Title: The role of play in children's learning: The Perspective of Ghanaian early years stakeholders

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Abstract

The purpose of this study was to examine Ghanaian stakeholders' beliefs about the role and importance of play in early years (3 to 5 years) children's learning, referred to as play-learning beliefs. A survey design was adopted in order to gather data necessary to examine the differences among stakeholders' play-learning beliefs. A total of 292 participants completed the survey. Data was collected using a self-developed scale. A preliminary comparison of the mean differences among the stakeholders using ANOVA indicated that the head teachers and teachers perceived play as a form of learning more favourably than the parents. This difference was further explored using cluster analysis to test the hypothesis that stakeholders' education status is a factor in explaining the group mean differences. Using a two-step cluster analysis in SPSS 24.0, participants were grouped into five distinct clusters, which were most distinguishable by participant status (parent, teacher or head teacher) and their education status – high-educated head teachers, teachers and parents, moderate-educated teachers and low-educated parents. Consistent differences emerged between cluster groups when compared on the scale score. Consistent with the hypothesis, the results suggest education status is associated with stakeholders' beliefs about the role of play in children's learning.

Keywords: play, learning, early years, survey, cluster analysis

Introduction

Play is recognised as an important component in children's learning (Russ 2003; Christie and Roskos 2006; Smith and Pellegrini 2008; Meyers and Berk 2014; Wager and Parks 2014). As a result, play researchers expound a powerful argument for the significance of play in children's education. In spite of this, there seems to be a discrepancy between research findings and attitudes towards the role of play in learning. Therefore, an important aspect in the literature on play has focused on people's beliefs. This is because adults' beliefs lead to positive or negative judgments about the significance of play. The resulting attitude towards play may influence how much play is encouraged and supported. Consequently, there has been an increasing interest in studying people's play beliefs in different cultures or sub-cultures. These studies have revealed different play beliefs among stakeholders, specifically, parents, teachers and head teachers (i.e. school principals, who supervise the activities of a school and may do some teaching depending on the school). A thorough search of literature revealed that little to no research exists specifically on head teachers' perceptions. Before reviewing studies on all three stakeholders, studies that have focused solely on parents and teachers are first presented.

Research on Stakeholders' Play Beliefs

Parents

Parents' beliefs about play differ across cultures. First, in a five-country (USA, UK, France, Germany and Japan) survey conducted by LEGO on parents' beliefs about children's play, a large majority of the parents (94%) agreed with the notion that time spent playing is time spent learning (Knoop and Jensen 2003). However, parents felt that more time should be spent on cognitive tasks at the expense of free time when play occurs, demonstrating their doubt in play as an effective way to learn. When a breakdown was examined for each country, significant cultural differences were identified. Parents in the UK (50%), USA (54%), and

France (55%) indicated their preference for more planned activities and lessons, whereas, 83% of parents in Japan and 61% in Germany supported free play activities. In another study by Parmar, Harkness, and Super (2004), Euro-American parents regarded play as an important medium for early learning and development, whereas the Asian-American parents perceived play has very little developmental benefit and accorded importance to an early start in academic training.

Teachers

Teachers' beliefs about play also differ somewhat across cultures. Wu and Rao's (2011) study with German and Hong Kong teachers found that German teachers recognised the importance of play in children's learning and considered play as learning, whereas, Hong Kong teachers regarded play and learning as separate elements. McInnes et al. (2011) found that the teachers in the UK in their study regarded play as a learning process and were aware of the value of play. Also, Ranz-Smith (2007) found that first grade teachers in America agreed on the value and importance of play in children's learning and development. Consistent with German, UK and US samples, Sandberg and Heden (2011) found that teachers in Sweden acknowledged the contribution of play to learning academic skills.

Parents, teachers and head teachers

Some studies have compared parents' and teachers' beliefs about play. For example, a study by Chowdhury and Rivalland (2012) with parents and teachers in Bangladesh revealed that parents considered play as a recreational activity, whereas the teachers regarded play as an activity that helps in facilitating children's learning and prepares them for school. Similarly findings emerged from Badzis (2003) study in Malaysia, where parents perceived play as a leisure activity and a waste of time meant for learning. On the contrary, while the teachers

considered play as important in children's development, they did not consider play as having an important role in children's learning in the classroom.

Other studies find more alignment between groups of stakeholders' beliefs. Fung and Cheng (2012) showed that parents, teachers and head teachers in Hong Kong all perceived play as a trivial activity used as a tool for transmitting teaching content. In contrast, Powell (2010) found that American parents and teachers agreed that play and learning are inseparable and that children learn in play environments. Similarly, Keating et al.'s (2000) study in England showed that parents, teachers and head teachers shared a common theme of play as a way to stimulate and extend learning as well as a foundation upon which future learning is developed.

The conclusion that can be drawn from these studies is that the role and importance of play in children's learning is perceived differently across different contexts. In some contexts, for example, in the USA, it is perceived as serving a contributing factor to children's learning and might assume greater centrality in their education. In other contexts, for example, Asia, this conception does not always hold true. These differences may stem from variations in cultural conceptions of how children develop, but little is known about what influences ones' beliefs about the role of play in learning. Notwithstanding, some studies have attempted to explain what could be accounting for variations in adults' beliefs about play, for example one's own level of education. These studies have mostly focused on parents, probably because most teachers and head teachers are required to receive professional training beyond basic education. Findings show that stakeholders with high levels of education are more likely to support play in children's learning. For example, Pirpir, Er, and Koçak (2009) found that Turkish parents (both mothers and fathers) with high education status (graduated from high schools and universities) expressed positive attitudes towards play and its role in children's learning compared to those with low education status (graduated from primary schools).

Similarly, Manz and Bracaliello's (2016) results showed that US parents who completed high school education viewed play as valuable for children's development and learning compared to parents who did not complete high school. Similar results were reported by LaForett and Mendez (2016), who found that American parents with higher education endorsed play as important to promoting children's learning.

Although these studies are limited because they have mainly studied only parents, they offer a glimpse of what might be accounting for the differences in stakeholders' play and learning beliefs. The current study therefore extends previous research by examining play beliefs held by a variety of Ghanaian stakeholders with different status in the education system (parents, teachers and head teachers).

The Context of Early Years Education in Ghana

In Ghana, the majority of teachers are untrained, leaving them without theoretical knowledge about early years development and learning. At the same time, parents tend to assess early years settings based on whether they do 'serious learning', such as rote repetition of letters and numbers (Wolf, Lawrence Aber, and Behrman 2018b; Kabay, Wolf, and Yoshikawa 2017). Schools therefore tend to emphasise rote teaching, even at the early years. However, the Ghana Education Service (GES) has stated its support for a play-based learning in its education situational report (Ghana Education Service 2012). In light of this background, it was considered important to examine parents, teachers and head teachers' beliefs regarding the role of play in children's learning.

Early years education in Ghana comprises care and education for children from birth to the age of five. There are three main types of early years provision in Ghana: crèche and day care centres, which provide care for children from birth to two years; nurseries, which provide care and education for children between the ages of two and three; and kindergartens, which

provide education to children aged four and five. It is important to note that this study focused on provision for three to five years old (that is, nursery and kindergarten), herein referred to as early years settings. Both nurseries and kindergartens offer full-day sessions, five days per week.

Nurseries and kindergartens in Ghana can be either public or private. Public settings are government-funded whilst private settings are individually owned and on a fee-paying basis, with a profit-making goal. The 2014 education statistical report shows that at the end of 2013/2014 academic year there were 12,664 nursery teachers (4.5% public; 95.5% private; (Ministry of Education, 2014). The proportion of kindergarten teachers in the public and private sectors is reversed (72.6% public; 27.4% private).

The head teacher would typically be a qualified teacher with or without an early years background. Early years teacher training ranges from obtaining a Bachelors of Masters degree in early childhood education, to acquiring a 2-year post-high school diploma in basic education, to in-service training. In 2014, the proportion of trained nursery teachers was approximately 33.7% in the public sector and 4.2% in the private sector. The proportion of trained public and private kindergarten teachers was approximately 55% and 5%, respectively (Ministry of Education, 2014). The untrained teachers have only primary or high school education (Wolf et al, 2018b). Given these differences, we aimed to sample a range of teachers across public and private early years settings.

Although public schools have highly educated teachers compared to private schools, research by Wolf et al. (2018a) shows that highly educated and wealthier parents are more likely to enrol their children in private schools because private schools are newer, have smaller class sizes and teach exclusively in English rather than a mother tongue, despite the national policy requiring nursery and kindergarten teachers to teach mainly in a mother tongue.

We used one further characteristic of Ghanaian schools to establish a representative sample in the present study. We selected one rural and one urban district from which to randomly draw schools. Whereas rural areas in Ghana are more likely to attract unqualified teachers and have parents with lower levels of formal education, urban settings are more likely to have qualified teachers and parents with higher levels of education (Cobbold, 2006).

Purpose of the study

The main goal of this study was to examine Ghanaian stakeholders' beliefs about the role of play in children's learning. First, the study sought to determine whether stakeholders differed in their score on a newly developed play-learning belief scale. We hypothesised that stakeholder education level would relate to play-learning beliefs, with higher-educated stakeholders being more likely to associate play and learning (Hypothesis 1). Second, the study used cluster analysis to establish profiles of participants based on a combination of status (parent, teacher or head teacher) and education level, to determine how these factors combined to explain differing play-learning beliefs. We hypothesised that groups with higher level of education would score higher on the scale, showing stronger beliefs associating play and learning (Hypothesis 2). We had no prior basis to guide expectations about differences between participant status (parent, teacher or head teacher) in Ghana.

Methodology

Participants

Participants for this study comprised parents of children enrolled in early years, the teachers who facilitate the activities of the early years children and head teachers who manage the activities of the schools in Ghana. Participants were selected from 40 early years settings across two regions, Greater Accra and Brong Ahafo. Participants' selection was done using a stage sampling procedure (Cohen, Manion, and Morrison 2007). The first stage was the

purposive selection of two regions and then stratifying the early years in each region by type

of provision – private and public. The next stage involved the selection of two districts from

each region that cover provisions in rural and urban areas. From each of the districts, 10 early

years settings were randomly selected from a list of schools, creating a subtotal of 20 schools

for each region and a gross total of 40 schools for both regions. Following this, teachers and

parents were randomly selected and the head teachers within the sampled schools were

selected to be included in the sample. A total of 305 participants comprising 160 parents, 105

teachers and 40 head teachers were selected. Out of this number, 292 participants completed

the survey, which comprised 147 parents, 105 teachers and 40 head teachers, representing

92%, response rate for parents and 100% for both teachers and head teachers (see Table 1 and

Figure 1 for demographics). The high response rate achieved was due to follow-ups and

arranging with parents to complete the survey in their children's school.

 [Insert Table 1 here]

[Insert Figure 1 here]

Procedure

After approval from the Ethics Committee of the Faculty of Education, University of

Cambridge, access to undertake the study was done at two levels. The first level involved

gaining permission from the Ghana Educational Service (District offices). Upon approval

from the district offices, the gatekeepers (head teachers) of the selected schools were

contacted to negotiate access to their schools and participants. Upon successful negotiations,

participants were given a cover letter, which provided general information about the purpose

of the study and a consent form. Following this, head teachers and teachers were given the

surveys, which they completed in their schools and were later collected by the researcher. In

the case of parents, they were asked to return the consent form indicating whether they were

willing to participate in the study. Parents who agreed to take part in the study were contacted and a convenient time was arranged for them to meet with the researcher at their children's school in order for the researcher to assist them in the completion of the survey and address any questions or concerns. Participation in the study was voluntary and participants had the right to withdraw at any stage of the study.

Measure

The data was collected using a survey scale. The scale, referred to as the Early Years Play and Learning Perception Scale (EYPLPS), was developed because existing scales were aimed at either educators or parents, and could not be administered to all three stakeholders of interest in the present study. Following a series of scale development procedures (Clark and Watson, 1995), a preliminary, 25-item EYPLPS scale was developed. Items in the scale included statements that reflect play as a valuable mechanism for learning, e.g., "Play is the best way children learn to understand the world around them," and items that reflect a separation between play and learning, e.g., "The primary aim of play is to release children from boredom".

Six experts in the field of child development and play reviewed the items to ensure the content validity of the scale. The EYPLP 25-item scale was piloted with 117 stakeholders (parents, teachers and head teachers) in Ghana, then analysed using item response theory. The graded response modelling revealed that the EYPLPS represented a considerable variation of discrimination. These results suggest that the 25-item EYPLPS is most useful at discriminating among individuals who believe play has less relevance for children's learning. A subset of 16 items of the original 25 items was derived for the final version and was rated on a 4-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree). Internal consistency (alpha reliability) of the 16-item scale from the pilot study was .85, which was satisfactory.

Individual summary scores on the scale could range from +39 to -9, based on the extent to which participants agreed with the two groups of items on the scale, with higher scores indicating a high value placed on play.

Data Analysis

A preliminary analysis of the differences among the stakeholders' play-learning beliefs was done using a one-way analysis of variance (ANOVA). The resulting difference among the stakeholders was explored using cluster analysis.

Traditionally, cluster analysis has been used in classifying homogeneous groups of observations based on the combination of some independent variables (Mooi and Sarstedt 2011). Given its grouping ability, it has been applied in different fields, including education. For example, Myers and Fouts (1992) applied cluster analysis to segment high school science classroom environments and identified which classrooms were most closely related to positive student attitude towards the study of science. Thus, this technique was considered appropriate in creating groups according to some independent variables.

For this study, two-step cluster analysis was carried out using SPSS 24.0. This clustering procedure was used because it has the ability of handling mixed variables – continuous and categorical variables with two or more levels – (Chiu et al. 2001). As the name suggests, the two-step clustering is a two-stage procedure. The first stage, which is the pre-clustering stage, involves the sequential clustering of the datasets to identify dense regions that are stored as summary statistics. In the second stage, the pre-clusters are grouped using the agglomerative hierarchical clustering algorithm that leads to a number of solutions. The best number of clusters is then determined using Schwarz's Bayes Information Criterion (BIC), which is a statistical evaluation criterion that automatically determines the number of clusters to be retained. The use of the statistical criterion in determining the number of clusters is

considered a very useful and objective criteria and it prevents the randomness in traditional clustering procedures.

In the two-step clustering procedure used in this study, the log-likelihood distance measure was used. This is because the variables used to create the clusters – participant status (being a parent, teacher or head teacher) and level of education – were considered mixed variables measured on different scale levels, nominal and ordinal[1] respectively. The log-likelihood distance measure assumes that all the variables are independent, the categorical variable has a multinomial distribution and the continuous variable has a normal distribution. The independence between the variables was tested using the mean statistics. The result showed that level of education increases fairly across all participant categories, suggesting the independence of the clustering variables. Given that the number of outcomes for the categorical variable was more than two, a multinomial distribution was assumed. To assess the normality of the continuous variable, skewness and kurtosis tests were examined. In both tests, the calculated z-values exceeded a critical value of 1.96, indicating deviation from normality. However, the two-step clustering algorithm is considered a fairly robust procedure because it behaves reasonably well even when the assumptions are not completely met (Chiu et al. 2001). The continuous variable was standardized and both background noise and outliers were identified and screened out. In addition, two other variables (type of provision – private and public; and type of district – rural and urban) were used as cluster descriptors. The cluster descriptors were not used in the creation of the cluster model, but were used to gain further insight about the clusters created by the procedure. Since the cluster solution could be based on the order of cases, the cases were randomly ordered. Furthermore, the cluster solution was tested using the split-half process to validate the stability of the cluster solution.

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[1] The ordinal variable was treated as a continuous variable in the process of analysis. This was done in order not to lose the information contained in the ordinal variable, where higher numbers denote high levels of education.

For both of the analyses, the cluster solution remained the same, thus, ensuring the stability of the cluster solution.

Results

Differences Among Stakeholders' Play-learning Beliefs

Table 2 shows the differences in mean EYPLP scale scores for the stakeholders. Although the differences were small, head teachers and teachers perceived the role of play in children's learning more favourably than did the parent sample. An analysis of variance (ANOVA) was used to investigate whether differences in the scale scores among the stakeholders were statistically significant. The results indicated a statistically significant difference for score on the EYPLP scale, $F (2, 289) = 4.78$, $p = .009$, $r = .17$. A Games-Howell post hoc analysis revealed that scale score was significantly lower for parents compared to head teachers ($p = .035$) and teachers ($p = .016$), indicating parents were less likely to associate play and learning than teachers and head teachers. There was no differences between head teachers and teachers ($p = .921$).

[Insert Table 2 here]

Cluster Analysis

Establishing the number of clusters

On the basis of the auto-clustering algorithm, a five-cluster solution appeared to be the most satisfactory, because it gives the lowest value of the Schwarz's Bayesian Information Criterion (BIC) and the highest value for the ratio of distance measures (Table 3). The final cluster solution also included the number of excluded observations, which is an outlier.

[Insert Table 3 here]

Profiling of clusters

Tables 4 presents the descriptive statistics of the five clusters. Figure 2 presents the level of education for each cluster and Figure 3 presents the distribution of variables used to describe the clusters. The first cluster comprised 13% of the total participants and was characterized by teachers who worked both in rural and urban private schools. This cluster was labeled 'moderate-educated teachers' because teachers within this cluster were slightly below the overall mean on education status. In contrast, cluster 2, which consisted of 22.9% of the participants, was also made up of teachers who worked mainly in both rural and urban public schools, but were labeled 'high-educated teachers' because teachers within this cluster were significantly above the mean in terms of education status. The third cluster constituted head teachers of both private and public schools, representing 13% of the overall participants. This cluster was labeled 'high-educated head teachers' because they were substantially above the mean on education status. Cluster 4, which had the largest group with 35.6% of the total participants, was made up of parents with children enrolled mainly in rural private and public schools. In terms of education status, this group was considerably below the mean and was therefore labeled 'low-educated parents'. Finally, cluster 5 was made up of 14.7% of the participants and constituted parents who had children enrolled predominantly in urban private schools. This group was significantly above the mean on education status and was therefore labeled 'high-educated parents'. The two outliers were head teachers of private schools who did not fit into any cluster.

[Insert Table 4 here]

[Insert Figure 2 here]

[Insert Figure 3 here]

Demographic status by cluster group

The five cluster groups were compared on two demographic variables – age and sex (refer to Table 4 for descriptive statistics). There were significant differences between groups on demographic characteristics. In terms of age, ANOVA indicated a significant difference between cluster groups, $F(4, 284) = 19.30$, $p < .001$. A Games Howell post hoc test revealed that head teachers' age was significantly higher than all the other cluster groups (all $p's < .001$). The Chi-square analysis of the frequency distribution for sex was significant, $x^2 (4) = 41.20$, $p < .001$. When looking at the breakdown between clusters, the results indicated a greater proportion of females in each of the clusters, except cluster 3, which had almost an equal proportion of males and females.

Cluster Differences in Scale Score

The cluster groups were compared on the EYPLP scale score to validate the difference between the two, using a one-way analysis of variance (ANOVA). Standardized z scores for each cluster group on the EYPLPS are presented in Figure 3. As expected, a significant difference was obtained between cluster groups on the scale score. The resulting model showed that the effect of cluster was significant, $F (4, 289) = 7.63$, $p < .005$, $r = .31$. Post hoc analysis using the Games Howell post hoc criterion revealed that EYPLP scale score was statistically significantly lower for low-educated parents compared to high-educated teachers, high-educated head teachers and high-educated parents (all $p's < .005$), indicating low-educated parents were less likely to associate play and learning than these other groups. There was, however, no statistical significant difference between EYPLP scores of low-educated parents and moderate-educated teachers ($p = .388$).

[Insert Figure 4 here]

Discussion

While research on adults' beliefs about the role of play in children's learning is not in its infancy stage, little empirical knowledge from the Ghanaian context exists. The ultimate goal of this study was to examine stakeholders' beliefs regarding play and its role in children's learning in Ghana. The current results were consistent with the hypothesis of the study. First, ANOVA revealed significant differences among the stakeholders' play-learning beliefs (Hypothesis 1). Second, cluster analysis revealed five distinct groups distinguishable by participant's status (being a parent, teacher or head teacher) and education status (Hypothesis 2). By and large, the findings of this study have improved our understanding of Ghanaian stakeholders' profile and their play-learning beliefs. In terms of education status, it is not surprising to find a contrast between moderate-educated teachers and high-educated teachers. Moderate-educated teachers were mainly private-school workers with high school education, while high-educated teachers were predominantly public-school workers with diploma and degree. This difference could be attributed to the fact the government of Ghana is making considerable strides to ensure only qualified teachers are employed within the public education sector (Aheto-Tsegah 2011), whereas private-school employers, who are more focused on making profits, tend to hire the services of unqualified individuals, mostly high school graduates. This finding highlights the fact that private settings still attract unqualified teachers and supports Wolf at al.'s (2018a) finding that teachers in private schools are less educated.

Although low-educated parents and high-educated parents clusters were made up of parents, the former was characterized by relatively higher percentage of parents from both types of provision (public and private). On the other hand, it is puzzling why the high-educated parents cluster had the highest proportion of parents with children enrolled in urban private schools. This could be explained in two possible ways. First, even though public schools have more

qualified teachers compared to private schools, the poor state of most public schools tends to push parents into enrolling their children in private schools, an indication that parents are going out of their way to seek quality education for their children. Second, although the economic status of participants was not examined in this study, it is possible it might be an influencing factor in parents' choice of provision, since enrolling a child in a private school has more cost than public schools. The demographic pattern we observed here is consistent with findings from Wolf et al.'s (2018a) study, where they showed that children enrolled in private schools come from wealthier and more highly educated families. Thus, given the seeming lack of confidence in public schools, high-educated parents who find themselves in cities and can afford private education for their children would want to enroll them in private schools.

The cluster groups were compared on two demographic variables – age and gender – and the effect was significant. The results for age indicated that the head teachers' age was significantly higher than all the other groups and the head teachers also had higher scores on the EYPLP scale reflecting a belief that play and learning are connected. It is possible that over a period of time and with higher levels of education and more years of teaching experience, the head teachers might have been exposed to different pedagogical approaches and therefore endorsed a generally positive view of play and an appreciation of its importance in children's learning. With regards to gender, the significant relationship between gender and group membership is due to the fact that early years teachers in Ghana are mostly females and mothers mostly respond to invitations from their children's schools. Although the head teacher cluster had approximately equal proportion of males and females and had higher scores on the scale, suggesting that males and females do not differ in their play-learning beliefs (in this case positive beliefs), the misrepresentation of males in the remaining cluster

groups makes it difficult to draw any strong conclusions about the role of gender in Ghanaian stakeholders hold similar play-learning beliefs. Future studies could tease these factors apart.

The five distinct clusters identified were compared on the EYPLP scale score and appear to be valid. This validation stems from the fact that between-group differences in cluster group membership were found for the scale score. The results seem to support the hypothesis that level of education is associated with adults' play-learning beliefs. Stakeholders with low and moderate education status had the lowest score on the scale. On the other hand, stakeholders with high education had higher scores on the scale. The emergence of this difference suggests the stakeholders differed in the significance they accord play and the emphasis they place on play and its role in children's learning. Stakeholders who reported higher levels of education endorsed statements that depict play as an opportunity for learning and acquiring cognitive and social skills as well as academic skills. The study confirms that highly educated parents in Ghana endorse beliefs regarding the importance of play in children's learning (Fogle and Mendez, 2006; Manz and Bracaliello, 2016; LaForett and Mendez, 2016; Pirpir, Er, and Koçak, 2009). The study also adds to the literature by establishing that highly educated teachers and head teachers in Ghana endorse play as important for children's development and learning, thereby extending our understanding of how other stakeholders' beliefs about play, apart from parents' beliefs, differ by their level of education.

The parent sample constituted the largest group with the lowest level of education, and their EYPLPS scores indicated they did not favour play as a way of learning. This perception of a large stakeholder group stands in opposition to the Ghana Education Service's (GES) promotion of a play-centred approach in early education. This insight can inform GES development of programmes to address parental unfavourable opinions about play. Also, moderate-educated teachers (mainly in private schools) showed similar EYPLPS scores compared to low-educated parents, while highly educated teachers showed different EYPLPS

scores. This discrepancy in play-learning beliefs between groups of teachers implies that the GES push for a play-based learning might be rolled out differently across the public and private sectors. The GES may therefore need to intensify the awareness and importance of training early years teachers across both the public and private sectors. Although we do not report on classroom practices in the present paper, future studies could consider whether the discrepancy observed here between teacher groups' play-learning beliefs is borne out in different classroom practices.

If highly educated parents, teachers and head teachers believe play has an important role in children's learning, and the GES has incorporated these principles into their official guidelines, why do some teachers and parents in Ghana still seem to prefer didactic-oriented activities for learning? In Ghanaian culture, being educated is considered a very important way of raising the status of one's family, and this image of success is instilled in children at an early age. Parents see early academic skills, such as letter and number recognition, as a way of getting children ready for school (Bidwell and Watine 2014; Wolf et al. 2018a). The importance attached to academic achievement, together with a lack of knowledge of the latest evidence on the role of play in learning, may explain the penchant for rote repetition in some stakeholder groups (Wolf et al., 2018b).

Study Limitations

This study adds to the literature by showing that, in the Ghanaian context, highly educated parents, teachers and head teachers are more likely to endorse play as important in children's learning, as compared to less educated teachers and parents. Nevertheless, it is only a small step towards understanding stakeholders' beliefs about play in early years education. It has certain obvious limitations that call for a prospectively designed replicated study. First, the measure of demographic variables was limited. For example, while the clusters did differ on age and sex, there might be other variables that can also provide interesting insights about

Ghanaian stakeholders. Future studies could possibly focus on investigating other elements of social class, for example, the economic status of stakeholders and how it is associated with play-learning beliefs. This is because previous research (Miller 1989; Stipek et al. 1992) has demonstrated that parental goals for early years education differed by education and income, where parents with less education preferred didactic teaching methods that do not emphasize play and parents with low status occupations enrolled their children in schools that emphasize teacher-directed and academic activities. Second, the sample, while appropriate for the statistical analyses conducted, was selected from only two out of the ten regions in Ghana and may not reflect characteristics of the general population of stakeholders in Ghana. Future research could be focused on expanding the coverage of the study to other regions to find out if it will yield similar or different results. By so doing, it would provide important understanding about early years stakeholders and their play-learning beliefs that could lead to drawing generalizable conclusions. Moreover, additional research, especially observational studies, should be conducted to obtain information regarding beliefs and classroom practices. And finally, the nature of survey data means that we do not have in depth information to report here on the richness of play-learning beliefs held by stakeholders. Future qualitative work can examine these more extensively.

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Table 1. Descriptive statistics for participants (*n* = 292)

	Gender (n)		Age Mean (sd)	
	Male	Female	Male	Female
Parents	41	106	38.53 (7.51)	33.48 (5.83)
Teachers	3	102	35.66 (13.27)	38.10 (11.40)
Head teachers	20	20	46.7 (12.32)	48.05 (7.34)
Total	64	228	40.95 (10.14)	36.82 (9.75)

Note: n = number of participants; sd = standard deviation

Table 2. Descriptive statistics for scores on the EYPLP scale

	Mean (sd)	Range (min-max)
Parents (n = 147)	25.38 (7.99)	-3-39
Teachers (n = 105)	27.77 (5.70)	5-39
Head teachers (n = 40)	28.18 (5.59)	6-39
Total	26.62 (7.03)	-3-39

Note: n = number of participants; sd = standard deviation

Table 3. Results of auto-clustering

Number of clusters	Schwarz's Bayesian Criterion (BIC)	BIC Change [a]	Ratio of BIC Changes [b]	Ratio of Distance Measures [c]
1	645.134			
2	318.395	-326.739	1.000	2.316
3	189.688	-128.708	.394	2.073
4	138.882	-50.806	.155	1.681
5	117.496	-21.386	.065	5.043
6	130.722	13.226	-.040	[d]

[a] The changes are from the previous number of clusters in the table

[b] The ratios of changes are relative to the change for the two-cluster solution

[c] The ratios of distance measures are based on the current number of clusters against the previous number of clusters

[d] Since the distance at the current number of clusters is zero, auto-clustering will not continue

Table 4. Descriptive statistics of the five clusters

Cluster	Participant Status			Age	Gender (%)	
	Head teacher	Teacher	Parent	Mean (sd)	Male	Female
Moderate-educated Teachers	0	38	0	34.97 (12.46)	0.3	12.8
High-educated Teachers	0	67	0	39.88 (10.49)	0.7	22.4
High-educated Head teachers	38	0	0	48.42 (9.15)	6.2	6.9
Low-educated Parents	0	0	104	35. 10 (7.10)	9.3	26.6
High-educated Parents	0	0	43	34.40 (5.73)	4.8	10.0
Total	40	105	147		21.4	78.6

Note: Two head teachers did not fit into any of the clusters and are not represented here.