

Application and Barriers to Play-Based Learning: Perspectives of Higher Education Tutors and Lecturers in Ghana

Frank Twum 

Department of Special Education, University of Education, Winneba, P.O. Box 25 Winneba, Ghana.

Corresponding author: ftwum@uew.edu.gh

DOI: <https://doi.org/10.62154/qjhcer.2025.019.01015>

Abstract

This study assessed the relationship between selected demographic characteristics and application of play-based learning by tutors/lecturers as well as inhibitory factors militating against the use of play-based learning. Utilizing a concurrent nested design, 90 tutors/lecturers (68 males; 22 females) completed the quantitative phase while 16 tutors (12 males; 4 females) who were initially involved in the quantitative phase completed the qualitative phase. The study established that there was no statistically significant relationship between sex of tutors/lecturers and items related to the application of play-based learning. Again, there was no statistically significant relationship between level of experience of tutors/lecturers and items related to the application of play-based learning. However, while there was no statistically significant difference between tutors'/lecturers' institution (college or university) and the majority of the items related to the application of play-based learning, there was a statistically significant relationship between tutors'/lecturers' institution and the specific item related to the use of play-based learning throughout the lesson delivery. Specifically, tutors in the colleges of education were likely to apply play-based learning throughout their lesson delivery compared to lectures at the university. Comparative thematic analysis between lecturers' and tutors' narratives revealed a possible reason for the aforementioned finding, which is the relatively larger class sizes lecturers have to manage at the university level. Beyond dealing with large class sizes, other inhibitory factors militating against the application of play-based recounted by tutors/lecturers included limited resources, time allocation challenges, and classroom space constraints. In light of these findings, it is recommended that faculty development programmes incorporate play-based learning modules, and that institutions provide adequate instructional materials, assistive technologies, and adopt group-based strategies to support implementation in large classes, thereby promoting inclusive education.

Keywords: Play-Based Learning, Tutors and Lecturers, Higher Education, Inclusive Education, Ghana.

Introduction

The Sustainable Development Goals, such as goals 4, 5, 8, 10 and 13 are reflective of the thinking that the quality of education should encompass knowledge and skills for sustainable development global citizenship, and should be underpinned by inclusive practices (United Nations, 2016). Consistently, global standards and outcomes related to education are embracing holistic and transversal skills (ACER, 2021). This has led to overloaded curricula, increasing the pressure on teachers to deliver (OECD, 2020). As a

result, LEGO Foundation (2019) recommends that educational systems ought to apply integrated pedagogic approaches which are proven to be more efficient in enhancing both holistic skills and content knowledge. The Foundation views integrated pedagogical approaches as those that combine different levels of teacher and child-directedness, and value the development of a breadth of skills and knowledge (LEGO Foundation, 2019). Play-based learning is widely viewed as an integrated pedagogic approach (Pyle & Danniels, 2017).

Play-based learning, as the name suggests, involves learning while at play (Danniels & Pyle, 2023). Globally, play-based learning is a recognized pedagogical approach that encompasses active learning, collaboration, and critical thinking as means of solving real-world problems (Tan, 2021). Several studies have shown that play-oriented activities including storytelling, role-playing, and interactive games tend to enhance language acquisition, vocabulary development, and early reading skills (Bubikova-Moan et al. 2019; Weisberg et al., 2013). Again, play-based activities such as block building and puzzle-solving are designed to encourage learners to explore mathematical concepts, patterns and spatial orientation in authentic contexts. In buttressing the effect of play-based learning on learning numeracy, Fisher et al. (2013) highlighted that children engaged in guided play demonstrated improved counting skills as well as a greater understanding of geometric shapes compared to their peers receiving direct instruction. Learners involved in play-based learning have the opportunity to experiment, make decisions, and adapt that tends to improve their critical thinking as well as problem-solving abilities (Zosh et al., 2018). Play-based learning is also documented to enhance social-emotional skills in learners. These skills include collaboration, empathy, and self-regulation, which are integral to academic success (Outpace Academy, 2023).

Despite global interest in play-based learning and its documented benefits across early childhood and primary education, there is a notable lack of empirical research examining its adoption within Ghanaian higher education, particularly in teacher education institutions. While national policies such as the Inclusive Education Policy (2015) and the Standards-Based Curriculum (2019) emphasize learner-centered pedagogies, little is known about how tutors and lecturers in these institutions engage with play-based learning in practice. This gap is especially significant given the pivotal role these educators play in shaping pre-service teachers' pedagogical orientations. Therefore, this study seeks to explore how demographic and institutional factors influence the adoption of play-based learning among tutors and lecturers in Ghana, and to identify barriers that may hinder its effective implementation.

The factors that tend to influence the adoption and use of play-based learning by educators include teaching context, educational philosophy as well as institutional support. With respect to teaching context, the adoption and use of play-based learning is less common among lecturers and tutors in higher education. Factors accounting for the lower rate of adoption and use of play-based learning among lecturers and tutors include rigid curricula, large class sizes, and a lack of resources or training to implement play-based learning

effectively (Parsons & Taylor, 2011). Also, adapting playful methodologies to older learners may be challenging (Parker et al., 2019). On the contrary, educators involved in early childhood and primary education tend to apply play-based learning on a consistent basis. The adoption and use of play-based learning by educators involved early childhood and primary education, is also influenced by its alignment with developmental theories (Paananen et al., 2019).

There is paucity of research focusing on the relationship between sex and the adoption of play-based learning. However, research points to a possibility of sex-related differences influencing the adoption of play-based learning. Compared to male teachers, female teachers, due to their perceived nurturing teaching styles are more likely to apply play-based learning (Baker-Doyle, 2018). Again, a study by Hegde and Cassidy (2009) observed that female educators tend to emphasize core elements of play-based learning such as relationship-building and creativity during teaching. While some male educators tend to gravitate towards play-based learning, majority of them tend to gravitate toward more traditional, lecture-based methods (Marra et al., 2009).

The adoption and use of play-based learning is thought to have a relationship with the level of experience of educators. Relatively newer educators tend to have limited application of innovative pedagogical strategies, including play-based learning. They are more likely to apply direct, teacher-centred pedagogies due to limited experience and lack of exposure to innovative pedagogies. On the contrary, experienced educators are more inclined to apply play-based learning in the delivery of their lessons. Weisberg et al. (2016) established that educators with over five years of teaching experience were more receptive and likely to apply play-based learning in delivering content to learners.

The adoption and use of play-based learning may be influenced by institutional context. Colleges of education tend to focus on teacher preparation and tend to emphasize innovative teaching pedagogies including play-based learning. Pre-service teachers trained in such environments are often exposed to the theoretical and practical foundations of play-based learning. Thus, making them more inclined to adopt it in their professional practice (Paananen et al., 2019). The adoption and use of play-based learning by educators in universities varies widely depending on the discipline and institutional priorities. Faculties of education may lean towards play-based learning as a result of their focus on innovative methodologies in education. Rigid curricula, large class sizes, and limited professional development opportunities for faculty tend to limit play-based learning methodologies in most universities (Nicolopoulou, 2010).

In Ghana, traditional teacher-centered approaches to teaching and learning tend to dominate. This has the potential to marginalize learners with varied abilities and disabilities. On the other hand, an integrative pedagogic approach, such as play-based learning has the potential to promote and develop creativity, collaboration, and engagement. Thus, creating opportunities for all learners to participate in the learning process. By examining the potential factors that could influence the adoption of play-based learning within the Ghanaian teacher education context, this study has the potential to

unearth challenges and opportunities to enhance play-based learning as well as inclusive teaching practices. Ghana's Inclusive Education Policy underscores the need for teaching strategies that support diverse learners, including those with disabilities (Ministry of Education, 2015). Through the provision of flexible approaches that accommodate individual learning needs, play-based learning is consistent with the aforementioned goal. Furthermore, while research on play-based learning is extensive globally, there is limited evidence on its adoption in Ghanaian higher education institutions, particularly teacher education institutions. This study offering insights into factors such as sex, experience, and institutional context that influence play-based learning adoption. Thus, contributing to bridging the gap on factors related to the adoption of play-based learning in Ghana while promoting effective learning as well as inclusive practices.

This current study is aimed at addressing the following research objectives:

1. Examine the relationship between selected demographic characteristics (sex, teaching experience, and institutional affiliation) and the application of play-based learning among tutors and lecturers in Ghana.
2. Identify institutional and contextual barriers that inhibit the use of play-based learning in teacher education institutions.
3. Compare the application of play-based learning between tutors in colleges of education and lecturers in universities.

Materials and Methods

Study Design

This study applied a concurrent nested mixed-method design. The study design was necessitated by the need to address its dual objectives: identifying the categories of educators inclined toward play-based learning and exploring the reasons behind their adoption or non-adoption of play-based learning. The concurrent nested mixed-method design has the advantage of integrating both qualitative and quantitative data in the same study without priority to the order of data collection. Thus, this design leverages the strengths of both approaches to provide a comprehensive understanding of the potential variables that could influence the adoption of play-based learning as well as the reasons educators for adopting play-based learning or otherwise. The primary strand in this current study is the quantitative approach and seeks to identify patterns in the adoption of play-based learning among educators based on variables such as sex, levels of experience, and institutional affiliation. The qualitative approach is aimed at exploring the underlying reasons for the adoption or non-adoption of play-based learning among educators and serves to complement the quantitative approach.

Sample Size Determination

Sample size determination for the quantitative strand of this current study was guided by the widely acceptable table of sample size by Taro Yamane's simplified formula. This formula is given as:

Sample size $n = N / (1 + N(e)^2)$ at 95% confidence level,
Where n is the sample size, N is the population size, and
 e is the level of precision.

For lecturers and tutors, $N=648$, $e=9\%$

Thus, $n = 648 / (1 + 648(0.09)^2)$

$n=104$

The decision to apply a 9% precision level in determining the sample size was influenced by logistical considerations, including institutional access, resource availability, and the geographical spread of colleges and universities in Ghana. While a lower margin of error would provide a more precise estimate, it would have required a substantially larger sample size, which was not feasible within the scope of this study.

The sample size for the qualitative strand was premised on the principle of saturation, which asserts that data collection can cease when no new information or themes emerge from the participants (Fusch & Ness, 2015). Overall, saturation was achieved after engaging 12 tutors and 4 lecturers, thus the overall sample size for the qualitative phase was 16 tutors/lectures.

Sampling Technique

For fair representation, institutions involved in survey strand were clustered into three geographical zones: Southern Zone, Middle Zone and Northern Zone. In selecting the institutions from the cluster, three (3) institutions were randomly sampled from each of the 3 zones. In applying simple random sampling to a zone, the institutions within the zone were serially numbered. The numbers were then entered into *stata* version 15 and the command *sample x* (x is the proportion to be drawn) issued to select the institutions within that particular zone.

In the case of the university that was selected as part of the institutions in the southern zone, two (2) departments which train students as early grade and basic education teachers were purposively sampled through homogeneous sampling. Finally, proportionate stratified sampling was applied in selecting lecturers/tutors within the selected departments and colleges based on gender. Table 4 presents the proportional sizes and sex distribution that were selected from the different institutions to fulfil the sample size of 104 for lecturers/tutors.

Although random and stratified sampling techniques were employed to ensure representation across institutions and gender, potential sampling biases may exist. For example, the reliance on voluntary participation could introduce self-selection bias, as those more familiar or comfortable with play-based learning may have been more willing to participate. Moreover, the homogeneous sampling in the qualitative phase, while useful for gathering in-depth insights, may limit the generalizability of those findings.

Table 2: *Sample Size Distribution for Survey*

Name of Institution	No. of Tutors/Lecturers		Total No. of Tutors/ Lecturers
	Male	Female	
College 1	10	2	12
College 2	9	5	14
University 1	5	2	7
College 3	7	3	10
College 4	7	3	10
College 5	7	5	12
College 6	9	2	11
College 7	11	3	14
College 8	12	2	14
Total	77	27	104

Homogenous sampling was applied in selecting tutors and lecturers for the qualitative strand as these participants had similar characteristics and the requisite experiences to provide meaningful narratives.

Research Instrument

Consistent with the concurrent nested design applied in this study, this study utilized questionnaire as well as interview guide. Beside demographic variables, the questionnaire utilized ten items that assessed the use of play-based learning during instructional delivery by tutors and lecturers. The questionnaire applied a *likert* scale for each item, and ranged from strongly agree, agree, disagree, and strongly disagree. On the other hand, the interview guide had items that probed inhibitory factors associated with play-based learning based on the experiences of tutors and lecturers.

Data Management Analysis

All data collected for the purposes of this research were stored in excel files and audio-recorders. These data were then backed-up on *Google Drive*. Quantitative data related to demographic characteristics were analyzed using descriptive statistics in the form of frequencies, percentages, mean and standard deviation. The relationship between items on the usage of play-based learning and the sex, level of experience, and institutional affiliation were assessed using Pearson chi-square test of association analysis. For the purposes of the Pearson chi-square analysis, “strongly agreed” and “agreed” responses were merged as “agreed” while “strongly disagree” and “disagreed responses” were classified as “disagree”, thereby forming a dichotomous scale. Qualitative data were transcribed following which comparative thematic analysis involving identification of codes, development of themes, and data summary under relevant themes were applied to responses of tutors and that of lecturers. Additionally, direct quotes consistent with specific themes were included to add realism to the analysis.

Ethical Considerations

A proposal on the study was presented to the Institutional Ethical Review Board of the University of Education, Winneba, Ghana (IERB/0234). Ethical approval was subsequently granted by the board. Prior to data collection, the researcher prioritized obtaining informed consent from all tutors/lecturers involved in the study. The informed consent form applied in this study emphasized the procedures involved in the study as well as the fact that participation was entirely voluntary. Participants were assured they could withdraw from the study at any point without facing any penalty. The anticipated risks associated with the study were communicated to participants. The potential benefits related to the study were explained to participants. Participants were assured that all records related to their responses would be kept confidential. Furthermore, any publications resulting from the study will ensure the anonymization of participants' identities. Participants were also encouraged to address any questions or issues related to the research processes and informed consent to the researcher. The name and contact details of the researcher were explicitly stated on the informed consent form.

Results

Overall, 90 tutors/lecturers (68 males; 22 females) completed the survey phase, representing a response rate of 86.5%. The demographic characteristics of tutors/lecturers who completed the survey are presented in Table 3. The mean age of tutors/lecturers was 44.6 years (standard deviation of 6.4 years).

Table 3: Demographic Characteristics of Tutors/Lecturers in the Survey Study

Demographic	Male f (%)	Female f (%)	Total n (%)
<u>Age (years)</u>			
30-34	2 (3.3)	1 (4.5)	3 (3.3)
35-39	10 (16.7)	6 (27.3)	16 (17.8)
40-44	16 (26.7)	4 (18.2)	20 (22.2)
45-49	23 (38.3)	7 (31.8)	30 (33.3)
50-54	12 (20)	2 (9.1)	14 (15.6)
55-60	5 (8.3)	2 (9.1)	7 (7.8)
<u>Department</u>			
Educational Studies	16 (23.5)	7 (31.8)	23 (25.6)
Languages	12 (17.6)	4 (18.2)	16 (17.8)
Basic Education	5 (7.4)	-	5 (5.6)
Mathematics and Information and Communications Technology	9 (13.2)	3 (13.6)	12 (13.3)
Social Science	8 (11.8)	-	8 (8.9)
Science	10 (14.7)	3 (13.6)	13 (14.4)
Technical and Vocational Education and Training	8 (11.8)	3 (13.6)	11 (12.2)
Early Childhood Education	-	2 (9.1)	2 (2.2)
<u>Subject Area</u>			
Ghanaian Language	6 (8.8)	2 (9.1)	8 (8.9)
Integrated Science	9 (13.2)	3 (13.6)	12 (13.3)
Agricultural Science	3 (4.4)	1 (4.5)	4 (4.4)
Mathematics	3 (4.4)	1 (4.5)	4 (4.4)
Information and Communications Technology	5 (7.4)	-	5 (5.6)
Social Studies	3 (4.4)	-	3 (3.3)
Education	15 (22.1)	4 (18.2)	19 (21.1)
Educational Psychology	1 (1.5)	-	1 (1.1)
Numeracy	3 (4.4)	2 (9.1)	5 (5.6)
Statistics	1 (1.5)	1 (4.5)	2 (2.2)
Literacy	9 (13.2)	5 (22.7)	14 (15.6)
English	1 (1.5)	1 (4.5)	2 (2.2)
Clothing and Textiles	3 (4.4)	2 (9.1)	5 (5.6)
Building and Construction	2 (3.3)	-	2 (2.2)
Physical Education	2 (3.3)	-	2 (2.2)
Music and Dance	2 (3.3)	-	2 (2.2)
<u>Teaching Experience</u>			
1-4 years	14 (20.6)	5 (22.7)	19 (21.1)
5-8 years	16 (22.7)	4 (18.2)	20 (22.2)
9-12 years	19 (26.4)	9 (40.9)	28 (31.1)
13 years or more	19 (26.4)	4 (18.2)	23 (25.3)

Note. f = frequency, n = number of units

The modal age range of tutors/lecturers was 45-49 years with males constituting nearly 77% of the aforementioned age range. The Department of Educational Studies was the department with the highest number of respondents, with slightly over a quarter of all respondents affiliated to the department. Education, Integrated Science, and Literacy were the prevalent subjects among tutors/lecturers. Over half of all tutors/lecturers who completed the survey had 9 or more years of experience on the job.

Overall, 16 tutors (12 males; 4 females) were involved in the qualitative phase. It is informative to note that tutors/lecturers had to participate in the survey phase to be considered for the qualitative phase. The demographic characteristics of tutors/lecturers who completed the qualitative phase are presented in Table 4. The mean age of tutors/lecturers was 45.3 years (standard deviation of 5.8 years).

Table 4: *Demographic Characteristics of Tutors/Lecturers in the Qualitative Phase*

Demographic	Male f (%)	Female f (%)	Total n (%)
<u>Age (years)</u>			
30-34	1 (8.3)	-	1 (6.3)
35-39	1 (8.3)	-	1 (6.3)
40-44	3 (25)	1 (25)	4 (25)
45-49	5 (41.7)	2 (50)	7 (43.8)
50-54	2 (16.7)	1 (50)	3 (18.8)
55-60	-	-	-
<u>Department</u>			
Educational Studies	5 (41.7)	2 (50)	7 (43.8)
Languages	-	1 (25)	1 (6.3)
Early Childhood	4 (33.3)	-	4 (25)
Mathematics and Information and Communications Technology	2 (16)	-	2 (12.5)
Technical and Vocational Education and Training	1 (8.3)	1 (25)	2 (12.5)
<u>Subject Area</u>			
Education	5 (41.7)	2 (50)	7 (43.8)
Mathematics	2 (16.7)	-	2 (12.5)
Numeracy	3 (25)	-	3 (18.8)
Literacy	1 (8.3)	-	1 (6.3)
Clothing and Textiles	1 (8.3)	1 (25)	2 (12.5)
English	-	1 (25)	1 (6.3)
<u>Teaching Experience</u>			
1-4 years	2 (16.7)	1 (25)	3 (18.8)
5-8 years	5 (41.7)	2 (50)	7 (43.8)
9-12 years	3 (25)	1 (8.3)	4 (25)
13 years or more	2 (16.7)	-	2 (12.5)

Note. f = frequency, n = number of units

The age range of 45-49 years was the modal age of tutors/lecturers with male tutors constituting 71.4% of this age group. The Department of Educational Studies was the department with the highest number of respondents, with 43.8% of all respondents affiliated to the department. Tutors/lecturers were spread across six different subjects with education being the most common subject. Majority of tutors/lecturers had at least 5 years of experience on the job.

The results of the Pearson chi-square test of association between sex of tutors/lecturers and their response on the use of play-based learning (at significance level of 0.05) are presented in Table 5.

Table 5: *Pearson Chi-Square between Sex of Tutors/Lecturers and Usage of play-based learning*

Item	X ²	df	P-value
1. I give my learners time to engage in play-based activities during lessons.	0.015	1	0.901
2. I present my learners interactive activities that help them feel they are part of the learning sessions.	1.48	1	0.224
3. I allow my learners to construct their own ideas and impressions through play-related activities.	0.424	1	0.515
4. I use play activities to sustain learners' interest.	0.211	1	0.646
5. I use play activities throughout the lecture.	1.242	1	0.265
6. I use enjoyable activities to help students stay focused during lessons.	0.049	1	0.825
7. I create lesson plans that involve hands-on activities for students.	0.384	1	0.536
8. I use fun and interactive methods to teach difficult concepts or skills.	0.153	1	0.695
9. I adapt my teaching style to include activities that encourage exploration and creativity.	0.003	1	0.957
10. I organize learning sessions that allow students to participate in engaging activities.	0.123	1	0.726

Note. X²=Chi-Square value, df=degree of freedom, P-value=Probability value

The Pearson chi-square test of association revealed there was no statistically significant relationship between tutors'/lecturers' sex and the specific items directly measuring the use of play-based learning.

The results of the Pearson chi-square test of association between level of experience of tutors/lecturers and their response on the use of play-based learning (at significance level of 0.05) are presented in Table 6. Per the analysis, tutors'/lecturers' level of experience was conceptualised as dichotomous response: less experienced (1-8 years) and more experienced (9 years and over).

Table 6: *Pearson Chi-Square between levels of experience of Tutors/Lecturers and Usage of play-based learning*

Item	X ²	df	P-value
1. I give my learners time to engage in play-based activities during lessons.	2.051	1	0.152
2. I present my learners interactive activities that help them feel they are part of the learning sessions.	3.20	1	0.074
3. I allow my learners to construct their own ideas and impressions through play-related activities.	0.59	1	0.443
4. I use play activities to sustain learners' interest.	0.262	1	0.609
5. I use play activities throughout the lecture.	0.589	1	0.443
6. I use enjoyable activities to help students stay focused during lessons.	0.000	1	1.000
7. I create lesson plans that involve hands-on activities for students.	1.347	1	0.246
8. I use fun and interactive methods to teach difficult concepts or skills.	0.424	1	0.515
9. I adapt my teaching style to include activities that encourage exploration and creativity.	0.347	1	0.556
10. I organize learning sessions that allow students to participate in engaging activities.	0.362	1	0.548

Note. X²=Chi-Square value, df=degree of freedom, P-value=Probability value

The Pearson chi-squared test of association revealed there was no statistically significant relationship between tutors'/lecturers' level of experience and the specific items directly measuring the use of play-based learning.

The results of the Pearson chi-square test between tutors'/lecturers' institution and their response on the use of play-based learning (at significance level of 0.05) are presented in Table 7. Per the analysis, tutors'/lecturers' institutions were categorized as either college of education or University.

Table 7: *Pearson Chi-Square between Tutors'/Lecturer's Institution and Usage of play-based learning*

Item	X ²	df	P-value
1. I give my learners time to engage in play-based activities during lessons.	0.448	1	0.503
2. I present my learners interactive activities that help them feel they are part of the learning sessions*.	-	-	-
3. I allow my learners to construct their own ideas and impressions through play-related activities*.	-	-	-
4. I use play activities to sustain learners' interest*.	-	-	-
5. I use play activities throughout the lecture.	6.351	1	0.012
6. I use enjoyable activities to help students stay focused during lessons.	0.007	1	0.933
7. I create lesson plans that involve hands-on activities for students.	0.153	1	0.695
8. I use fun and interactive methods to teach difficult concepts or skills.	0.362	1	0.548
9. I adapt my teaching style to include activities that encourage exploration and creativity.	0.183	1	0.669
10. I organize learning sessions that allow students to participate in engaging activities.	0.049	1	0.825

Note. X²=Chi-Squared value, df=degree of freedom, P-value=Probability value, *=items that produced one category of response.

The Pearson chi-square test of association revealed there was no statistically significant relationship ($P > 0.05$) between tutors'/lecturers' institution and the majority of items in Table 13. However, the Pearson chi-square test of association revealed there was a statistically significant relationship ($P < 0.05$) between tutors'/lecturers' institution and item 5 in Table 13. Specifically, the Pearson chi-squared test revealed tutors in the colleges were likely to use play-based learning throughout the lecture compared to lecturers at the University. It is important to note that chi-square analysis requires a minimum of two categories of responses. Therefore, items that produced only one response category (e.g., all respondents agreed or disagreed) could not be included in the analysis.

The results of the comparative thematic analysis on inhibitory factors to the application of play-based learning as recounted by tutors and lecturers are as presented in Table 8.

Table 8: *Comparative Thematic Analysis on Inhibiting Factors to Play-Based Learning as Recounted by Lecturers and Tutors*

Themes	Supporting Quotes (Lecturers)	Supporting Quotes (Tutors)
Managing Large Class Sizes	• "The class size is a major factor or hindrance, in our school environment. Large numbers of students in a limited space means you need to rearrange the classroom and that's a lot of effort and time". (Respondent 8)	• "The number of the students is also a challenge." (Respondent 6)
Lack of Materials/Resources	• "Using play-based learning approach with a large class size, often leads to inadequate resources, and manipulatives for all students". (Respondent 13)	• "Again, we do not have enough materials to practice effective play-based learning." (Respondent 4)
Time Allocation Challenges		• "The time allocation for the activities into the course is a big challenge." (Respondent 14) • "My challenge is that, there is no enough time to implement play-based learning." (Respondent 5)
Classroom Space Constraints		• "The seats are made of metal and any little mistake could lead to injuries." (Respondent 10)

It was revealed managing large class sizes, lack of materials/resources, time allocation challenges, and classroom space constraints were major inhibitory factors to the application of play-based learning. Large class sizes were highlighted as a significant challenge as it resulted in logistical difficulties and limited space for effective play-based learning. Both set of educators asserted a lack of materials and resources limiting the feasibility of play-based approaches. Tutors further highlighted time constraints and physical classroom as inhibitory factors to the effective application of play-based learning. Consistent with the quotes in Table 8 it is obvious that both lecturers and tutors have concerns related to class size. However, the lecturers' quote specifically highlights the effort and time required to manage a large class size. This suggests that lecturers may be dealing with even larger class sizes or more complex logistics compared to tutors. This could make it more challenging for lecturers to implement play-based learning consistently throughout their lessons. The aforementioned deduction is consistent with the fact that in Ghana, universities tend to have larger class sizes compared to colleges of education. Thus, lecturers managing a larger number of students in a limited space are likely to expend more time and effort in applying play-based learning, thus making it more difficult for lecturers to implement play-based learning throughout their lessons.

Discussion

The findings of this study highlight the factors influencing the adoption of play-based learning among tutors and lecturers in Ghanaian higher education. The study established that large class sizes, lack of materials and resources, time constraints, and classroom space limitations are major inhibitory factors to the application of play-based learning. Additionally, the chi-square test of association revealed that neither sex nor teaching experience had a significant association with the adoption of play-based learning. However, there was a significant relationship between institutional context and the use of play-based learning throughout lectures. Specifically, it was revealed tutors in colleges of education were more likely to integrate play-based learning throughout their lesson delivery compared to lecturers in the university.

The findings of this current study that established that class size, lack of resources, and time constraints are key barriers to play-based learning are largely consistent with the findings of Parsons and Taylor (2011) as well as Parker et al. (2019). Lecturers and tutors reported difficulties in managing large classes when attempting to incorporate play-based methods. Again, the aforementioned findings are consistent with research indicating that overloaded curricula and increasing academic demands make it challenging for educators to dedicate time to play-based learning (OECD, 2020). Similar to other jurisdictions, the Ghanaian higher education is characterized by large class sizes and limited instructional time. Thus, making it difficult to implement active learning approaches including play-based learning effectively. Additionally, lack of materials and resources to facilitate play-based learning as recounted by tutors and lecturers is consistent with the findings of the LEGO Foundation (2019). Obviously, for play-based learning to be widely adopted in Ghanaian higher education, there is a need for greater investment in learning materials, assistive technology, and teacher training programs that enhance play-based learning.

The implications of these findings suggest that the broader educational environment in Ghana may unintentionally discourage the use of innovative and inclusive methods such as play-based learning. The continued reliance on traditional lecture-based approaches may not simply reflect educators' preferences, but rather systemic pressures that limit their flexibility. Furthermore, the absence of adequate teaching materials and conducive classroom arrangements reveals a mismatch between pedagogical ideals promoted by national education policies and the actual conditions under which educators operate. This disjunction may result in pre-service teachers graduating with limited exposure to learner-centered methods, thereby perpetuating rigid instructional practices in early childhood and basic education. Understanding these contextual constraints is essential for interpreting how educational policy translates, or fails to translate into everyday teaching practice in Ghana's higher education landscape.

The statistically significant relationship between institutional context and the use of play-based learning throughout lectures is a major finding of this study. Tutors in colleges of education were more likely to integrate play-based learning consistently in lesson delivery compared to university lecturers. This is consistent with the findings of Paananen et al.

(2019) suggesting that institutions focused exclusively to teacher preparation place greater emphasis on innovative pedagogies such as play-based learning. Universities, on the other hand, often emphasize content delivery, research, and rigid curricula (Nicolopoulou, 2010), thus, making the widespread adoption of play-based learning more challenging.

This finding carries important implications for educational practice in Ghana. It reveals that institutional mandates and pedagogical cultures significantly influence how teaching approaches are internalized and applied. For instance, while colleges of education may nurture a professional identity that embraces child-centered teaching, university lecturer, especially those outside of education faculties, may experience limited alignment between their instructional practices and the pedagogical principles emphasized in national education reforms. This discrepancy suggests that pre-service teachers trained in different institutional contexts may receive uneven exposure to learner-centered methods like play-based learning. As a result, the systemic goal of producing a teaching workforce skilled in inclusive and participatory strategies could be undermined if institutional differences are not acknowledged and addressed in broader educational planning and discourse.

Relative to the relationship between sex of educator and the use of play-based learning, this current study did not establish any statistically significant relationship. This is contrary to global studies suggesting that female educators are more likely to adopt play-based learning due to their nurturing teaching styles (Baker-Doyle, 2018; Hegde & Cassidy, 2009). This finding is at variance with the notion that male educators tend to gravitate towards traditional lecture-based methods (Marra et al., 2014). The lack of statistically significant association suggests that institutional and other contextual factors may play a stronger role in shaping pedagogical choices of tutors and lecturers than sex-related tendencies. It is possible the standardized teaching practices entrenched in Ghanaian higher education institutions is responsible for this trend. Furthermore, educators in Ghana may be facing similar challenges in instructional delivery irrespective of sex. These challenges may include curricular constraints, resource limitations, and class size. These challenges have the potential to shape their instructional decisions irrespective of their sex.

The study further established that there was no statistically significant relationship between teaching experience and the application of play-based learning. Obviously, the aforementioned finding contradicts previous research suggesting experienced educators are more likely to incorporate play-based strategies (Weisberg et al., 2016). While it is very likely experienced educators have greater exposure to innovative pedagogies, the widespread challenges associated with limited resources and institutional constraints in Ghana as recounted by tutors and lecturers in this study may overshadow the benefits of experience. In Ghana, many teacher education institutions still prioritize traditional instructional methods, limiting the exposure of both new and experienced educators to innovative, student-centered pedagogies. This underscores the need for continuous professional development programs that train educators—regardless of experience—on the benefits and practical implementation of play-based learning.

This current study makes significant contributions to inclusive education as well as sustainable development. Goal 4 of the Sustainable Development Goals (SDGs) emphasizes quality education through inclusive practices (United Nations, 2016). By highlighting the factors influencing the adoption of play-based learning within the Ghanaian higher education system, this study provides insights that can inform policy recommendations aimed at promoting inclusive teaching strategies in Ghana. Moreover, Ghana's Inclusive Education Policy (2015) advocates for teaching strategies that accommodate diverse learners. Due to the fact that play-based learning has been shown to enhance collaboration, creativity, and engagement (Zosh et al., 2018; Outpace Academy, 2023), its widespread adoption could contribute to a more inclusive educational environment where learners with diverse learning needs can thrive.

It is important to acknowledge that this study employed chi-square tests to examine associations between demographic variables and the use of play-based learning; however, these tests do not establish causality or indicate the strength or direction of relationships. As such, the findings should be interpreted as indicative of patterns rather than causal effects. Additionally, while the sample included participants from multiple institutions across Ghana, the generalizability of the findings is limited by the use of non-probability sampling in the qualitative phase and the voluntary nature of participation, which may introduce self-selection bias. Future research using longitudinal or experimental designs could offer deeper insights into the causal pathways and contextual factors influencing the adoption of play-based learning among educators.

Conclusion and Recommendations

This current study highlights potential opportunities and challenges related to adoption of play-based learning among tutors and lecturers involved in teacher education in Ghana. Large class sizes, resource limitations, and institutional context were some prominent factors influencing the adoption and use of play-based learning. Previous studies suggest that sex and teaching experience may influence play-based learning adoption. However, the findings indicate no significant relationship in the Ghanaian context. Given the potential of play-based learning to enhance engagement, collaboration, and critical thinking, its adoption should be prioritized as a key pedagogical approach in line with Ghana's Inclusive Education Policy and the Sustainable Development Goals. Addressing the identified challenges through institutional reforms, resource investments, and professional development will be essential towards promoting a more engaging and inclusive learning environment for all students, including those with special educational needs.

Consistent with the finding that university lecturers use apply play-based learning in a limited manner during their lesson delivery, it is recommended these institutions integrate play-based learning-focused training modules into their faculty development programmes. These trainings should focus on creative strategies in play-based learning that allow for handling relatively larger classes and loaded curricular. Colleges of education, on the other

hand, should provide continued mentorship to preservice teachers so as to ensure play-based learning practices remain sustainable after pre-service training.

It is also important that universities and colleges of education in Ghana, as well as stakeholders involved in play-based learning such as Right to Play, prioritize funding for play-based materials and assistive technology to enhance its feasibility in higher education. The availability of materials and assistive technology would ensure tutors and lecturers are able to engage students more effectively despite large class sizes and overloaded curricula. Additionally, these materials and assistive devices will ensure pre-service teachers with special educational needs are able to participate in play-based learning activities. Also, teacher training institutions could explore alternative classroom management strategies that will facilitate the implementation of effective play-based learning strategies. As an example, tutors and lecturers may apply peer-assisted learning and group-based instructional techniques to integrate play-based learning even in large classes.

In addition to faculty training and provision of materials, it is recommended that institutional leadership across both universities and colleges of education establish formal communities of practice focused on play-based pedagogy. These communities should bring together tutors, lecturers, and curriculum developers to share best practices, adapt PBL approaches to diverse subject areas, and collaboratively address implementation challenges. Creating such professional learning networks would encourage peer learning, reflective teaching, and a culture of innovation across departments. Over time, this collaborative model can support the institutionalization of play-based learning by embedding it within the ongoing professional culture rather than viewing it as an isolated or externally imposed approach.

It is recommended monitoring and evaluation mechanisms specific to play-based learning should be integrated into institutional quality assurance systems. This includes the development of indicators that track the use, effectiveness, and inclusiveness of play-based strategies during teaching and learning. Institutional units responsible for academic affairs or teacher development should conduct regular observations, gather student feedback, and document examples of innovative PBL practices. These data can be used not only to inform institutional planning but also to guide targeted support and continuous improvement. Embedding evaluation systems into routine practice will ensure that play-based learning is not only adopted but also sustained and adapted over time to meet evolving classroom needs.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The author declares that there are no conflicts of interest or competing financial or personal relationships that could have influenced the work reported in this paper.

Ethics Statement

This study was approved by the Institutional Review Board (IRB) of the University of Education, Winneba with certificate number 2020/IRB/167.

References

- Ansari, A. (2018). The persistence of preschool effects from early childhood through adolescence. *Journal of Educational Psychology*, 110(7), 952–973. <https://doi.org/10.1037/edu0000255>
- Australian Council for Educational Research (ACER). (2021). Education reform: Curriculum content and deep learning. *Teacher Magazine*. https://www.teachermagazine.com/au_en/articles/education-reform-curriculum-content-and-deep-learning
- Baker-Doyle, K. J. (2018). *Transformative teachers: Teacher leadership and learning in a connected world*. Harvard Education Press.
- Bubikova-Moan, J., Næss Hjetland, H., & Wollscheid, S. (2019). ECE teachers' views on play-based learning: A systematic review. *European Early Childhood Education Research Journal*, 27(6), 776–800. <https://doi.org/10.1080/1350293X.2019.1678717>
- Danniels, E., & Pyle, A. (2023). Teacher perspectives and approaches toward promoting inclusion in play-based learning for children with developmental disabilities. *Journal of Early Childhood Research*, 21(3), 288–302. <https://doi.org/10.1177/1476718X221149376>
- Fisher, K. R., Hirsh-Pasek, K., Newcombe, N., & Golinkoff, R. M. (2013). Taking shape: Supporting preschoolers' acquisition of geometric knowledge through guided play. *Child Development*, 84(6), 1872–1878. <https://doi.org/10.1111/cdev.12091>
- Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report*, 20(9), 1408–1416. <https://doi.org/10.46743/2160-3715/2015.2281>
- Hegde, A. V., & Cassidy, D. J. (2009). Kindergarten teachers' perspectives on developmentally appropriate practices (DAP): A study conducted in Mumbai (India). *Journal of Research in Childhood Education*, 23(3), 367–381. <https://doi.org/10.1080/02568540909594665>
- Marra, R. M., Jonassen, D. H., Palmer, B., & Luft, S. (2014). Why problem-based learning works: Theoretical foundations. *Journal on Excellence in College Teaching*, 25, 221–238.
- Ministry of Education. (2015). *Inclusive education policy*. Ministry of Education, Ghana. <https://www.unicef.org/ghana/reports/inclusive-education-policy>
- United Nations. (2016). *The sustainable development goals report 2016*. United Nations. <https://www.un.org/statistics/sdg/>
- Nicolopoulou, A. (2010). The interplay of play and narrative in children's development: Theoretical reflections and concrete examples. *Cognitive Development*, 25(4), 365–379. <https://doi.org/10.1016/j.cogdev.2010.08.001>
- Organisation for Economic Co-operation and Development (OECD). (2020). *Curriculum overload: A way forward*. OECD Publishing. <https://doi.org/10.1787/3081ceca-en>
- Outpace Academy. (2023). The role of emotional intelligence in academic success. <https://outpaceacademy.com/academic-tuition/the-role-of-emotional-intelligence-in-academic-success>
- Paananen, M., Kumpulainen, K., & Lipponen, L. (2019). Play-based learning in Finnish early childhood education and care: Investigating practitioners' pedagogical perspectives. *Early Years*, 39(2), 175–190. <https://doi.org/10.1080/09575146.2017.1342227>
- Parker, A., Thomsen, B., & Gleeson, J. (2019). Integrating play-based learning in tertiary education: A systematic review. *Journal of Educational Innovation*, 23(3), 45–62.
- Parsons, J., & Taylor, L. (2011). Improving student engagement. *Current Issues in Education*, 14(1), 1–33. <https://cie.asu.edu/ojs/index.php/cieatasu/article/view/745>

- Pyle, A., & Danniels, E. (2017). A continuum of play-based learning: The role of the teacher in play-based pedagogy and the fear of hijacking play. *Early Education and Development*, 28(3), 274–289. <https://doi.org/10.1080/10409289.2016.1220771>
- Tan, O. S. (2021). *Problem-based learning innovation: Using problems to power learning in the 21st century*. Gale Cengage Learning.
- The LEGO Foundation. (2019). *Learning through play: A review of the evidence*. The LEGO Foundation. <https://www.legofoundation.com/en/learn-how/learning-through-play/>
- Weisberg, D. S., Zosh, J. M., Hirsh-Pasek, K., & Golinkoff, R. M. (2013). Talking it up: Play, language development, and the role of adult support. *American Journal of Play*, 6(1), 39–54.
- Weisberg, D. S., Zosh, J. M., Hirsh-Pasek, K., & Golinkoff, R. M. (2016). Guided play: Principles and practices. *Current Directions in Psychological Science*, 25(3), 177–182. <https://doi.org/10.1177/0963721416645512>
- Zosh, J. M., Hopkins, E. J., Jensen, H., Liu, C., Neale, D., Hirsh-Pasek, K., & Solis, S. L. (2018). Learning through play: A review of the evidence. *The LEGO Foundation*. <https://www.legofoundation.com/en/learn-how/learning-through-play/>