality of the curriculum enacted in the classroom—instructional practices and the teaching and learning materials used. The second principle addresses school-related factors—such as teacher knowledge and school administration's acceptance or resistance to reforms—that promote or hinder curriculum implementation. The third principle of the theory concerns factors outside the school the management and supervision from the district, municipal, or metropolitan directorates of education. The RGCI's strengths include its flexibility. and that it was developed for the contexts in emerging countries with varied degrees of teacher preparation, scarce resources, and poor support from external agencies for schools (Rogan & Grayson, 2003). One major criticism of the RGCI is that it downplays teachers' ability to adapt the curriculum to suit classroom realities. Despite the RGCI's drawbacks, its use in this study will provide insights into generalist classroom teachers' perspectives on Ghana's primary school physical education curriculum.

Specific to Ghana, previous studies have examined teacher preparation, attitudes toward PE, and barriers to teaching PE (Daniel et al., 2022; Donkor, 2021). However, these are limited to local contexts and do not address nationwide challenges regarding the standards-based PE curriculum (Takyi et al., 2025). Additionally, there is little empirical evidence on how classroom teachers interpret and apply the PE curriculum standards and strands. The gap is pertinent to this study, given the significance of teacher knowledge, beliefs, and contextual constraints in the curriculum implementation process (Otomo et al., 2025). Another gap in the existing literature is the lack of data on how social and cultural factors influence the implementation of the standards-based PE curriculum. Studies on how regional disparities in socioeconomic and cultural beliefs and practices affect PE teaching in Ghana are scarce. Furthermore, research regarding the impact of national education policies on the implementation of the standards-based PE curriculum is justified.

Therefore, the purpose of the present study was to examine Ghanaian classroom teachers' perspectives on implementing Ghana's standards-based physical education curriculum for primary schools. It investigated the implementation of the curriculum nationwide rather than in individualized settings. The following specific research questions underlined the study: 1) To what extent do classroom teachers meet the requirement to teach physical education lessons twice a week (30 minutes per period) or once a week for 60 minutes (RTPE)? 2) What are classroom teachers' perspectives on implementing the standards-based physical education curriculum for primary schools? 3) What factors predict the likelihood of classroom teachers meeting the requirement to teach physical education lessons twice a week (30 minutes per period) or once a week for 60 minutes?

Materials and methods

The study used a convergent mixed methods design. This design enabled participants to integrate their views into questionnaire data (Creswell & Creswell, 2023). Quantitative data were collected using a questionnaire, whereas qualitative data were gathered through semi-structured interviews.

Study participants

The participants were 1432 public primary school classroom teachers (Primary 1-6). The sample comprised 39.53% males and 60.47% females from 14 regions out of Ghana's 16 regions Figure 1. The distribution of educational levels in the sample was Post-Secondary Certificate A (2.65%), Diploma (10.47%), and Bachelor's (86.87%). The areas of certification for the teachers were early childhood education (6.91%) and primary education (93.09%). A total of 56106 students were enrolled in classes taught by the study participants. Following the Ghanaian Ministry of Local Government, Chieftaincy and Religious Affairs (2024), the regions were divided into two sectors: the Northern Sector and the Southern Sector. Regions in the Northern Sector included the Northern, North East, Oti, Savannah, Upper East, and Upper West regions. Those in the Southern Sector were the Ahafo, Ashanti, Bono, Bono East, Central, Eastern, Greater Accra, Volta, Western, and Western North regions. Out of these 16 regions, only Bono and Ahafo were not covered. The initial sample size was 1451, reduced to 1440 due to 11 observations with missing data. Out of the remaining 1440 participants, eight held a master's degree, but were deleted during data analysis, because several variables had zero in many cells during the analysis. The final sample size was 1432. The deleted data constituted 1.3% of the original dataset.

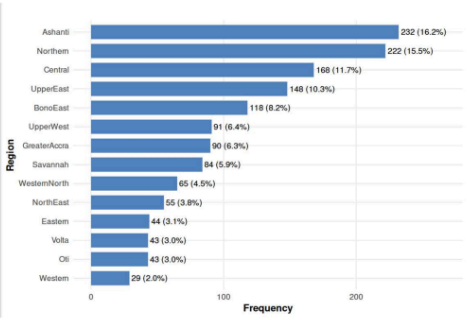

Figure 1. Distribution of teachers by region

Study organization

The multistage sampling technique was used to select the participants (Creswell & Creswell, 2023). First, we used the census technique to target public primary school teachers in all 16 administrative regions of Ghana. Second, we used purposive sampling to select districts, municipalities, and metropolises from each of the 16 regions. We sent letters to the Directors of Education in the purposively selected districts, municipalities, and metropolises requesting permission to conduct the study in their respective schools. In addition to requesting permission to conduct the study, we also requested that the Directors of Education notify teachers, through their headteachers, about the study—and that permission has been granted for the study to be conducted in their schools. We obtained permission from the purposively selected districts, municipalities, and metropolises across 14 regions; we did not receive responses from the Ahafo and Bono regions. Participants were informed in the consent form that participation was voluntary and that they could withdraw from the study at any time by not completing the form or by withdrawing from the interview without penalty. The researchers

did not collect any identifying information on the questionnaire. Respondents who were willing to participate in the interview provided their phone numbers on a separate consent form—which allowed the researchers to arrange interviews either in person or by phone. The data were analyzed and stored electronically on a password-protected computer in the Principal Investigator's office. In addition, data were reported as aggregated group data. The Institutional Review Board at Southeast Missouri State University in the United States approved the study. The study was conducted during the 2024/25 and 2025/26 school years.

The research team developed the Physical Education Curriculum Questionnaire (PECQ) and a semi-structured interview protocol drawing on literature on enacted curricula and the new (2019) standards-based Ghanaian physical education curriculum for primary schools. The PECQ consists of four parts. Parts I and II comprised 11 items on a 4-point Likert scale of 1 (*Strongly Disagree*) to 4 (*Strongly Agree*), and two items with binary responses of "*Yes*" and "*No*." Part III consists of a 5-point Likert scale of 0 (*Not Taught*) to 4 (*Taught Twice a Week*). Part IV collected data on participants' demographic information, such as certification, educational/professional qualification, participants' sex, teaching experience, number of girls in class, number of boys in class, total number of students in class (class size), school type (public or private), and location of the school (district and region). The PECQ (Cronbach's Alpha= .733) had seven subscales: teacher knowledge, support resources, policy, teacher education (training), professional development, and practice. The original version of the questionnaire was sent to three experienced teacher educators and researchers to establish content validity. Based on the experts' comments, we deleted one item and rephrased three others. The semi-structured interview guide centered on four themes: demographic information, teachers' knowledge of the standards-based physical education curriculum, teacher perceptions of their preparedness by their teacher education programs, and practice (how often teachers taught physical education lessons during the school year). Thirty-four semi-structured interviews were conducted face-to-face or by phone and audiotaped. The interviewers probed for clarification, allowing participants to elaborate. The researchers did not record identifying information during the interview. Any identifying information that was inadvertently recorded was redacted from the interview transcripts. The interviews lasted from 10 to 35 minutes.

Variables

The outcome (response) variable for the study was teachers' likelihood of meeting the requirement to teach physical education (RTPE) lessons twice a week (30 minutes per period) or once a week for 60 minutes. Predictors of the response variable included teacher knowledge, support, resources, policy, teacher education (training), professional development (workshop training), sex, teaching experience (number of years teaching the current class, number of boys in class, number of girls in class, total number of students in class (class size), and class taught (grade level). Integrative data analysis (Creswell & Creswell, 2023) was used to analyze both quantitative and qualitative data. First, we analyzed quantitative data using descriptive and inferential statistics. Second, we analyzed the qualitative data using thematic analysis. Third, we integrated the two types of data by first reporting the quantitative results and then comparing them with the qualitative results (Creswell & Creswell, 2023). Fourth, we conducted follow-up analyses of divergent findings.

Statistical analysis

Statistical analysis involved a combination of descriptive and inferential techniques to address the study objectives while respecting the data's level of measurement. Descriptive statistics were first used to summarize participant characteristics and key study variables. Frequencies and percentages were calculated for categorical variables, and quartiles were

reported to describe the distribution of ordinal responses from the questionnaire. Inferential analyses were subsequently conducted to examine relationships and group differences. Pearson's chi-squared tests were used to assess associations among categorical variables, including teachers' likelihood of meeting RTPE and selected demographic and contextual factors. When group comparisons involved ordinal outcomes and the assumptions of parametric testing were not met, the Wilcoxon rank sum test was used as a nonparametric alternative to the two-sample t-test. Binary logistic regression was used to identify significant predictors of RTPE. Pairwise associations among predictors were also examined to assess potential dependence among variables. Specifically, Cramér's V was used to measure the strength of association between categorical predictors, while Spearman's rank correlation was applied to evaluate relationships among numeric variables. In addition, multicollinearity was assessed using standardized Generalized Variance Inflation Factors (GVIF) to evaluate potential dependencies among the predictors included in the regression model. Model adequacy was further assessed using McFadden's pseudo-R^2 as a measure of goodness of fit. All statistical analyses were conducted using R version 4.3.0 in RStudio Pro 2025.05 (Build 513) (Posit Software, PBC, 2025).

Qualitative Analysis

Qualitative data were analyzed using thematic analysis. We independently read the interview transcripts to develop tentative themes. We met virtually to discuss and resolve any differences regarding the themes. We used member checks and auditing to establish trustworthiness (Creswell & Creswell, 2023).

Results

This section presents both quantitative and qualitative results, first reporting the quantitative results and then comparing them with the seven themes derived from the qualitative data. The seven themes were: non-teaching of PE, teacher knowledge, curriculum relevance, teacher education, lack of support, lack of monitoring and supervision, and continuous professional development.

Meeting the Requirement to Teach PE Lessons

Research Question 1 examined the extent to which classroom teachers taught physical education either twice a week (30 minutes per lesson) or once a week (60 minutes per period). Figure 2 presents data on the frequencies and percentages of classroom teachers who met the requirement to teach physical education. The results indicated that most of the teachers did not teach the subject as required. The data showed that slightly over one-fifth of the teachers taught physical education as required (RTPE), while approximately 10% of them did not teach the subject during the school year.

The quantitative finding that most participants did not teach PE as required was confirmed by the qualitative data in this study the theme of non-teaching of PE. As one teacher recounted, "It's been five years since I taught it [PE]" (P6 teacher; 12 years' experience). Another teacher stated, "It [PE] is on the timetable. It is what we should do, but it isn't practiced" (P1 teacher; 2 years' experience).

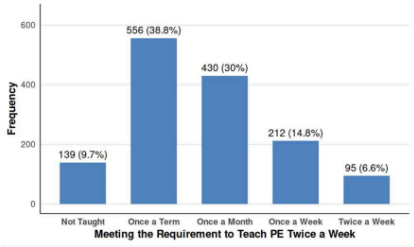

Figure 2. Meeting the requirement to teach PE

Figure 3 presents a boxplot of the number of students enrolled in classes taught by teachers who met the PE teaching requirement and those who did not. The data showed that of the 56,106 students represented in the study, 12,329 (22%) were enrolled in classes taught by teachers who met the requirement, whereas 43,777 (78%) were enrolled in classes taught by teachers who did not. The distribution of class sizes in both groups is right-skewed, indicating that while most classes had moderate enrollments, a small number had relatively large enrollments.

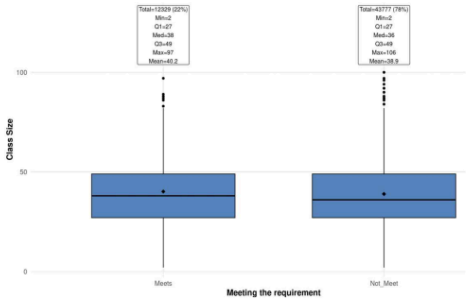

Figure 3. Enrollment in classes Meeting the Requirement to Teach PE

Classroom Teachers' Perspectives of the Physical Education Curriculum

Research Question 2 examined classroom teachers' perspectives on the standards-based physical education curriculum. Table 1 shows the frequencies and percentages of teachers' perspectives on the physical education curriculum. Most teachers agreed or strongly agreed that physical education specialists, rather than classroom teachers, should be responsible for teaching primary school PE. Alternatively, less than half of the participants indicated they were familiar with the PE content standards, curriculum strands, and the curriculum. Moreover, most of them indicated that they received support in teaching the subject from their school administrators and from Ghana Education Service (GES) officials. Furthermore, the majority reported having adequate physical education teaching resources in their schools.

Table 1 further presents data on the frequencies and percentages of teachers' perspectives on their preparedness (teacher education) to teach physical education. Slightly

over one-third of the teachers reported that their teacher education programs adequately prepared them to teach the primary PE content areas of motor skills, physical fitness, and sport and games. Even though they were not adequately prepared to teach the subject, most teachers reported being well prepared to integrate music and dance into their physical education lessons. This finding may be due to the emphasis on the integrated thematic teaching approach in basic education (NaCCA, 2019).

The qualitative theme, teacher knowledge, confirmed the quantitative finding that the classroom teachers lacked familiarity with the PE content standards, strands, and curriculum. For example, a participant recounted, "I don't know much about the primary PE curriculum. I am not familiar with the content of the new PE curriculum" (P3 teacher; 3 years' experience). Another stated, "I am not familiar with the strands" (P4 teacher; 2 years' experience). Still, another teacher explained why the subject is not taught, "You know PE is a scientific subject and we need resource personnel, because some of the technical terms are difficult" (P1 teacher; 15 years' experience).

The classroom teachers' perceptions of inadequate preparation for teaching PE were confirmed by the qualitative results in this study. One major theme, teacher education, revealed that their teacher education programs did not adequately prepare them to teach PE. One teacher stated, "Colleges of education and universities that train PE teachers for primary schools should align their programs to the primary school [PE] curriculum" (P4 teacher; 2 years' experience). Another participant added, "We needed more knowledge of teaching motor skills" (P 6 teacher; 12 years' experience). Due to their perceived lack of preparedness to teach PE, the classroom teachers in this study suggested that specialist PE teachers be made responsible for primary school PE. A participant indicated, "The right teacher or personnel should be trained to teach PE in primary schools; that is, PE specialists" (P 6 teacher; 12 years' experience).

There were divergent findings regarding the support classroom teachers received from their school administrators and from GES in teaching PE. While the descriptive quantitative data indicated that the teachers received adequate support, the qualitative results showed a lack of support from school administrators and GES officials. As one teacher responded to the question of support, "No, I don't get support from my school administration or from GES" (PE 6 teacher; 12 years' experience). Another teacher explained, "When the supervisors come, and you tell them you are going to the field to teach PE, they prevent you. It seems PE is not a subject that is valued" (P2 teacher; 2 years' experience). Due to the divergence, a follow-up analysis was conducted using the Wilcoxon rank sum test (see Appendix A). The follow-up analysis indicated that support was not a significant variable in classroom teachers' likelihood of teaching PE as required.

Table 1. Teachers' Perspectives of the PE Curriculum

	Statement	Agree/Strongly Agree N/%
	TEACHER KNOWLEDGE	
1	I am familiar with Ghana's new (2019) primary school (B1-B6) physical education curriculum.	679(47.42%)
2	I am familiar with the content standards (pre-determined level of knowledge and skills to be learned) for the new (2019) primary school (B1-B6) physical education curriculum,	604(42.18%)
3	I am familiar with the strands (broad areas/sections of the curriculum) for the new (2019) primary school (B1-B6) physical education curriculum,	620(43.30%)

	SUPPORT	
4	I get support from my school administration in teaching physical education.	864(60.34%)
5	I get support from Ghana Education Service (GES) officials in teaching physical education.	784(54.75%)
	RESOURCES	
6	I have adequate teaching resources needed to teach physical education.	799(55.80%)
	POLICY	
7	Trained physical education specialists should be made to teach the new (2019) physical education curriculum for primary schools, while classroom teachers should be responsible for teaching regular classroom subjects.	865(60.41%)
	TEACHER EDUCATION (TRAINING)	
	My university/college of education teacher education program prepared me well enough to teach the following physical education content:	
8	Motor (physical) skills and movement patterns (activities).	571(39.87%)
9	Physical fitness.	499(34.85%)
10	Sports and games activities.	522(36.45%)
11	Integrate music and dance into my physical education lessons.	1045(72.97%)

Table 2 presents data on the frequencies and percentages of teachers' responses to having PE as a subject on their class timetable and their participation in professional development. The results showed that most teachers indicated that PE was on their class timetables. Conversely, most of them did not attend workshops to be trained to teach the standards-based PE curriculum.

The qualitative theme of a lack of continuous professional development confirmed the quantitative result in this study, showing that only approximately one-third of participants received training to teach the new standards-based PE curriculum. A P3 teacher with 8 years' experience stated, "In fact, teachers in this school have never had training or workshop on the entire new [primary school] curriculum, including PE. So, I cannot teach the subject since I am not a [PE] specialist." Many of the participants suggested that regular workshops would help them teach the subject. As one teacher narrated, "The best way to improve the teaching of PE in primary schools is to organize frequent workshops for classroom teachers on the content and pedagogy. This will help teachers start teaching PE" (P6 teacher; 5 years' experience).

Table 2. Teachers' Responses to the Class Timetable and Professional Development

Question	Yes	No
1. Do you have physical education (PE) as a subject on your class timetable?	975(68.09%)	457(31.91%)
2. Did you attend a workshop (to be trained) on the new (2019) primary school (B1-B6) physical education (PE) curriculum?	462 (32.26%)	970(67.74%)

It is worth noting that two themes from the qualitative data were not addressed by the quantitative data collection instrument (PECQ). The themes were curriculum relevance and lack of monitoring and supervision.

Curriculum Relevance

The recurring theme of curriculum relevancy demonstrated the importance of the physical education curriculum to classroom teachers. The reasons for this were its practicality, learner-centeredness, and its potential to develop social skills. As one participant recounted, "The new curriculum is far better than the old one, with a lot of emphasis placed on the practicality of the lesson. It allows learners to explore" (P5 teacher; 7 years' experience). Another teacher stated, "I like the new curriculum because it focuses on learner involvement in classroom activities" (P1 teacher; 3 years' experience). Addressing the social benefits of the subject, a P4 teacher with 10 years' experience shared, "It [PE] will also help them to develop their social skills and become responsible citizens." This finding is consistent with previous research, reporting that school administrators appreciated the educational value of physical education, such as promoting students' wellbeing and personal growth (Roux, 2020; Tsuk et al., 2026).

Lack of Monitoring and Supervision

Regular monitoring and supervision are crucial to ensuring the effective implementation of the curriculum. Participants' responses suggest that this was a barrier to their teaching PE. As a participant recounted, "The headteacher and officers from the district offices come to monitor and supervise our teaching, even with PE technical personnel, but they don't talk about PE. Because of that, I don't bother myself to teach what is not valued" (P2 teacher; 3 years' experience). Another participant expressed similar views by stating, "There should be regular monitoring and supervision of the teaching of PE by the national, regional, and district PE coordinators. They should ensure that PE is taught in primary schools" (P3 teacher; 4 years' experience). When they visit schools, GES officials focus on classroom subjects at the expense of PE. This quote exemplifies teachers' views on the issue: "From the district level or regional level, no one comes to find out whether you are doing it or not. They are concerned about English, Math, and Science education" (P1 teacher; 2 years' experience).

Factors that Predict Classroom Teachers Meeting the Requirement to Teach PE Lessons

The third research question investigated the factors that predicted the likelihood that classroom teachers would meet the requirement to teach physical education lessons twice a week (30 minutes per period) or once a week for 60 minutes. To determine this, we used Wilcoxon rank sum tests (see Appendix A) and Pearson's chi-squared tests (see Appendix B) to identify predictor variables significantly associated with the response variable (RTPE). The Wilcoxon rank sum tests showed that teacher knowledge, teacher education, resources, policy, teaching experience, and the number of years teaching their current class were significantly associated with the response variable. The following variables did not show significant associations: support and class size. Similarly, Pearson's chi-squared test results indicated that certification, workshop, region, sex, and timetable were positively associated with the response variable. Alternatively, class (grade level) was not significant. Only variables that showed significant associations from the Wilcoxon rank sum tests and Pearson's chi-squared tests were considered as potential predictors in fitting the binary logistic regression model. Pairwise associations among the categorical predictors were generally weak. Based on Cramér's V, only Workshop and Timetable showed a small association (Cramér's V = 0.10), while the remaining categorical predictors showed minor associations (see Appendix C). Normality tests implied that none of the numeric predictors followed a normal distribution (Shapiro–Wilk test, $p <$

0.05). As a result, Spearman's rank correlations were generally modest, with the largest observed between Resources and Years Teaching Current Class ($\rho \approx 0.36$) and Resources and Teaching Experience ($\rho \approx 0.30$). Given the relatively small magnitude of these associations, all predictors were retained for inclusion in the logistic regression model. Detailed correlation matrices and test results are provided in Appendices C to F.

Figure 4 presents the results of the fitted binary logistic regression model. The results include the estimated odds ratios and their corresponding 95% confidence intervals. Predictors with odds ratios and 95% confidence bands to the left of the vertical line (negative or decreasing odds) are statistically significant at the 0.05 level. Similarly, those to the right of the line (positive or increasing odds) are statistically significant at the 0.05 level. However, for those odds ratios whose 95% confidence bands cross the vertical line are not statistically significant at the 0.05 level. The results showed that the number of years teaching current class, teacher education (training), teaching experience, sex, resources, region, policy, and teacher knowledge, and certification were significant predictors of meeting the requirement to teach physical education twice a week (for 30 minutes per period) or once a week for 60 minutes. Variables that were not significant predictors included workshop and timetable.

The classroom teachers had 6% higher odds of meeting the requirement for each additional year they taught their current cla Teachers who perceived themselves as well-trained to teach physical education had 75% higher odds of meeting the requirement than their counterparts who felt less prepared. In addition, teachers had 2% higher odds of meeting the requirement with an increase in one year of teaching (teaching experience). Additionally, male teachers had a 40% higher odds of meeting the requirement than female teachers. Furthermore, teachers in the northern sector had 69% higher odds of teaching physical education as required than their counterparts in the southern sector. The data showed a 39% higher odds of teachers meeting the requirement if physical education specialists, rather than classroom teachers, were responsible for teaching the subject (policy). Additionally, the results indicated that a one-unit increase in teacher knowledge would be associated with 59% higher odds of meeting the requirement to teach physical education. Regarding certification, the results indicated that teachers with primary education certification had 51% lower odds of meeting the requirement to teach physical education than their counterparts with early childhood certification.

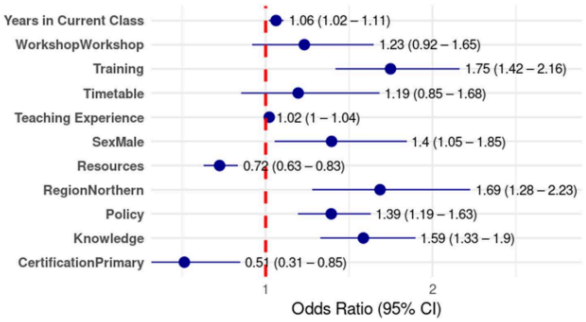

Figure 4. Fitted Binary Logistic Regression Model

Discussion

The study investigated classroom teachers' perspectives on Ghana's physical education curriculum for primary schools. The descriptive data indicated that few teachers in the present study met the requirement to teach PE twice a week (30 minutes per lesson) or once a week for 60 minutes. One plausible reason for the non-teaching of PE is that many Ghanaian parents view education as the primary path to upward social mobility (Kabay et al., 2017) and therefore prioritize examinable subjects over PE. Consequently, some classroom teachers cancel PE lessons and use the periods for classroom subjects perceived as more important (Donkor et al., 2023), due to the high level of accountability for examinable subjects (Donkor, 2021). The consequence of slightly over one-fifth of the teachers in the present study not teaching PE lessons as required was that over four-quarters of the students enrolled in their classes did not get the full benefits of PE. To the best of our knowledge, this is the first study to report on the number of students enrolled in classes that fail to meet the requirements for teaching PE. As noted by Lunga et al. (2022), physical play promotes children's holistic development through motor skills and active learning strategies. Furthermore, physically active individuals are more likely to reduce national healthcare expenditure (NaCCA, 2019).

Most teachers agreed or strongly agreed that PE specialists should be responsible for teaching primary PE, while classroom teachers focus on classroom subjects, consistent with the findings by Truelove et al. (2019). In addition, most of the teachers in the current study agreed or strongly agreed that they were unaware of the new (standards-based) PE curriculum, PE content standards, or PE strands (key topics). This finding is consistent with a NaCCA (2022) fidelity report that teachers had inadequate knowledge of the standards-based curriculum, three years after its implementation. Certainly, teachers' understanding of a new curriculum is critical in its effective implementation (Kim, 2021).

Approximately two-thirds of the teachers in the present study reported that their teacher education programs did not adequately prepare them to teach PE content, including motor skills, physical fitness, and sports and games key topics in the physical education curriculum. Teacher perceptions of professional preparedness are important, as research shows that perceptions of adequate teacher preparation are positively associated with the frequency with which they teach PE (Donkor, 2021). The courses that prepare classroom teachers to teach physical education focus on physical activity, sports, music, dance, and document analysis. However, physical activity and sports are not comparable to physical education. Physical activity is a behavior, whereas physical education is a school curriculum that educates children to be physically active (Graham et al., 2025).

There are two possible reasons for the divergent findings on support as a factor in teaching PE. First, the questionnaire responses could reflect teachers' views of expectations, whereas the qualitative responses indicated what the teachers experienced teaching PE. Second, the qualitative data allowed the teachers to explain that the support they received was not specific to PE. Educational leaders play an important role in assisting teachers to make the transition to a standards-based curriculum. However, teachers in the present study seem not to have received the necessary support in teaching PE. This finding is consistent with Frempong (2023), who reported a lack of administrative support as a barrier to effective implementation of PE.

Over two-thirds of the teachers in the present study did not attend a workshop to be trained to teach the new standards-based PE curriculum. This finding is supported by NaCCA's (2022) report, which found that some teachers and headteachers did not receive training on the standards-based curriculum. Research shows that only one-fifth of primary school teachers attended PE workshops upon graduating from their teacher education programs (Donkor et al., 2023). In summary, the lack of training before and after the implementation of the standards-based curriculum was a major barrier to its implementation (Takyi et al., 2025).

The fitted binary logistics regression results indicated that the number of years teaching current class, training (teacher education), sex, resources, region, policy, teacher knowledge, and certification were significant predictors are consistent with the descriptive data in the current study—that a majority of the teachers were not familiar with the standards-based curriculum, that their teacher education programs did not prepare them well to teach physical education, and that physical education specialists rather than classroom teachers should be responsible for teaching primary school physical education. Regarding certification, one possible reason is that early childhood education programs emphasize the holistic development of the child, including motor development and play-based pedagogy (NaCCA, 2019) more than those with primary education certification.

Apau (2021) reported that teaching experience was a significant predictor of teachers' implementation of the standards-based curriculum, consistent with the present study. However, in the present study, the number of years teaching the current class was a significant predictor of teaching PE, whereas the overall teaching experience was not. One plausible reason is that overall teaching experience may not be sensitive to the specific content taught to a particular group of students, underscoring the importance of pedagogical content knowledge (Kim, 2021).

The likelihood that male classroom teachers had higher odds than their female counterparts of teaching PE as required can be attributed to gender stereotyping, the mixing of PE with sports and games (the sport-oriented nature of PE), and physical education teacher education (PETE). In a study by Donkor and Hormenu (2021), 42% of participants identified gender-stereotyping as a barrier to teaching primary school PE. Another possible reason could be the sport-oriented nature of PE despite the comprehensive nature of the primary school PE curriculum (NaCCA, 2019). Considering that sports in the country are male-dominated, male teachers would be more inclined than female teachers to teach PE. Furthermore, this finding can be attributed to PETE in the country's universities and colleges of education. PETE programs at the universities focus on preparing specialist PE teachers for secondary schools. The college of education curricula that prepare classroom teachers to teach PE are not aligned with the primary school standards-based PE curriculum (Sofo & Asola, 2023). Consequently, male teachers, due to their sports-coaching backgrounds, would be more likely to teach PE.

Regarding regional differences, a higher percentage of teachers in the northern sector than in the southern sector met PE teaching requirements. This could be due to cultural and environmental differences in the northern and southern parts of the country. One possible reason is that teachers in the northern sector might be influenced by the outdoor-friendly communities there and become more open to teaching the subject. Another possible reason is the availability of open spaces for physical play in the northern sector, which is mostly savannah grassland, whereas the south is mostly rainforest or coastal savannah.

Variables that were not significant predictors included the timetable and the workshop. The lack of a significant relationship between timetable and RTPE is consistent with previous studies. Research shows that having PE on the school timetable does not mean that teachers teach the subject, due to the emphasis on examinable subjects. It is not uncommon for some classroom teachers to use the PE period to teach other subjects (Daniel et al., 2022; Donkor et al., 2023). Conversely, the finding that workshop (professional development) was not a significant predictor of RTPE contradicts previous research. Donkor and Domfeh (2024) emphasized the role of continuous professional development in effective PE teaching. Apau's (2021) finding on the implementation of the standards-based curriculum in the Effutu Municipality of the Central Region, Ghana, aligns with the present study's finding that qualification was not a significant predictor.

Resource as a variable was a significant predictor of RTPE. However, teachers who reported having adequate resources had lower odds of meeting the PE teaching requirement. This finding was surprising, as previous studies found that a lack of resources was a barrier to

teaching PE (Danquah & Poku, 2024; Frempong, 2023). A plausible reason for this finding is that teachers may have adequate resources for regular classroom subjects that may not be appropriate for PE. We recommend that future research design items on PE-specific resources.

Limitations of the study

The findings of this study should be interpreted with caution due to three main limitations. First, the use of the purposive sampling technique is a major limitation of the study. We recommend that future researchers use probability sampling to enhance the generalizability of their findings. Second, the study used a self-report questionnaire, which relied on recall. There may be several interpretations of concepts, or respondents may provide socially appealing responses. We recommend that future researchers provide operational definitions for terms to ensure clarity. Third, two themes from the qualitative data in this study curriculum relevance and lack of monitoring and supervision—were not addressed by the quantitative data collection instrument. Future research using a convergent mixed method design should employ identical questions across the quantitative and qualitative data-collection tools (Creswell & Creswell, 2023). Despite these limitations, the study offers new insights into classroom teachers' perspectives on the implementation of Ghana's primary school physical education curriculum.

Conclusions

The main findings of the present study revealed that very few of the classroom teachers met the requirement to teach PE twice a week (30 minutes per period) or once a week for 60 minutes, and that most teachers were not familiar with the standards-based primary school physical education curriculum. Most of the participants reported that their teacher education programs did not adequately prepare them to teach key physical education content. Other challenges to teaching physical education included a lack of support, inadequate supervision, and inadequate continuous professional development opportunities. This study adds to the knowledge base on classroom teachers' lack of preparedness to teach physical education and the need for specialist-led instruction in primary school physical education. It also provides evidence on the number of students enrolled in classes that do not teach physical education as required. School physical education can play an active role in preventing activity-related diseases by fostering lifelong physical activity among students, thereby helping to lower the nation's healthcare costs (Duijvestijn et al., 2023). Exploring physical education outcomes among students in schools that meet the physical education requirement and those that do not would be useful. The study highlights the need for policymakers to redefine the primary school PE curriculum to align with the nation's social and cultural contexts.

Recommendations

The main findings from the present study were: very few teachers met the requirement to teach PE twice a week; most teachers were not familiar with the PE curriculum; most reported that their teacher education programs did not prepare them well to teach key PE content; lack of support; and inadequate supervision and professional development. This study adds to the knowledge (evidence) of classroom teachers' lack of preparedness to teach physical education and the need for specialist-led instruction for primary school physical education. Therefore, we recommend the following: a. PE specialist-led instruction, b. Extracurricular sports activities, c. Teacher education, d. Monitoring and supervision, and Professional development.

Physical education specialists-led instruction

We recommend restructuring the delivery of PE instruction in primary schools, from generalist classroom teachers to physical education specialists. Research by Truelove et al.

(2019), for example, recommended that qualified physical education specialists be responsible for teaching the subject, as their self-efficacy is significantly higher than that of classroom teachers. Generalist classroom teachers may be able to integrate physical education into music and dance, but are not adequately prepared to provide the in-depth instruction required by the PE curriculum. Most teachers in the current study indicated that their universities or colleges of education did not adequately prepare them to teach motor skills, physical fitness, and sports and games. In another study, a sample of primary school teachers perceived themselves as less competent in physical education than in their classroom subjects (Milić et al., 2022). Moreover, a physical education specialist-led instruction policy in primary schools will reduce the teaching load for classroom teachers, which negatively impacts the implementation of the overall school curriculum.

Extracurricular sports activities

We recommend a structured extracurricular sports program as part of the school curriculum to complement physical education lessons. Regular participation in extracurricular sports activities can promote motor skill development and improve physical education outcomes (García-Hermoso et al., 2020). The current sports architecture in Ghana is elitist, as only children from affluent families can pay to train and participate in competitive sports the organization and management of sports are still western-based (Bitugu & Luguterah, 2022). There is a positive correlation between extracurricular sports and physical activity among elementary school children (Wang et al., 2023). This recommendation is consistent with findings that mastery of motor skills and interest in sports can promote student engagement in physical education activities, cognitive development, and important life skills such as teamwork and decision-making (Zarazaga-Peláez et al., 2024).

Teacher education

The courses in the universities and colleges of education that prepare generalist classroom teachers to teach PE are not aligned with the standards-based primary school PE curriculum; they focus on physical activity, sports, music, dance, and document analysis. Physical activity and physical education are not one and the same (Graham et al., 2025). We recommend that classroom teacher trainees receive training in the requisite PE content and methodology to teach young children. Moreover, primary school PE is a practical subject, but teacher education at colleges of education often focuses on theory (Sofo & Asola, 2023).

Monitoring, supervision, and training

Monitoring, supervision, and continuous professional development are essential to the successful implementation of the standards-based PE curriculum. NaCCA (2022) identified teachers' lack of knowledge of pedagogical and assessment strategies as a major challenge to implementing the standards-based curriculum. In addition, lack of training is a teacher-related barrier to teaching PE in primary schools (Donkor & Hormenu, 2021). Therefore, we recommend that the GES enforce supervision of PE teaching like other subjects (Daniel et al., 2022). In this regard, there is a need to hold School Improvement and Support Officers accountable for supervising and training teachers (NaCCA, 2022).

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Conflict of interest

The authors declare no conflict of interest.

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APPENDICES

Appendix A. Bivariate Data for Numerical Variables

Variable	Not Meet (N=1,125	Meets (N=307)	p-value
Knowledge	2.67 (2.07, 3.33)	3.07 (2.63, 3.58)	0.0000
Support	3.15 (2.50, 3.72)	3.05 (2.39, 3.70)	0.4589
Resources	3.00 (2.00, 3.00)	2.00 (1.00, 3.00)	0.0072
Policy	3.00 (2.00, 3.00)	3.00 (3.00, 4.00)	0.0000
Training-Teacher Education	2.82 (2.34, 3.25)	3.14 (2.72, 3.60)	0.0000
Teaching Experience	7 (4, 14)	10 (5, 18)	0.0000
Years Teaching Current Class	3.0 (1.0, 5.0)	3.0 (2.0, 7.0)	0.0000
Class Size	36 (27, 49)	38 (27, 50)	0.1169

n (%); Median (Q1, Q3); Wilcoxon Rank Sum Test

Appendix B. Bivariate Data for Categorical Variables

Variable	Not Meet (N=1125)	Meets (N=307)	p-value
Certification			0.0160
Early Childhood	68 (6.0%)	31 (10%)	
Primary	1,057 (94%)	276 (90%)	

Workshop			0.0005
No Workshop	793 (70%)	177 (58%)	
Workshop	332 (30%)	130 (42%)	
Region			0.0005
Southern	652 (58%)	137 (45%)	
Northern	473 (42%)	170 (55%)	
Qualification			0.0660
Certificate/Diploma	138 (12%)	50 (16%)	
Bachelor	987 (88%)	257 (84%)	
Class (Grade Level)			0.7071
Lower Primary	592 (53%)	166 (54%)	
Upper Primary	533 (47%)	141 (46%)	
Sex			0.0410
Female	696 (62%)	170 (55%)	
Male	429 (38%)	137 (45%)	
Timetable			0.0215
No	377 (34%)	80 (26%)	
Yes	748 (66%)	227 (74%)	

Appendix C. Cramér's V Matrix for Categorical Predictors

Variable	**Timetable**	**Sex**	**Certification**	**Workshop**	**Region**
Timetable	1.0000	0.0081	0.0083	0.1008	0.0277
Sex	0.0081	1.0000	0.0345	0.0409	0.0234
Certification	0.0083	0.0345	1.0000	0.0651	0.0468

Variable	Timetable	Sex	Certification	Workshop	Region
Workshop	0.10089	0.040	0.0651	1.00004	0.076
Region	0.02774	0.023	0.0468	0.0764	1.000

Note: Cramér's V values: 0.00–0.10: small association; 0.10–0.30: weak association; 0.30–0.50: moderate association; > 0.50: strong association.

Appendix D. Shapiro–Wilk Normality Test for Numeric Predictors

Variable	p-value
Knowledge	0.000
Resources	0.000
Policy	0.000
Training	0.020
Teaching Experience	0.000
Years Teaching Current Class	0.00

Note: Statistical tests were run at a significance level of 0.05.

Appendix E. Spearman Rank Correlation Matrix

Variable	Knowledge	Resources	Policy	Training	Teaching Experience	Years Teaching Current Class
Knowledge	—	0.000	0.000	0.00	0.11	0.0295
Resources	0.0000	—	0.008	0.00	0.29	0.3600
Policy	0.0000	0.000	—	0.00	0.07	0.1968

Variable	Knowledge	Resources	Policy	Training	Teaching Experience	Years Teaching Current Class
Training	0.00000	0.000000	0.0	—	0.0357	0.0309
Teaching Experience	0.11650	0.296774	0.057	0.03	—	0.0000
Years Teaching Current Class	0.02950	0.360968	0.109	0.0300	0.00	—

Note: Spearman's rank correlation: 0.00–0.19: very weak association; 0.20–0.39: weak association; 0.40–0.59: moderate association; 0.60–0.79: strong association; 0.80–1.00: very strong association.

Appendix F. Standardized GVIF for Multicollinearity Diagnostics

Predictor	Standardized GVIF
Timetable	1.2360
Sex	1.0410
Certification	1.0220
Workshop	1.1000
Region	1.0340
Knowledge	1.1260
Resources	1.1440
Policy	1.1710
Training	1.1060
Teaching Experience	1.2000

Predictor	Standardized GVIF
Years Teaching Current Class	1.2240

Note: Values represent standardized Generalized Variance Inflation Factors (GVIF). Standardized GVIF values close to 1 indicate no multicollinearity; values between 1 and 5 suggest low to moderate multicollinearity and are generally acceptable; values greater than 5 indicate potentially problematic multicollinearity, and values above 10 suggest serious multicollinearity concerns.

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