

AKYEAMPONG RESEARCH AND DEVELOPMENT (ARD) CONSULT



PROCESS & EFFECTIVENESS EVALUATION: PARTNERS IN PLAY (P3) TEACHER PROFESSIONAL DEVELOPMENT PROGRAM (TPD)

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Developed in Collaboration with Right to Play and with support of the LEGO Foundation



RIGHT TO PLAY

Executive Summary

The Partners in Play Project (P3) is an intervention-based project that aims to build capacity and support teachers' use of play-based activities to enhance the quality of primary education in 55 districts in three regions (i.e., Greater Accra, Volta and North) in Ghana. The primary component of the intervention delivered by Right to Play (RTP) and its implementing partners, in collaboration with District Education officials, focused on supporting teachers through direct training and a range of professional development services such as coaching, mentoring, provision of teaching resource materials, and peer learning/community of practice sessions. The secondary component supports teachers indirectly by equipping trained Ghana Education Service (GES) District Education Officials, known as the District Teacher Support Team. This component involves two groups: the Indirect group and the GALOP group (part of the World Bank-supported Ghana Accountability for Learning Outcomes Project). Additionally, the P3 project aims to enhance pre-service teachers' knowledge and skills in play-based learning by providing indirect support to colleges of education through the University of Education, Winneba (UEW).

This final evaluation was designed to address three main objectives:

- (1) understand what worked well with government stakeholders and educators on the integration of play-based pedagogy in the large scale GALOP and through pre-service teacher education in Ghana.
- (2) examine the extent to which teaching practices of basic schoolteachers had improved and incorporated PBL approaches, using the earlier learning study in 2022 as a reference.
- (3) make recommendations for effective uptake in public basic schools in Ghana and other countries.

The research objectives were addressed using a concurrent triangulation mixed methods one-phased design, involving the collection of quantitative and qualitative data during the same data collection timeframe. Data was collected using classroom observation, interviews and surveys. A total of 454 classroom teachers across the three regions, representing 254 for Direct, 102 for Indirect and 96 for GALOP were observed¹. Out of this, a total of 288 (63%) were part of the 2022 learning study (148 for Direct; 69 each for Indirect and GALOP). Also, a total of 36 teachers and 12 headteachers were interviewed from 12 schools, where lesson observations were conducted.

¹ Direct Intervention ...; Indirect Intervention ...; GALOP intervention ...

In addition, one master trainer in each district was interviewed, making a total of 10 trainers. At the pre-service level, six vice principals and 50 teacher trainees were interviewed and surveyed, respectively. Also, four lecturers in early childhood and basic education were interviewed.

Key findings

- Teachers across all interventions had higher lesson planning scores at end-line compared to the 2022 learning study. However, there was no significant difference in end-line scores among the groups. Regional breakdown results showed that teachers in Indirect and GALOP schools made more gains between the 2022 learning study and end-line. Also, all intervention groups in Volta and North made more gains between the two time points.
- While average lesson delivery scores were higher for all intervention groups at end-line compared to the 2022 learning study, particularly for Indirect and GALOP, there was no significant difference among groups. Regional breakdown of results showed that average lesson delivery scores were higher for all groups at end-line compared to the 2022 learning study. However, the change in scores were relatively higher for teachers in Indirect and GALOP schools.
- On average, more play activities were observed for teachers across all three intervention groups at end-line compared to learning study. However, Indirect and GALOP schools seemed to have increased the number of play-based activities used in lesson between the two time points. At end-line, significant differences were observed for teachers in Direct schools compared to teachers in Indirect and GALOP schools. There was also significant difference between Indirect and GALOP schools in terms of the number of play-based activities used at end-line. At the regional level, teachers in Indirect schools in Accra and Volta increased the number of play-based activities used in lessons at end-line compared to learning study. A similar pattern was observed for teachers in GALOP schools in Accra.

The qualitative findings are based on three overarching *a priori* themes – fidelity of implementation, effectiveness and sustainability of play-based learning (PBL) in direct, indirect and GALOP intervention schools.

- In terms of fidelity of implementation, participants (teachers and headteachers) considered trainings as impactful although educators in the Indirect and GALOP schools wished they got more regular training as their counterparts in the Direct schools. Learners and teachers also positively embraced and actively participated in play-based activities. Factors such as use of professional learning communities, deployment of teacher champions, teachers' adoption of positive discipline strategies and collaboration with government agencies contributed and enabled effective implementation of the P3

project. However, other factors such as inadequate infrastructure, teaching and learning resources, multiplicity of interventions and their pedagogies, creative pedagogical gaps made implementation in some cases more demanding and challenging.

- In terms of effective outcome of the P3 project, participants singled out improvement in teachers' knowledge of play-based learning philosophy and pedagogy. Also, participants reported shifts in their practice, with an increased adoption of play-based activities as reflected in the quantitative results. Moreover, participants recognised impacts on children's agency, with children's active participation and co-creation of learning, which they associated with improvements in their academic and non-academic skills.
- Participants noted that play-based learning is more institutionalised at the early childhood level (e.g. KG and grade 1) compared to primary (e.g. upper primary level) and called for conscious efforts to make play-based learning prominent in primary education to ensure sustainability of gains from the early childhood level. In terms of capacity, participants believed there is reasonably substantial institutional, technical and professional capacity to sustain the use of play-based learning activities in school.

Integrating play-based learning into pre-service teacher training

- College tutors expressed mixed responses in relation to the impact of the training on their instructional practices, with some indicating improvement in their practices whilst others reported otherwise. Similarly, some recognised that while trainee students in their first year embraced the concepts of play-based learning, this reduced as they progressed due to the highly structured theoretical nature of teaching schedules.
- Tutors identified inadequate teaching and learning resources, as potential barrier to the uptake of play-based learning activities.
- Tutors believed that sustaining the integration of play-based learning activities into pre-service teacher training would require the provision of teaching and learning resources in the colleges and extending training to other tutors.
- Pre-service teachers recognised the impact of play-based pedagogies on their development of core competencies and skills, such as critical thinking and their preparedness to use play-based approaches in their practice.

Key recommendations

1. Teachers in the Direct, Indirect and GALOP schools across the participating regions described the training in PBL approaches as impactful. However, teachers in Indirect and GALOP schools felt they did not receive as much in terms of number of trainings and support. This according to them resulted in some training sessions becoming overloaded and rushed as trainers tried to cover as much material within a short time. But they also felt the training

had increased their awareness and knowledge of PBL approaches despite this criticism. The use of Teacher Champions (TCs) and leveraging professional learning communities (PLCs) appear to have played an important role in turning inputs from training into improved classroom practice. Post intervention, it will be important to use TCs and PLCs to promote PBL approaches. In effect, it is important not to rely only on training but to place equal emphasis on support through TC and PLCs to institutionalise PBL in Ghanaian public schools.

2. While headteachers and teachers, acknowledged the importance of exposure to different learner-friendly pedagogies they also cautioned that the many interventions, competing for teachers' attention risk superficial adoption of PBL approaches. It is important to continue promoting PBL approaches through pre- and in-service teacher education to limit this risk. This should also include training in PBL learning assessment.
3. Teachers across the intervention arms agreed that adoption of positive disciplinary strategies promoted by the P3 project was instrumental in creating safe and inviting learning environments that had encouraged regular attendance and more dialogic engagement with children. There is the need to however to acknowledge resistance that could come from culturally conservative teachers who still see play as peripheral to learning, and that PBL can blur the highly hierarchical relationship between teachers students. Thus, identifying teachers with such dispositions through surveys can be used to inform training programme designs and monitoring impact of PBL interventions.
4. When play is used to promote learning it has the additional benefit of enhancing childrens' agency in learning. This has the potential to impact their self-efficacy for learning, empowering them to become more collaborative in learning and improve their communication skills. Many teachers from the three intervention groups saw play-based activities as a master key to opening children's world of learning. But this requires strong leadership at school and district level to ensure that this is re-enforced. The P3 project demonstrated that achieving this outcome requires strong partnerships between schools, district teacher support teams, SISOs and communities. Training is an important starting point but placing equal emphasis on such partnerships are crucial.
5. Traditionally the idea of play is not associated with formal learning and often is considered a peripheral educational activity, and at best meant for ECE than primary schools. A future P3 project needs to be even more intentional in strongly extending PBL activities into lower and upper primary levels of education if the benefits at ECE level are to be realised in terms of improved learning outcomes.
6. Lessons from the 2022 learning study were used the Ghana RTP team to improve project delivery and partly explains the improvements in teachers classroom practices when they were observed in late 2024. In particular, the vast improvements that teachers in the

Indirect and GALOP teachers had made. It also explains how the P3 project reached scale by targeting Indirect and GALOP schools using the cascade approach to project delivery in these schools. Although, the cascading had some challenges it showed that it could be used as a mechanism to achieve similar impact as was seen in the schools that received direct intervention from RTP. This stands in sharp contrast to projects which rely on a direct intervention approach to generate lessons for scaling up post the direct project intervention period.

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1. Background and Introduction

1.1. Background

Despite significant improvements in educational access across the world quality teaching and learning remains an issue with poor quality teaching and learning more endemic in Sub-Saharan Africa, including Ghana where 87 per cent of children in school are classified as ‘learning poor’ (Crouch et al., 2021). This poor learning is typified by the inability of many learners who at age 10 are unable to read and understand a simple comprehension passage that is legible, comprehensible, or appropriate to their age. This, thus, makes schooling without learning not just a missed chance for personal advancement but also undermines the attainment of the education SDG4 goal. Efforts to address poor foundational learning have been a focus of Right to Play (RTP) through the Partners in Play Project (P3). The project spearheaded the integration of play-based learning (PBL) approaches in early child education (ECE) and primary schools to improve learning outcomes in Ghanaian public schools.

PBL focuses on making learning engaging, adaptive and playful for learners by providing multiple means of engagement, representation and expression for learners. It reflects the ambition of Ghana’s education system to provide quality foundational learning for all children irrespective of their geographical location, gender or socio-economic background.

National education policies and strategies to enhance the quality of education, starting with ECE and primary education all draw attention to the importance of prioritising activity-based learning or PBL to improve foundational skills. The key policies and strategic plans include:

- The Education Strategic Plan 2018-2030: Improved equitable access to and participation in inclusive quality education at all levels.
- Ministry of Education (MoE) Early Childhood Education Policy (2020): Focuses on kindergarten education and represents Ghana’s commitment to ensuring access to quality early childhood development.
- Ghana Education Service (GES) National KG INSET Trainer Manual (2022): Recognises the significance of play-based learning to improve learning outcomes.
- Intercultural bilingual education policies: The National Accelerated Literacy Project- NALAP
- Education Pedagogies: UDL is mentioned in the 2015 Inclusive Education policy and is being integrated into curriculum reform

PBL as a concept is not entirely new in Ghanaian education and each of these policies and strategic plans reference its value often through the role of activity-based approaches that invite learners to use activities, including play to develop deep learning.

1.2. Play-Based Learning

Different terms, for example, “playful learning”, “play-based learning”, “learning through play” and “pedagogical play” (McInnes, 2019; Dzamesi & Van Heerden 2020; Edwards & Cutter-Mackenzie 2013), are used to describe the interrelation between play and learning and how that interrelation can enable children reach specific curriculum goals.

Play-based learning involves planning and selecting from possible approaches ranging between child-initiated and teacher-directed activities (Edwards & Cutter-Mackenzie, 2013). Play-based learning exists along a continuum: free play, which gives children room for exploration and discovery with little constraints. However, to maximize learning, there is general consensus that play requires adult support in setting up the environment and providing meaningful and relevant scaffolding. So, along the continuum of play-based learning is guided play, which is a form of child-directed play with adult support (Weisberg and Zosh, 2018). Games are another form of play-based learning and includes physical games such as hiding, throwing, and catching, and more intellectual games such as card, board, and computer games. Fostering a sense of play in the learning process, however, requires a balance of initiative in the child-adult relationship where adults provide the needed support (e.g., prepared environment and scaffolding) and children experience agency (Zosh et al., 2017).

The effective play-based learning (PBL) teaching approaches detailed in the Ghana-based P3 project included evaluating classroom activities holistically, i.e., in terms not only of teacher action but of student response, the source of the activity – i.e., whether it is student or teacher-led, the materials used to promote learning, the focus of the activity, the engagement of the class and the general climate. Play activities suggested in P3 project include,

- Songs or energisers
- games with rules
- physical play
- using objects as representations
- symbolic play (see RTP P3 Monitoring Plan Document).

These approaches define play-based learning (PBL) as including pedagogies which are clearly wider than play-specific activities, and not particularly focused on play. These include:

- interactive group activities (e.g., games, group work, think-pair-share learning, role plays, demonstrations, songs, rhymes)
- play-based, experiential learning
- teacher-formed small groups to undertake group- relevant tasks

- teacher-created space for discussion (Reflect-Connect-Apply)
- good behaviour management
- positive communication from teacher to students.

In designing the evaluation instruments, we tried to ensure that these areas are represented in the kinds of questions and tasks used.

Research on children's play suggests that children benefit through all these forms of 'play' by constructing competencies in their cognitive, social, and emotional learning. In terms of cognitive functions, play has been linked to literacy and numeracy development, problem solving, creativity and divergent thinking. In addition to the cognitive skills, play enables the development of children's social and emotional skills and their ability to learn with other children from diverse backgrounds and for different purposes. This competence has often been termed life skills. Research suggests that play can provide the rich experiences children need to learn social skills, become sensitive to the needs of others, manage their emotions, learn self-control, and learn to share space and ideas with others (Isenberg & Quinsenberry, 2002). Teachers' stated beliefs about play-based learning and their classroom practices is important. Teachers typically acknowledge the value of play in children's development and learning, possibly as a result of their academic and professional development but often fail to demonstrate this in their practices (e.g., Ranz-Smith, 2007; Sandberg & Heden, 2011).

RTPs initiative to promote PBL is therefore an attempt to improve teachers' understanding of play as key to unlocking children's learning potential and ensure that play based pedagogy becomes an integral part of their everyday instructional practice. The assumption is that, if the Ghanaian basic education teacher can increasingly use play-based activities to improve learning, then this, with time would improve children's learning experiences and outcomes.

1.3. Overview of Partners in Play Project (P3)

The Partners in Play Project (P3) 5-year project (Dec 2019- Dec 2024), was implemented by Right to Play (RTP) with the support of the LEGO Foundation and in partnership with the Ministry of Education, its agencies and community-based organisations. At the heart of P3 is the PBL approach which aims to empower children to become creative, engaged, and critical learners. The P3 was aligned with the implementation of the Ghana Accountability for Learning Outcomes Project (GALOP) targeting the lowest-performing primary schools. Its overarching goal was to improve the quality of education for Ghanaian girls and boys aged 4-12 through a scalable and replicable Learning through Play (LtP) model. P3 also targeted the capacity of Ghanaian education curriculum developers and implementers to integrate play-based learning (PBL) pedagogy into the school curriculum and teachers' instructional practice. It also aimed to improve the efficiency of teacher support systems and strengthen the capacity of community

and caregivers to sustain the expected changes to classroom practice that the intervention would bring. The project also expected that pupils' learning outcomes will improve as a result of teachers using play-based activities and learner-centred activities to deliver better quality instruction.

. RTP adopted an implementation approach with potential to provide lessons for large scale implementation of play-based learning in schools in Ghana and in other country context. To achieve this, the P3 project adopted a three-strand implementation strategy – a 'direct', an 'indirect' and implementing through the large-scale Ghana Accountability and Learning Outcomes Programme (GALOP) which targeted about 10,000 primary schools. P3 was therefore an implementation at scale project and by design tested the extent to which PBL can reach scale at the same time as it implemented the programme directly in selected schools in three regions.

1.4. Target Area and Reach

RTP aimed to reach 689,920 children, representing three levels of intervention in three regions (Greater Accra, Volta and Northern):

- 32,000 children (including 14,720 females); from 100 schools were to receive direct and intense RTP support (includes training of 800 teachers, joint coaching and mentoring support and provision of pedagogical materials)
- 34,560 children across 256 schools (15,898 female) would receive support from district support teams (DTSTs) – here RTP staff would train district teams who then provide support in the training of teachers, coaching, and mentoring of additional 864 teachers
- It also intended to target 576,000 children (264,960 F) from 1800 schools, as part of the GALOP project
- Train District support teams to train, coach, and mentor 14,400 GALOP teachers

Overall, the project expected that an additional 2.55 million Ghanaian school children would benefit from Learning through Play (LtP) as a result of RTP's involvement in the GALOP initiative and the integration of LtP into the national in-service training (INSET) framework and activities.

As Table 1 shows, the P3 project did not only focus on practitioners but also headteachers and district education officials to achieve scale and depth of impact. In essence the P3 was an implementation at scale project that used a 'direct', 'indirect' and GALOP intervention approaches to achieve its goals. In total P3 reached nearly 15000 teachers , 1851 headteachers and 19,191 District Education Officials. Children across the interventions that benefited from improvements in teaching quality as a result of the project is about 604,720.

Table 1. Reach of P3 Project

Educational Officials	Intervention	Male	Female	Total
Teachers	Direct	407	398	805
	Indirect	432	257	689
	GALOP	7120	7677	14797
Head Teachers	Direct	79	21	100
	Indirect	92	16	108
	GALOP	1395	456	1851
District Educational Officials	Direct	36	10	46
	Indirect	0	0	0
	GALOP	493	302	795
Total				19191
Children in School		Male	Female	Total
	Direct	20824	18658	39482
	Indirect	15054	13098	28152
	GALOP	276220	260866	537086
Total		312098	292622	604720
Caregivers		Male	Female	Total
Total	Direct	5111	5073	10,184

Table 2 provides a detailed account of what went into the project in terms of inputs into the districts and regions in which the P3 project operated. It shows what was done at the level of schools, districts and pre-service teacher training. As the table shows, the Indirect intervention schools received support through RTP staff supporting DTSTs to train teacher champions using a cascading training approach. District officials were also trained as trainers of trainers on PBL using a cascade approach. The districts also received financial support that was used for monitoring and data collection on quarterly basis. Input into the GALOP consisted of RTP trainers and GES national trainers training DTSTs on PBL. For the pre-service intervention, RTP provided orientation and training for University lecturers and College Tutors on PBL. Resource manuals and guides on how to integrate play in existing programmes including those that focus on professional development.

Thus, the P3 project targeted three areas – direct training to teachers in which RTP staff and district trainers trained about 800 teachers on learning through play; trained DTSTs and district officials to cascade PBL to schools assisted with some financial support for monitoring and data gathering purposes. In effect, P3 used cascade training approach to reach more teachers and students than was possible with its Direct intervention. For the final evaluation, we were interested in whether teachers reached in Direct, Indirect and GALOP schools made similar

improvements at the end of the 5 year project or whether teachers who received training directly gained more in terms of the quality of their instruction practice. If the latter is the case, then it suggests that using a cascade training model the P3 project had effectively shown that building the capacity of trainers of trainers and district education teacher support teams was an effective way of improving the PBL instructional quality of teachers.

Table 2. Details of the P3 project across implementation arms

P3 SUPPORT AT DIFFERENT INTERVENTION ARMS				
	Direct	Indirect	GALOP	Pre-service work
	7 Districts in 3 regions – 100 schools	7 Districts in 3 regions- 108 schools	48 Districts in 3 regions – 1800 schools	University and Colleges – 15 CoEs
PACKAGE	RTP staff and district trainers train 800 Teachers (all schoolteachers) on Learning through play (the training is based on the RTP Continuum of Teachers training with three series of training: 1) Foundational Training, Play Based Learning training, Positive Learning environment). These training will be delivered annual up to year three of the project	RTP staff with the support of DTSTs train teacher champions (4 teachers from each school) on Play Based Learning approach (in the three series of COTT). These trainings are provided from Year two to year four of the project The trained teachers' champions and the district teacher support teams will train all teachers from their respective schools using the INSET plans - RTP supports with photocopy of the training manuals, games manuals and play based teachers guides for schools on request.	-	-

	District Officials are trained as TOT (Training of Trainers) for play based learning, on cascade model training and on the development of INSET and implementation process They are trained on coaching and mentoring and are quarterly supported to develop a monitoring and coaching plan for trained teachers. They visit schools and observe teachers and provide feedback, jointly with RTP staff.	The district officials are the same people for the direct schools. So same package provided	RTP trainers and GES national trainers train district teachers support teams on learning through play a combination of the three components from the RTP COTT content. They will get a main training in year one and a refresher training in year 2 and year 3. District teacher support teams are also trained on coaching and mentoring and on school leadership to help them train teachers, head teachers and teacher champions from schools	Orientation and Training of University lecturers and College Tutors on Play Based Learning by RTP
	Training of Head Teachers on PBL and school leadership, on Coaching and mentoring- quarterly community of practices with head teachers	-	-	Develop Resource Manuals and Guides for integration of Play in existing academic programs and Professional Development System
	Financial support to districts for	Financial support to districts for	Financial support to	Research in partner primary

	monitoring and data collection provided on quarterly basis	monitoring and data collection provided on quarterly basis	districts for monitoring and data collection provided on quarterly basis	schools/ supported teaching schools including baseline to measure impacts of play based learning
	Hold teachers' communities of practice on quarterly basis	X	X	X
	Provide teaching and learning materials to facilitate play based learning in schools	Provide training materials and learning resources for training on play based learning on request	X	Provide Teaching and Learning Aids to Supported Teaching Schools to support the implementation of play based learning and practical activities
	Training of PTAs and SMCs and support them in the development of action plans on how to reach other parents and mobilize resources for the school's development	X	X	X
	Partner with CBOs for the Sensitization of parents and community on educational needs and importance of learning through play	X	X	X
	Monthly monitoring	Quarterly monitoring visits	Quarterly monitoring visits	

	Quarterly planning and review meetings	Quarterly planning and review meetings	Quarterly monitoring, planning and review meetings at regional level OR District cluster level	Quarterly monitoring and review meetings on implementation progress
	Annual learning fora held at district level to share learnings from Communities of Learning	Annual learning fora held at district level to share learnings from Communities of Learning (these are the same at district level, representatives from indirect schools join others from direct schools, in the district learning fora.	Annual learning fora held at National level joining other representatives from the three regions	Annual learning forum for dissemination of research findings

1.5. Objectives of the Final Evaluation

RTP Ghana approached the implementation of the P3 project through a comprehensive suite of interventions – Direct, Indirect and GALOP which set up a clear pathway for the final evaluation exercise, including providing overarching *a priori* themes for data collection, analysis and identification of findings for the final evaluation of the P3 project assessed in terms of Fidelity of Implementation - (FOI); Effectiveness; and Sustainability and Replicability

This final evaluation is intended to determine how well the objectives of the P3 project had been achieved and to extract lessons for future projects of a similar nature. Our evaluation was designed to measure the project's performance against three key objectives:

- Has the P3 project worked well with government stakeholders and educators to integrate play-based pedagogy in the large scale GALOP, and through pre-service teacher education in Ghana?
- To what extent have the instructional practices of KG and primary school teachers improved and in ways which incorporate play-based learning (PBL) approaches.
- What do the findings suggest about how RTP's future programming on play-based learning can be packaged for effective take-up in public basic schools in Ghana and other countries in which it works.

Figure 1 shows the P3 Project Theory of Change (TOC). It shows how the inputs into the direct, indirect, and GALOP interventions were expected to improve teachers play-based knowledge, attitudes and practices; caregivers' knowledge and attitudes, and support the integration of play-based activities in schools for both girls and boys. The expectation was that with improved support to teachers to integrate LtP into their classroom practice this would achieve the project outcomes as outlined in figure 1. According to the brief synopses of the P3 project there are key assumptions that are critical for the effective implementation of PBL in the Ghanaian basic school system. These ten (10) assumptions are key to assessing project impact (see appendix 1).

Figure 1: Evaluation of P3 Project: Theory of Change based on RTP Project ToC

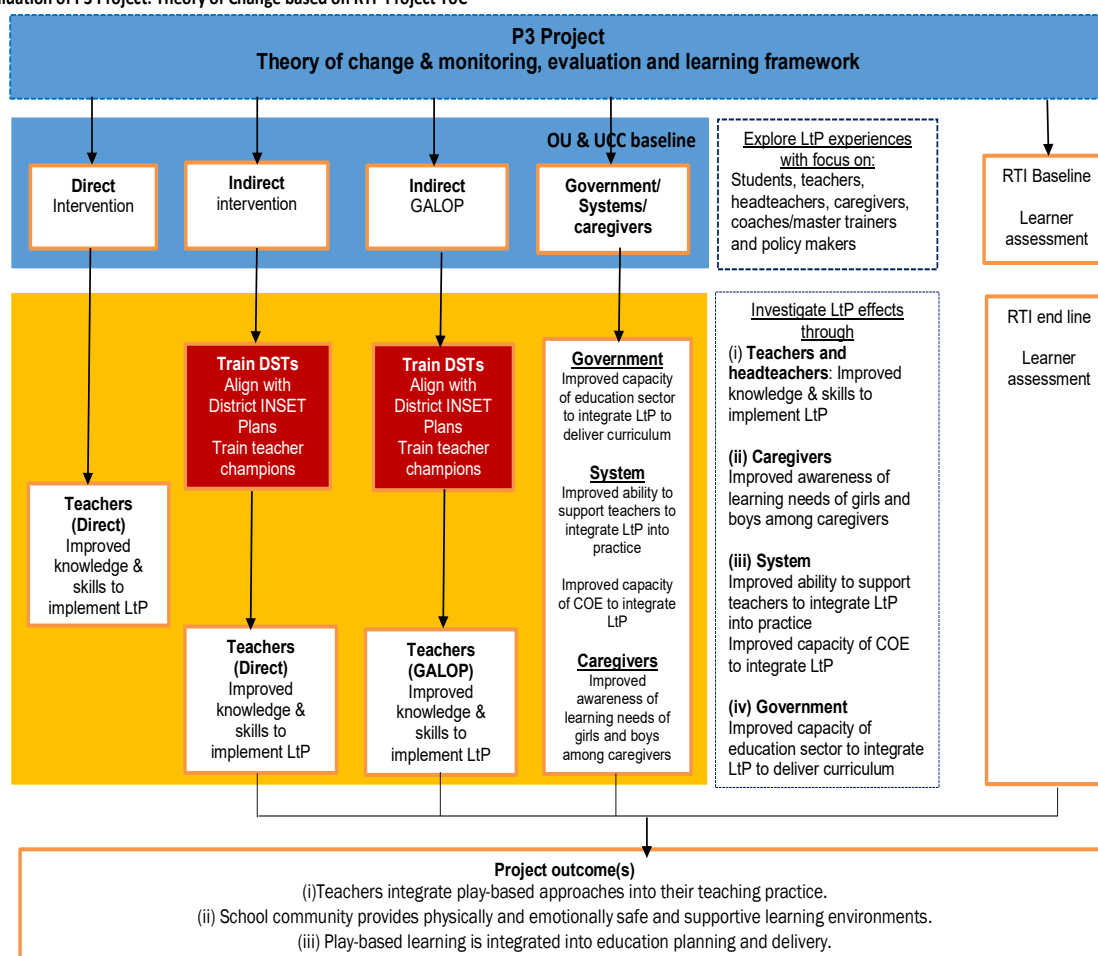


Figure 1. Evaluation of P3 Project: Theory of change based on RTP Project ToC

The project designed training to build the capacity of headteachers and DTSTs on effective school leadership skills and promoted various Play-Based Learning (PBL) and active learning Methodologies to deepen active learning through PBL approaches. It introduced tools, activities, methodologies and approaches used as part of the Gender Responsive Continuum of

Teacher Training (CoTT). In the case of GALOP it focused on training teachers to use play and activity-based instruction to teach at the right level (TARL) of the child.

2. Final Evaluation Approach and Methodology

The final evaluation adopted an approach which aimed to show the degree to which the project delivered its goals as intended by interviewing beneficiaries and key stakeholders to address the following themes - fidelity of project implementation; project effectiveness; sustainability and replicability of the interventions.

2.1. Evaluation Themes/Criteria

2.1.1. Fidelity of Implementation (FOI)

Fidelity of Implementation broadly, is the degree to which a programme or project is delivered as intended by its developers or implementers (Dane & Schneider, 1998; Orwin, 2000). It also refers to the 'integrity' or 'adherence' of implementation, that is, how well the programme is put into practice to achieve its goals. FOI can be impacted by system level constraints and factors which may alter programme implementation. The narrower the gap between what programme designers intended and what they are able to accomplish on the ground the more likely the stated goals will be achieved. So, in that respect, we explored the extent to which the P3 programme was delivered as intended from the perspective of the RTP Ghana team and beneficiaries. We evaluated, for example, whether teachers felt they had received enough training and support and whether the support was adequate and was responsible for any improvements in teachers instructional practices. Did the cascading approach used to deliver training to teachers in the Indirect and GALOP schools using DTSTs as effective as intended?

Quality of delivery is crucial for engaging participants as well as ensuring the intervention's content is effectively communicated. Engaged participants are more likely to benefit and improve their understanding and use of PBL to improve learning. We also investigated any contextual constraints from the perspective of targeted beneficiaries, and which could adversely affect fidelity of implementation.

2.1.2. Effectiveness

We were particularly interested in the extent to which the project improved teachers' *knowledge, skills and attitudes* in using play as part of the repertoire of their instructional approaches. Also, whether the decision to engage the University of Education Winneba (UEW) to train college tutors on how to train trainees to use play-based learning approaches in teaching had improved adoption and use by pre-service teacher trainees.

Our evaluation excluded assessment of pupil learning outcomes. This was undertaken by RTI. We therefore prioritised effectiveness in terms of adoption and use of PBL approaches and

student centred instructional approaches by teachers. If the P3 project improved teachers instructional practices in which PBL played an important part, then this would with time produce improvements in student learning outcomes. But first we needed evidence through this evidence that indeed teachers' pedagogical practice had improved before one can realistically expect improvements in student learning outcomes. It meant paying more attention on teachers' classroom instruction, how well the District Teacher Support Teams (DTST) had worked to support teachers after their training, and the extent to which coaching and mentoring was viewed by teachers and master trainers as important inputs towards wider adoption of PBL approaches.

In terms of project effectiveness, the evaluation looked at whether the cascade approach used to target teachers in Indirect and GALOP schools had produced results that were comparable to those achieved in the Direct Intervention schools. If the improvements were comparable then it would demonstrate that the cascade model used by the P3 project reached and impacted teachers at scale. Finally, it was important to understand how effective targeting pre-service teacher education level had been in terms of improved attitudes to PBL approaches and practices.

2.1.3. Sustainability

Projects have a limited timeframe in which to deliver and achieve their stated goals and objectives. For long-term effect, there must be indication that gains are sustainable after the live course of the project. For the P3 project, we looked at sustainability in terms of strengthened capacity at national and district level and the extent to which this contributed to instructional practices of teachers in indirect and GALOP schools. RTP's PBL interventions were designed to produce benefits beyond the project's 5-year duration. Therefore, it was important to understand whether it had laid the foundation to sustain benefits at scale after the project's duration. We sought insights from project beneficiaries and participants. The sustainability question is also about the extent to which the project had improved the capacity of DTSTs, other district level officials to support teachers in improving their practice, and whether there was general acknowledgement and acceptance of PBL approaches as integral part of the instructional repertoire of KG and primary teachers.

2.2. Methodology

It is important to state that our evaluation design and methodology was shaped by the design of the learning study conducted in 2022. We wanted to base the final evaluation on the same teachers interviewed and observed during the 2022 learning study to determine how well the P3 project had delivered improvements in teachers instructional practices following their training and support to implement PBL approaches.

The evaluation study followed a concurrent triangulation mixed methods design, which is a one-phased design involving the collection of quantitative and qualitative data during the same timeframe (Creswell & Guetterman, 2019). In particular, we used the convergence model of the triangulation design with a goal of corroborating or validating quantitative results from lesson observation with qualitative interview findings. The interviews were used to gather data across the three-tier intervention – Direct, Indirect and GALOP regionally (i.e. Greater Accra, Volta and Northern regions) and nationally, among the RTP level staff (see figure 2 for evaluation research design).

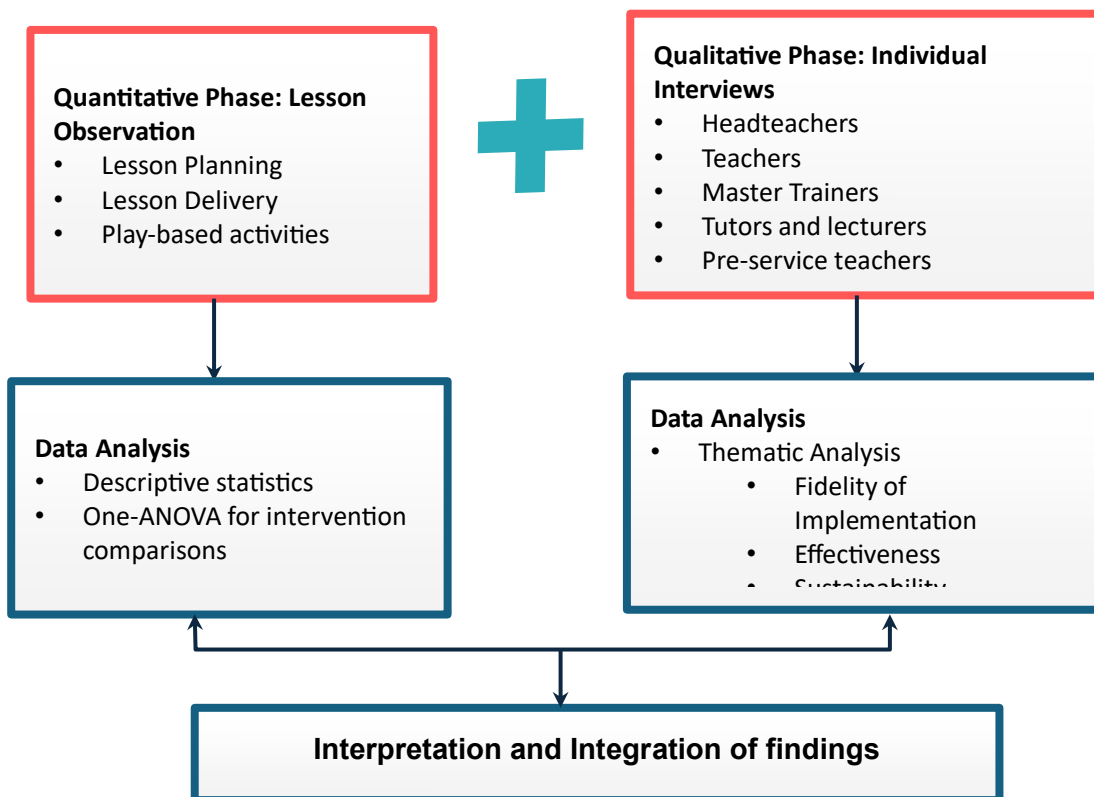


Figure 2. Evaluation Research Design: Concurrent triangulation mixed methods

Appendix 3 provides a detailed description of the research design, and which describes the overarching research questions, key research questions, target groups and issues that were explored with each of the groups.

Measuring change in teacher practice: In the learning study, conducted in 2022, the classroom practices of 503 teachers were analysed across five grade levels – KG, grades 1, 3, 4 and 6. In this final evaluation of the P3 project we aimed to track these teachers to assess any changes in their instructional practices across the kindergarten and primary levels (i.e. KG1 – grade 6). This allowed us to track teachers who may have changed classes due to class reassignments. While

we aimed to track all the 2022 teachers our initial investigation indicated that some of these teachers had been transferred to other schools. We therefore included teachers who were not originally part of the 2022 learning study sample but have been part of the P3 project.

The total sample for this final evaluation study was 454 teachers across the three regions - 254 for Direct, 102 for Indirect and 96 for GALOP. Out of this, a total of 288 (63%) were part of the 2022 learning study (148 for Direct; 69 each for Indirect and GALOP). The remaining number of teachers (166; 37%) were added retrospectively because they had earlier been exposed to the P3 intervention. Teachers who were part of the 2022 learning study differed from those who were not in two ways. First, they were more likely to have higher professional qualification (2.63 vs. 2.52, $t = 3.17$, $p < .01$) and second, had slightly lower scores for play-based activities (9.87 vs. 10.81, $t = -2.36$, $p < .05$).

Sixty percent of the teachers observed were females. In terms of their professional qualification, approximately 2% had no professional qualification, 2% certificate 'A', 37% had diploma, slightly more than half (57%) had a bachelor's degree and about 2% had a master's degree. Majority of the teachers (83%) observed had received training from RTP or RTP supported training from the district. A breakdown of teacher characteristics by region is presented in Table 3.

Table 3. Teacher characteristics by region

	Accra	Volta	North
Teacher sex			
Male	18 (12%)	49 (46%)	116 (59%)
Female	133 (88%)	58 (54%)	80 (41%)
Teacher class			
KG 1	3 (2%)	6 (5%)	4 (2%)
KG 2	27 (18%)	19 (18%)	29 (15%)
Basic 1	22 (15%)	19 (18%)	34 (17%)
Basic 2	14 (9%)	8 (7%)	8 (4%)
Basic 3	20 (13%)	16 (15%)	37 (19%)
Basic 4	28 (19%)	14 (13%)	34 (17%)
Basic 5	14 (9%)	4 (3%)	12 (6%)
Basic 6	23 (15%)	21 (20%)	38 (19%)
Professional Qualification			
None	–	6 (6%)	1 (0.5%)
Certificate 'A'	3 (2%)	4 (4%)	2 (1%)
Diploma	21 (14%)	64 (60%)	84 (43%)
Bachelor	117 (79%)	32 (30%)	109 (56%)
Masters	8 (5%)	1 (0.9%)	–

Measuring Teachers Knowledge and Attitudes: Teachers who were interviewed were drawn from the classroom observation schools and sample. A total of 12 schools were selected for the interviews, comprising 6 Direct schools, three GALOP and three Indirect schools.

Measuring Fidelity of Implementation: A total of 36 teachers across the three regions and interventions were interviewed. In addition, the headteachers of the selected schools were also interviewed. Also, in each of the districts, one master trainer was interviewed, making a total of 10 trainers.

Measuring Sustainability and Replication: Thirty-six teachers across the three regions, 15 district level officials and 10 UEW staff were interviewed for their views on the sustainability and replicability of the PBL approach in public basic education schools.

2.3. Data Collection Tools

Interview and observation guides were the two main data collection instruments that were used.

2.3.1. Classroom observation

To examine teacher classroom practice, a three-part measure used for the learning study in 2022 was used. However, we made a minor modification by excluding two open-ended items due to the complex nature of the data. Moreover, in the identification information section of the tool, we included screening questions on teacher involvement in the intervention. These questions aimed at ensuring we observe the same teachers, where they were still at post, and also identified and included teachers, who were not a part of the 2022 learning study but had benefited from the P3 programme. The latter helped address the high attrition of teachers across regions.

Table 4 provides an overview of the lesson observation tool. The first part of the lesson observation tool focused on lesson planning and examined the availability of lesson plans for lessons observed and whether it incorporates play-based activities. The second part examined lesson delivery, focusing on the use of reflective questioning, fostering child agency and the use of group work. The third part focused on the integration of play-based activities into lessons. We dropped one item (i.e. the teacher uses guided play in the lesson) due to its similarity with another item (i.e. teacher encourages child-guided activities or experiences with scaffolding). By using the same measure, we aimed to examine possible changes in teachers' mean scores between 2022 learning study and end-line evaluation in 2024.

Table 4. Overview of Lesson Observation Tool

Lesson Plan	Lesson Delivery	Play-based Activities
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Lesson plan has clear performance indicators Stated objectives are relevant and SMART Lesson plan includes interactive group activities Relevant core competencies are stated Appropriate TLRs are stated Stated learning activities are related to core competencies	Learning objectives made clear to pupils Teacher uses board appropriately Teacher uses TLRs in lesson Teacher uses appropriate questioning skills Teacher clarifies learners' misunderstandings Teacher encourages boys and girls to ask questions Pupils ask questions on their own initiative Teacher speaks to pupils in friendly tone Teacher acknowledges pupils' effort when they give wrong answers Teacher allows pupils to participate in lessons Teacher uses reflections to end lesson taught Teacher evaluates lesson taught	The teacher encourages movement activities in lesson Teacher incorporates traditional games, songs and dances in lesson The teacher encourages pupils to use manipulatives (e.g., counters, bundles of sticks, charts) in the lesson Teacher offers children the chance to choose activities and materials for play Teacher engages children in using stories to deliver lesson Teacher organizes a variety of learning spaces for play (e.g. reading corner) Pupils have chances to play with materials or objects (different shapes and colours) Teacher encourages child-guided activities or experiences with scaffolding Pupils work in pairs or groups Pupils share their learning in different ways Pupils choose from a variety of learning activities Pupils' works are displayed in the classroom Pupils respond to open-ended questions and discussions Pupils explore outside of the classroom Pupils engage in activities with their senses [e.g. Find something patterned]
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2.3.2. *Semi-structured interview*

There were three interview guides, each for the key informant interview (KII) groups, namely headteachers, teachers, master trainers and RTP staff. All the interview guides were organised around the three overarching themes – fidelity of implementation, effectiveness and sustainability (see Appendix 1). The classroom observation tool and interview guides were reviewed by the RTP team, and necessary revisions were made based on the feedback received.

2.4. Data Collection

Enumerators for the data collection were divided into two groups – classroom observation and interviews. Regarding the classroom observation, we used enumerators who were involved in the 2022 learning study. These enumerators are college of education tutors who are education experts and have been supervising the teaching practices of trainees. With regards to the qualitative interviews, our research team led the investigation which enabled in-depth discussion of issues around the programme implementation, as the team had spent considerable time reviewing RTP programme documentation for insights into the approaches used. A two-day training was organised for classroom observation enumerators in each region. This provided them with an opportunity to review the observation guide and helped enumerators familiarise themselves with the tablets that were used to collect the lesson observation data. All tablets for the observation were coded with the final instruments using the KoboCollect app for surveys.

Fieldwork permission letters from RTP were ready by the first week of October, allowing data collection in the Volta and Accra regions to begin immediately after the training session, in the week of October 15. Data collection in the Northern Region commenced in the week of October 21. Due to the limited time for completing lesson observations by the end of October, additional enumerators were recruited to improve efficiency and coverage. After the first day of data collection in each district, the research team organized an online debriefing meeting with enumerators to address field challenges. Issues such as teacher absenteeism, teacher transfers, and access difficulties – especially in flood-prone areas of the Volta Region – were discussed and resolved. The guides were used to conduct the interviews in the various schools. Each interview was audio-recorded and transcribed. The interview process was interlaced with probes and prompts to generate data that could be analysed for deep meaning of project impact.

Classroom observation enumerators noted that most teachers effectively integrated RTP’s play-based approaches, significantly enhancing learner engagement and making learning enjoyable and interactive. Lessons included hands-on activities and group tasks that encouraged collaboration among learners. Teachers exhibited varying levels of proficiency in adapting these methods. In some of the schools, teachers demonstrated exceptional dedication, utilizing interactive, play-based activities to maintain learner interest and foster critical thinking.

Teachers showed commitment to RTP principles, with some creating custom teaching and learning resources (TLRs) to support lessons despite limited resources.

However, enumerators also encountered some challenges:

- **Teacher Absenteeism and Transfers:** Many teachers had transferred to other schools, were on study leave, or were unavailable on observation days. This impacted scheduling and necessitated follow-up visits.
- **Class Reassignments:** Several teachers had been reassigned to different classes since the 2022 learning study, requiring observers to adapt to current classroom assignments.
- **Logistical Difficulties:** Access to certain schools was challenging due to poor road conditions, particularly in remote areas. Limited school infrastructure and high student enrolment further constrained the effectiveness of group-based activities.

2.5. Data Management and Quality Assurance

Enumerators received training in each region on using the KoboCollect software on tablets for data collection in offline mode. Each enumerator's tablet was coded for identification. Data collection was conducted with Android-enabled tablets running KoboCollect in offline mode, allowing data to be collected even in remote communities. Enumerators were also trained on how to upload collected data to the software system once connected to the internet. Data was subsequently downloaded into an MS Excel file for review. This process enabled the IT team to monitor data submitted by each enumerator, as data was tagged with enumerator names for easy tracking. Any issues with data entries were flagged, and the concerned enumerator was contacted for clarification. This quality assurance process was facilitated by the software's flexibility, allowing data collection to be paused and resumed as needed. Throughout the data collection period, the IT team at the University of Cape Coast provided oversight. Additionally, each region had a supervisor to resolve technical issues with the tablets or data uploads. A WhatsApp platform was set up for enumerators, the IT team, supervisors, and the research team to report any difficulties and receive immediate support.

The audio-recorded interviews were transcribed, cleaned and organised for data analysis. Pseudonyms were used to protect respondents' identity and ensure confidentiality.

2.6. Data analysis

Classroom observation data was analysed using descriptive statistics. Descriptive results from the 2022 learning study and end-line were compared to determine any possible changes in teacher's mean scores across the three lesson observation elements. Also, one-way ANOVA was used to determine mean differences at intervention level. In terms of assumptions, the design of the study ensured that there were different participants in each group. While the normality assumption of one-way ANOVA assessed using Shapiro-Wilk's test was not met, the one-way

ANOVA is considered robust against violations of the normality assumption (Blanca et al., 2017). The homogeneity of variance assumption, which was assessed using Levene's test was met for lesson plan ($p = 0.70$) and play-based activities ($p = 0.63$) but not lesson delivery ($p < .05$). Thus, the one-way ANOVA was used to examine group differences across the two elements, while Welch's F test was used to examine group differences for lesson delivery. Unlike the 2022 learning study, we did not estimate statistical differences at the regional and intervention levels due to large variations in sample sizes.

The interview data were analysed thematically through both deductive and inductive processes. Deductively, three overarching *a priori* themes namely, fidelity of implementation, effectiveness and sustainability provided the lens through which the research questions were formulated. Based on these questions, sub-themes, including quality of delivery, catalysts of and bottlenecks to effective implementation, strategies for effective implementation and recommendations for future PBL programming were identified for the overarching theme of fidelity of implementation. Similarly, improvements in participants' knowledge and skills in PBL pedagogies, attitudes towards usage of PBL activities in classrooms, PBL's perceived impact on learners, teachers, parents and schools were sub-themes that helped to gauge the effectiveness of the project. Finally, sub-themes such as level of PBL institutionalisation, capacity development, PBL intervention costs, what worked well and what did not work well, and recommendations helped to gain views from the participants to ascertain the sustainability of the PBL pedagogies in ECE and primary schools in Ghana. Inductively, participant responses to the questions related to these sub-themes allowed for identification of *a posteriori* themes.

The analysis of the interview data was driven by the objective of the study – to provide an understanding of what has worked well in the P3 project and identify lessons learned for future projects. The analysis was iterative and manually done according to thematic coding through a three-step process involving intra and cross case analytic approaches. The first analytic process was characteristically intra-case where interview transcript from each research participants (i.e. unit of analysis) representing each intervention school in the selected districts was analysed thematically to gain an in-depth understanding of their views. The second step entailed cross district comparison of the key analytic statements driven from the intra case analysis to further identify statements that represent views of participants in each selected region. The third step involved cross regional analysis of the analytic statements to identify themes that were similar or common across the three regions and those that were unique to each region. These analytic statements were then compared with identified themes from the RTP staff level (nationally) to arrive at the final themes that help to tell the story of the implementation, effectiveness and sustainability of the RTP play-based learning in Ghanaian ECE and primary schools.

2.7. Limitations

There are limitations in this final evaluation worth noting. First, a large survey of teachers to determine shifts in their attitudes to PBL approaches was not included due to mainly to budget and evaluation timeframe constraints. However, the qualitative interviews provided sufficient insights to help us understand general attitude of teachers towards PBL and the implementation of the P3 project. We also prioritised what the P3 project had achieved in terms of instructional practices that included the use of PBL approaches. We assumed that securing significant shifts in teacher attitudes and practices is the foundation for sustaining project gains and improving the student learning experience and outcomes. This lies behind our use of the 2022 Learning Study to assess any improvements in teachers practice and the magnitude of changes. This also meant prioritising interviews with stakeholders at national and district level as well as RTP project implementation teams who were responsible for project delivery in the three regions. This approach however meant that we could not focus on student learning outcomes, home environment activities and inputs that might have contributed to improvements as a result of inputs that targeted other stakeholders.

Finally, although we proposed a cost effectiveness analysis in our inception report, we were unable to carry this out due to our limited final evaluation timeframe and the time it would have required to collect detailed cost data at national, district and school level for a robust analysis of cost effectiveness. This means that it is not possible to for example, determine robust relative costs per teacher and intervention and which could have provided further insights into the cost of rolling out the P3 project at scale. We would recommend that if resources permit that a cost effectiveness analysis be conducted at a later time.

3. Findings

The findings of the evaluation are grouped under three main categories – *teachers’ classroom observation; extensive qualitative interviews with project beneficiaries and implementers; and mixed-methods analysis of pre-service teacher education.*

The analysis shaped the respondents’ contributions into the following findings that helped to illuminate the story about P3’s implementation of PBL in ECE and primary schools in Ghana. The first set of results are quantitative classroom observations which serve as a prelude to the more detailed qualitative results.

1.1 Quantitative Results: Observed Classroom Practice

The lesson observation focused of teachers’ practice on focused on three important dimensions, the availability and quality of a lesson plan; how effectively lessons plans were being delivered to achieve lesson objectives and finally the extent to which play-based activities have been

incorporated into lesson plans and how effectively they were being used to improve student learning experiences.

3.1.1. Assessment of Lesson Plan

Teachers without lesson plan

- Out of 452 teachers observed at end-line, only about four per cent (20; 4.4%) did not have a lesson plan available for the lesson observed.
- A breakdown shows that majority of these teachers were in the north. This is however a huge improvement compared to the results from the learning study (see Table 5).

Table 5. Teachers without lesson plan by intervention and region

	Learning study (N = 503)			End-line (N = 452)		
	Accra	Volta	North	Accra	Volta	North
	n = 7	n = 14	n = 70	–	n = 5	n = 15
Direct	1 (1%)	4 (4%)	26 (29%)	–	2 (3.5%)	8 (7.3%)
Indirect	5 (5%)	10 (11%)	20 (22%)	–	3 (16.7%)	2 (3.9%)
GALOP	1 (1%)	–	24 (26%)	–	–	5 (14.3%)

Item-by-item analysis

Table 6 shows the average scores of each of the items used to assess teachers' lesson plan. Scores for each item could range from 1 – 5 and are interpreted as follows: 1 – 2 = low; 3 = medium; 4 – 5 = high.

- Generally, scores for each item ranged between medium and high, except for planning interactive group activities.
- Regarding interactive activities, teachers' scores ranged between low and high, with the highest scores recorded for teachers in Indirect schools in Volta. It is important to note that teachers' average scores in the learning study for this item ranged between 1.60 – 3.66. Thus, when compared to the average end-line scores, teachers scores seemed to have improved across the regions and interventions, although low scores were recorded for GALOP in Accra and Indirect in the North.
- A key finding regarding teachers' lesson planning from the 2022 learning study was “indicating appropriate teaching and learning resources”, with teachers in all regions and across interventions scoring low (score range: 1.00 – 1.03). However, the end-line results are relatively higher (i.e. 3.32 – 4.13), indicating an improvement in teachers' ability to indicate the appropriate teaching and learning resources for lessons observed.

Table 6. Average scores for each lesson plan item by region and intervention

	ACCRA			VOLTA			NORTH		
	Direct	Indirect	GALOP	Direct	Indirect	GALOP	Direct	Indirect	GALOP
Lesson plan has clear performance indicators	4.03 (0.73)	4.31 (0.69)	4.32 (0.61)	3.87 (0.96)	3.78 (1.39)	3.54 (0.61)	3.92 (1.17)	3.62 (0.84)	3.55 (1.28)
Stated objectives are relevant and SMART	3.96 (0.66)	4.12 (0.81)	4.32 (0.47)	4.11 (0.74)	4.53 (0.51)	4.15 (0.36)	4.26 (0.64)	3.75 (0.72)	4.23 (0.67)
Lesson plan includes interactive group activities	3.11 (1.40)	3.30 (1.26)	2.39 (1.10)	3.50 (1.26)	4.14 (1.02)	3.31 (1.06)	3.45 (0.99)	2.75 (1.10)	3.27 (1.36)
Relevant core competencies are stated	4.00 (0.72)	4.30 (0.72)	4.14 (0.65)	4.09 (0.74)	4.27 (0.79)	3.90 (0.73)	4.00 (0.80)	3.49 (0.79)	3.87 (0.81)
Appropriate TLRs are stated	3.75 (0.90)	4.21 (0.89)	3.64 (1.19)	3.84 (1.00)	4.13 (0.83)	3.90 (1.08)	4.04 (0.95)	3.32 (1.04)	3.43 (1.33)
Stated learning activities are related to core competencies	3.69 (0.81)	4.03 (0.91)	3.89 (0.78)	3.86 (0.86)	4.00 (0.92)	3.81 (0.78)	3.90 (0.95)	3.12 (0.78)	3.63 (0.96)

Lesson Plan Total Scores

Scores for assessed lesson plans could range from 1 – 30, with higher scores indicating a higher quality lesson planning. Table 7 presents a breakdown of results by intervention.

- Generally, average lesson plan scores at end-line were similar for teachers across all interventions and were higher compared to those from the learning study (see Table 7).
- A one-way ANOVA was conducted to determine if lesson planning was statistically different for the three interventions at end-line. There was no significant difference among the groups ($F(2,449) = 1.40, p = .25$).

Table 7. Average Lesson Plan Scores by Intervention

	Learning study (N = 503)	End-line (N = 452)
Intervention	Mean (SD)	Mean (SD)
Direct	17.91 (6.85)	22.23 (6.09)
Indirect	13.07 (7.87)	21.25 (6.24)
GALOP	14.00 (7.51)	21.27 (6.05)
Total	15.83 (7.57)	21.80 (6.12)

- The average percentage of the mean scores relative to the highest score (i.e. 30) is higher for all groups at end-line compared to the learning study (see Figure 3). This is possibly due to a significant reduction in the number of teachers without lesson plans. But it also shows just how much Indirect and GALOP teachers had improved and caught up with teachers in the Direct schools.

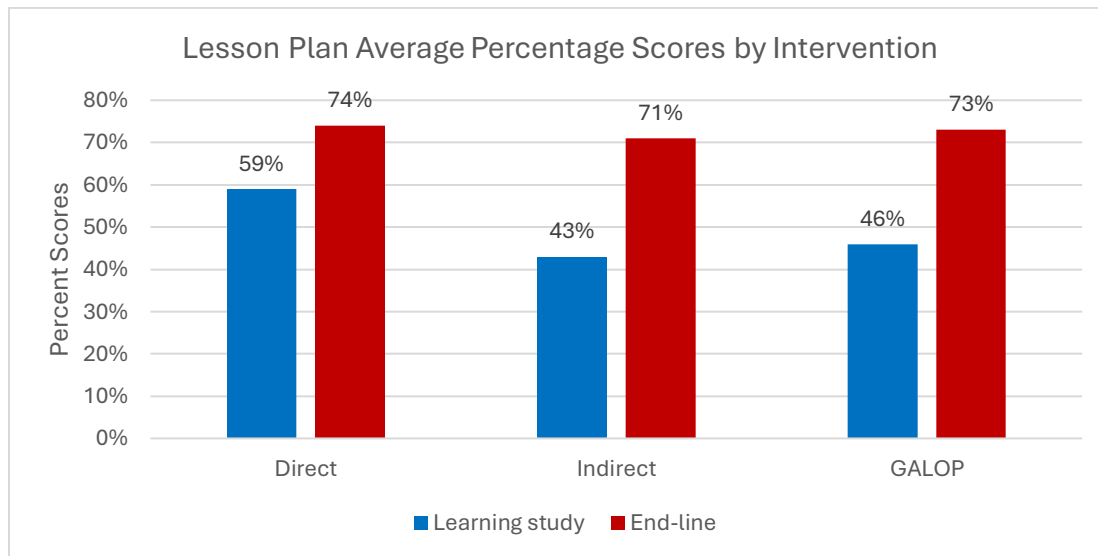


Figure 3. Lesson plan average percentage scores at learning study and end-line

Table 8. Average Lesson Plan Scores by Intervention and Region

Learning study (N = 503)				End-line (N = 452)		
	Accra	Volta	North	Accra	Volta	North
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Direct	21.07 (2.95)	18.86 (5.39)	15.38 (8.25)	22.42 (3.99)	22.13 (6.57)	22.12 (7.21)
Indirect	15.38 (5.77)	14.00 (9.42)	10.98 (7.66)	24.15 (4.30)	21.11 (9.85)	19.43 (5.00)
GALOP	15.35 (3.56)	20.05 (3.82)	7.78 (7.46)	22.71 (2.76)	22.18 (4.11)	19.25 (8.58)
Total	18.33 (4.82)	18.10 (6.56)	12.73 (8.52)	22.86 (3.91)	21.97 (6.57)	20.90 (7.09)

Table 8 presents a breakdown of lesson plan scores results by intervention and region.

- Average lesson plan scores across all three regions were higher at end-line compared to the learning study.

- However, average end-line lesson plan scores were similar for teachers in Direct schools in all three regions compared to Indirect and GALOP.
- In Indirect, average end-line scores were slightly higher for teachers in Accra compared to Volta and North.
- In GALOP, average end-line scores were slightly lower for teachers in North compared to Accra and Volta.

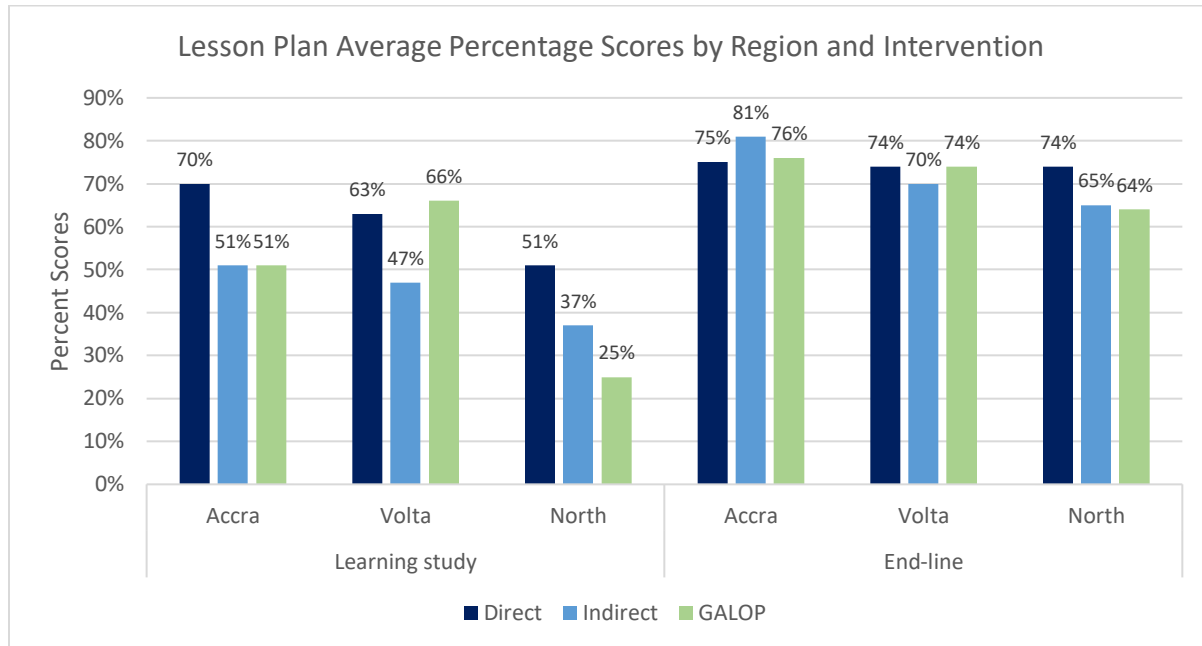


Figure 4. Lesson plan average percentage scores at learning study and end-line

- In percentage terms, the mean scores relative to the highest score of 30 is higher for all groups across regions at end-line compared to learning study (see Figure 4). However, Indirect and GALOP schools in Accra appeared to have made more gains between 'Learning Study' and 'End-line.' Also, all groups in Volta and North seemed to have made more gains between the two time points.
- It is important to note the difficulty in attributing all the changes to interventions alone. It is likely that in Accra, other interventions were contributing more to improvements in the Indirect and GALOP than in the Direct.

Table 9 presents average lesson planning scores for male and female teachers at learning study and end-line.

- The average end-line lesson planning scores for both male and female teachers across interventions are relatively higher compared to the learning study.

- While both male and female teachers in Direct schools made some gains at end-line, the change in scores for those in Indirect and GALOP are much higher.

Table 9. Average Lesson Plan Scores by Intervention and Teacher Sex

Intervention	Learning study		End-line	
	Male (n = 201)	Female (n = 279)	Male (n = 183)	Female (n = 269)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Direct	17.03 (7.48)	18.60 (6.38)	21.82 (6.65)	22.57 (5.60)
Indirect	12.22 (8.36)	14.01 (7.25)	20.45 (6.63)	21.86 (5.92)
GALOP	15.09 (7.26)	13.60 (7.59)	20.72 (5.87)	21.46 (6.14)
Total	15.25 (7.97)	16.07 (7.36)	21.34 (6.54)	22.12 (5.81)

3.1.2. Observed Lesson Delivery Quality

Item-by-item Analysis

Table 10 shows the average scores of each item used to assess the quality of teachers' lesson delivery. Scores for each item could range from 1 – 5 and are interpreted based on the following criteria: 1 – 2 = low; 3 = medium; 4 – 5 = high.

- The results are mixed with instances of low to high ratings. However, the number of items with low ratings are few (i.e. three items) compared to the 2022 learning study, where about eight items recorded low ratings. This suggests a general improvement in lesson delivery scores across items.
- Like the 2022 learning study, scores were relatively higher for *'teacher tone of voice'*, *'encouraging both boys and girls to ask questions'*, *'using reflective questions to end lessons'* and *'lesson evaluation'*.
- While scores for *'allowing children participation in lesson'* was similar to the learning study, teachers in GALOP schools in Accra made the highest gain, with their scores increasing from an average of 2.70 to 4.38.
- The pattern of scores observed for *'pupils ask questions on their own initiative'* is similar to that of the learning study. Except, that scores for teachers in the North increased slightly, particularly for Direct and GALOP, with scores moving from low to the medium range. However, the low scores observed at both time points raise concerns about children's ability to engage with lessons in more critical ways and could be a key area for future interventions.

- When compared to the 2022 learning study, scores for ‘*making learning objectives clear to pupils*’ improved slightly for teachers in Indirect and GALOP schools in Accra, Indirect schools in Volta and Direct schools in North.
- The pattern of scores observed for ‘*teachers use of TLRs*’ is similar to that of the learning study, except that teachers in Indirect schools in Accra made gains from 2.73 (i.e. low) to 4.09 (i.e. high).

Table 10. Average scores for lesson delivery item by region and intervention

	ACCRA			VOLTA			NORTH		
	Direct	Indirect	GALOP	Direct	Indirect	GALOP	Direct	Indirect	GALOP
Learning objectives made clear to pupils	3.53 (1.08)	3.43 (.04)	3.92 (1.15)	3.20 (1.27)	3.05 (1.19)	2.72 (0.87)	3.60 (1.28)	2.66 (1.16)	2.53 (1.28)
Teacher uses board appropriately	3.82 (0.89)	4.16 (0.86)	4.17 (0.81)	3.7 (0.90)	4.38 (0.69)	3.84 (0.80)	4.03 (0.89)	3.49 (0.85)	4.00 (0.80)
Teacher uses TLRs in lesson	3.90 (0.89)	4.09 (0.94)	3.42 (1.54)	3.72 (0.94)	3.83 (0.85)	3.84 (0.95)	3.77 (1.18)	2.88 (1.15)	2.68 (1.60)
Teacher uses appropriate questioning skills	3.80 (0.73)	3.81 (0.88)	3.59 (0.79)	3.67 (0.97)	3.66 (0.90)	3.48 (0.67)	3.89 (0.93)	3.54 (0.67)	3.62 (0.94)
Teacher clarifies learners’ misunderstandings	4.04 (0.79)	3.90 (0.84)	4.07 (1.03)	3.55 (0.94)	4.33 (0.68)	4.00 (0.63)	3.69 (1.05)	3.54 (0.72)	3.73 (1.13)
Teacher encourages boys and girls to ask questions	4.32 (0.70)	4.48 (0.56)	4.17 (0.94)	3.91 (0.81)	4.61 (0.50)	4.35 (0.83)	3.88 (0.95)	3.72 (0.77)	3.85 (1.08)
Pupils ask questions on their own initiative	2.41 (1.43)	2.34 (1.03)	1.85 (1.19)	2.09 (1.25)	2.00 (0.97)	1.59 (0.87)	3.14 (1.11)	2.96 (1.07)	3.02 (1.36)
Teacher speaks to pupils in friendly tone	4.70 (0.45)	4.66 (0.54)	4.70 (0.46)	4.12 (0.74)	4.94 (0.23)	4.75 (0.71)	4.19 (0.77)	4.21 (0.78)	4.11 (1.02)
Teacher acknowledges pupils’ effort when they give wrong answers	3.93 (1.02)	3.81 (0.73)	3.23 (1.10)	3.49 (1.03)	4.55 (0.61)	3.54 (1.05)	3.68 (0.94)	3.56 (0.90)	3.82 (0.98)
Teacher allows pupils to participate in lessons	4.28 (0.62)	4.09 (0.84)	4.38 (0.49)	4.03 (0.81)	4.27 (1.12)	4.35 (0.48)	4.19 (0.85)	3.54 (0.92)	3.62 (1.08)
Teacher uses reflections to end lesson taught	4.10 (0.56)	4.21 (0.64)	4.00 (0.80)	3.70 (1.12)	4.22 (0.73)	4.12 (0.42)	3.85 (1.05)	3.62 (0.79)	3.62 (1.13)
Teacher evaluates lesson taught	4.29 (0.55)	4.27 (0.62)	4.15 (0.67)	4.16 (0.69)	4.35 (0.99)	4.38 (0.49)	4.10 (0.98)	3.90 (0.53)	3.91 (1.01)

Lesson Delivery: Total Scores

Total scores for observed lessons could range from 12 – 60, with higher scores indicating a higher quality lesson delivery. Table 11 shows a breakdown of results by intervention group.

- Average lesson delivery scores at end-line were similar across all three intervention groups and were higher compared to those from the 2022 learning study, particularly for Indirect and GALOP (see Table 11).
- A Welch's one-way ANOVA was conducted to determine if lesson delivery was statistically different for the three interventions at end-line. There was no significant difference among the groups ($F(2,220.38) = 1.97, p = .14$).

Table 11. Average Lesson Delivery Scores by Intervention

Intervention	Learning study (N = 503)	End-line (N = 452)
	Mean (SD)	Mean (SD)
Direct	43.27 (7.29)	44.97 (8.87)
Indirect	38.23 (7.96)	44.38 (6.22)
GALOP	37.19 (8.08)	42.95 (8.27)
Total	43.27 (7.29)	44.41 (8.27)

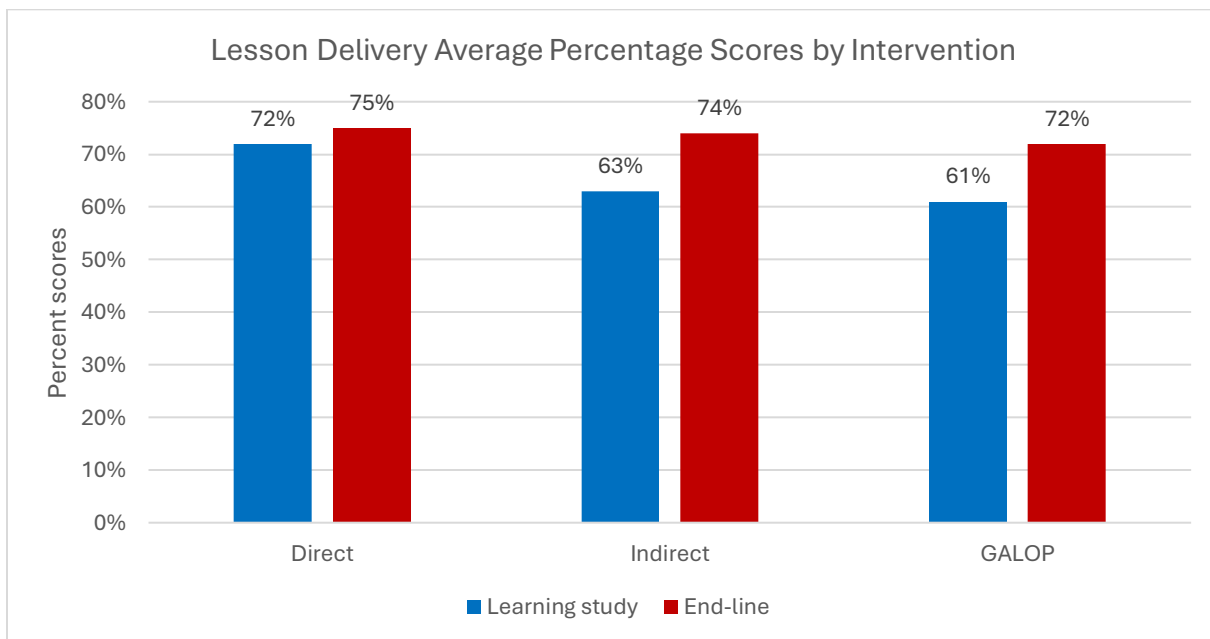


Figure 5. Lesson delivery average percentage scores at learning study and end-line

- The average percentage of the mean scores relative to the highest score of 60 is similar for the Direct group, but higher for the Indirect and GALOP at end-line compared to the 2022 learning study (see Figure 5). It is likely that teachers in Direct schools were already performing at high levels during the learning study, hence, the minor changes in scores.

Table 12. Average Lesson Delivery Scores by Intervention and Region

	Learning study (N = 503)			End-line (N = 452)		
	Accra	Volta	North	Accra	Volta	North
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Direct	45.05 (6.00)	41.73 (7.43)	42.97 (7.77)	46.61 (6.50)	42.23 (8.81)	45.03 (10.20)
Indirect	38.70 (8.17)	40.80 (8.46)	36.35 (7.12)	46.75 (6.03)	47.83 (5.45)	41.62 (5.40)
GALOP	33.51 (4.86)	43.97 (5.73)	34.31 (8.30)	43.75 (8.15)	42.87 (6.76)	42.40 (9.73)
Total	40.70 (7.95)	42.18 (7.28)	39.57 (8.62)	46.11 (6.79)	43.37 (7.94)	43.61 (9.19)

Table 12 presents a breakdown of lesson delivery scores results by intervention and region.

- Average lesson delivery scores were similar for teachers in Direct schools at end-line compared to the learning study.
- Average lesson delivery scores were slightly higher for teachers in Indirect and GALOP at end-line compared to the learning study.
- In percentage terms, the average scores relative to the highest score of 60 is higher for all groups in Accra and North at end-line compared to learning study. But the percentage increment is quite profound for the Indirect and GALOP at end-line. Also, while lesson delivery scores for Direct and GALOP in Volta remained the same between learning study and end-line, the percentage addition for Indirect between both times is noticeably high, with 20 percent points increase (see Figure 6).

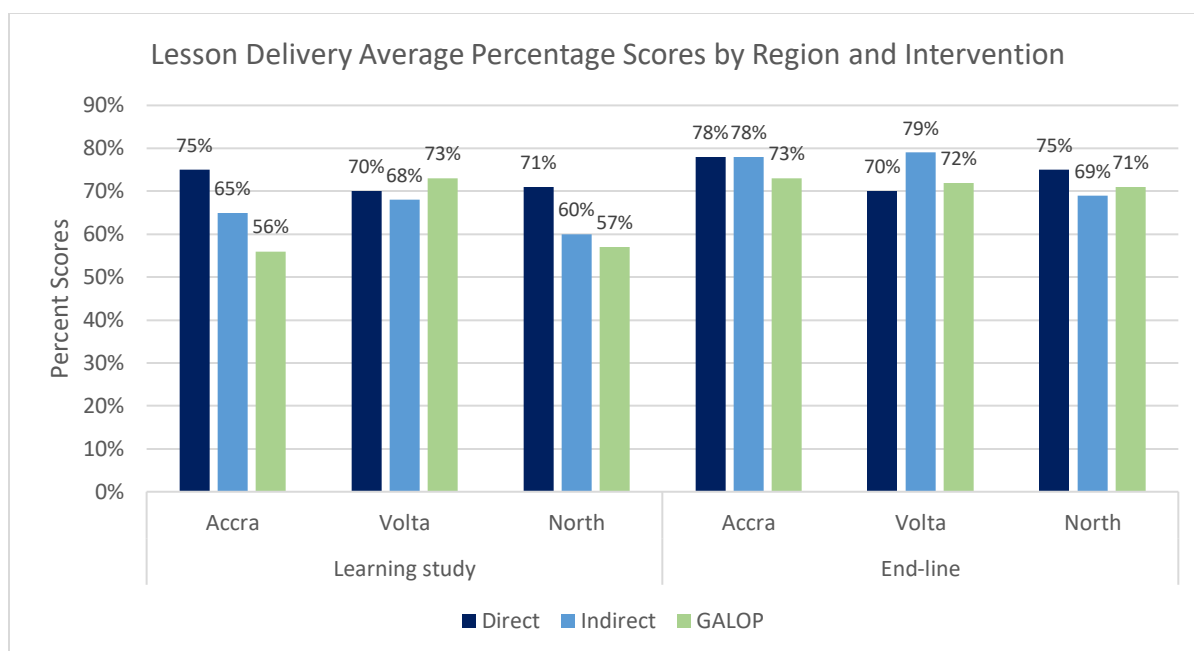


Figure 6. Lesson delivery average percentage scores at learning study and end-line

Table 13 presents average lesson delivery scores for male and female teachers at learning study and end-line.

- Like the lesson plan, average lesson delivery scores are relatively higher for both male and female teachers at end-line compared to the learning study.
- However, male and female teachers in Indirect schools and female teachers in GALOP seemed to have made more gains between the two time points.

Table 13. Average Lesson Delivery Scores by Intervention and Teacher Sex

Intervention	Learning study		End-line	
	Male (n = 201)	Female (n = 279)	Male (n = 183)	Female (n = 269)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Direct	42.81 (7.91)	43.03 (6.87)	43.71 (9.52)	46.00 (8.19)
Indirect	38.13 (8.07)	38.34 (7.90)	43.81 (6.77)	44.81 (5.80)
GALOP	39.51 (7.80)	36.35 (8.05)	41.72 (7.67)	43.39 (8.48)
Total	40.85 (8.19)	39.92 (8.05)	43.46 (8.68)	45.05 (7.87)

3.1.3. Assessment of Play Activities

Item-by-item Analysis

Table 14 shows the percentage scores of the items used to assess play activities. Generally, the number of teachers observed using play-based activities in the end-line study increased across the three regions, especially for teachers in Indirect and GALOP schools. For instance, while only 15% and 5% of teachers in Indirect and GALOP schools, respectively, incorporated traditional activities during the 2022 learning study, 67% in Indirect and 17% in GALOP did that in the end-line observation. Similarly, in Volta, the number of teachers in Direct schools who incorporated traditional activities in the end-line study was about twice (i.e. 83%) the number of teachers in the learning study (i.e. 41%). A similar pattern is observed for teachers in Direct schools in the North, with the percentage increasing from 54% in the 2022 learning study to 85% at end-line.

Another example is in relation to *pupils use of manipulatives*. In the 2022 learning study, the minimum number of teachers observed was 16% and the maximum was 61%. However, in the end-line, this was observed for at least 40% of teachers (i.e. range: 43% – 83%). Also, while *‘offering pupils the chance to choose activities and materials’* was low across all regions and interventions in the learning study (range: 6% - 46%), the number of teachers observed doing so at end-line increased, with scores ranging from 20% – 76%. These changes could be due to the fact that recommendations from the 2022 learning study had been used by the RTP Accra team to improve teacher support across the intervention arms.

Table 14. Percentage of teachers observed implementing play activities by region and intervention

	ACCRA			VOLTA			NORTH		
	Direct	Indirect	GALOP	Direct	Indirect	GALOP	Direct	Indirect	GALOP
The teacher encourages movement activities in lesson	89%	94%	69%	89%	94%	100%	95%	76%	66%
Teacher incorporates traditional games, songs and dances in lesson	67%	67%	17%	59%	83%	42%	85%	60%	46%
The teacher encourages pupils to use manipulatives (e.g., counters, bundles of sticks) in the lesson	83%	79%	21%	73%	72%	79%	88%	69%	43%
Teacher offers children the chance to choose activities and materials for play or activity	41%	76%	37%	34%	67%	24%	76%	59%	20%
Teacher engages children in using	44%	33%	38%	43%	83%	18%	67%	51%	34%

stories to deliver lesson									
Teacher organizes a variety of learning spaces for play (e.g. reading corner)	63%	55%	33%	56%	78%	39%	71%	43%	20%
Pupils have chances to play with materials or objects (different shapes and colours)	66%	83%	38%	75%	72%	72%	86%	63%	37%
Teacher encourages child-guided activities or experiences with scaffolding	87%	76%	92%	70%	89%	85%	97%	65%	54%
Pupils work in pairs or groups	84%	70%	71%	95%	50%	88%	91%	52%	50%
Pupils share their learning in different ways	85%	88%	96%	76%	89%	69%	94%	84%	41%
Pupils choose from a variety of learning activities	37%	58%	23%	48%	72%	31%	68%	55%	23%
Pupils works are displayed in the classroom	55%	58%	12%	35%	44%	16%	58%	47%	23%
Pupils respond to open-ended questions and discussions	91%	97%	50%	76%	100%	97%	90%	86%	74%
Pupils explore outside of the classroom	21%	36%	17%	35%	17%	9%	41%	45%	40%
Pupils engage in activities with their senses [e.g. Find something patterned]	65%	39%	79%	76%	72%	55%	89%	49%	61%
Pupils respond to class content with physical actions [e.g. Touch your nose; Kofi says dance]	72%	58%	58%	72%	83%	49%	96%	45%	52%

Table 15 shows a breakdown of teachers observed using play activities by grade level – KG, lower primary (i.e. grades 1, 2 and 3) and upper primary (grades 4, 5 and 6). Generally, more KG teachers were observed for almost all items. For example, a little above 80% of KG teachers incorporated traditional games, songs, dances in lessons compared with about two-thirds and half of teachers in lower and upper primary, respectively. This is not surprising, given that KG lessons may lend themselves more to such activities. However, for some of the items, the percentage of teachers who were observed was about half or lower and are worth mentioning. An example is *‘using stories to deliver lessons’*, which was observed for approximately half of the teachers across grade levels. It is possible that teachers may not know how to connect

stories to lessons and may therefore require support in doing so. A second example is *'display of pupils works in the classroom'*, which was observed for less than half of teachers across grades. While displaying children's work can make them actively engage with the process of their learning, this may be difficult for schools that run on shift. One more example is *'pupil exploring outside of the classroom'*, which was observed for a relatively lower percentage of teachers (46% KG, 30% lower and 26% upper). Although just one observation may not produce a complete picture of teaching and learning activities, it is possible that teachers may have challenges using the outdoor as an extension of their classroom. Understanding these challenges and addressing them can help teachers maximize these spaces.

Table 15. Percentage of teachers observed implementing play activities by grade level

	KG	Lower Primary	Upper Primary
The teacher encourages movement activities in lesson	91%	87%	85%
Teacher incorporates traditional games, songs and dances in lesson	83%	66%	52%
The teacher encourages pupils to use manipulatives (e.g., counters, bundles of sticks) in the lesson	78%	79%	66%
Teacher offers children the chance to choose activities and materials for play or activity	55%	50%	50%
Teacher engages children in using stories to deliver lesson	57%	46%	46%
Teacher organizes a variety of learning spaces for play (e.g. reading corner)	67%	53%	51%
Pupils have chances to play with materials or objects (different shapes and colours)	80%	70%	64%
Teacher encourages child-guided activities or experiences with scaffolding	87%	84%	76%
Pupils work in pairs or groups	74%	76%	81%
Pupils share their learning in different ways	76%	81%	86%
Pupils choose from a variety of learning activities	51%	54%	43%
Pupils works are displayed in the classroom	48%	45%	41%
Pupils respond to open-ended questions and discussions	90%	86%	85%
Pupils explore outside of the classroom	46%	30%	27%
Pupils engage in activities with their senses [e.g. Find something patterned]	77%	68%	65%
Pupils respond to class content with physical actions [e.g. Touch your nose; Kofi says dance]	84%	71%	63%

Total Scores Results

Scores for play-based activities could range from 0 – 16, with higher scores indicating more play-based activities. As indicated under the section on data collection tools, one item was dropped from the play-based activities checklist. Thus, to make the results for the 2022 learning study and 2024 end-line more comparable, the data from the learning study was re-analysed using the 16 items used for the end-line. Table 16 presents a breakdown of results by intervention group.

- On average, more play activities were observed for teachers across all three groups at end-line compared to learning study.
- However, between 'Learning study' and 'End-line', Indirect and GALOP schools seemed to have increased the number of play-based activities used in lessons.
- A one-way ANOVA was conducted to determine if the number of play-activities observed was statistically different for the three interventions at end-line. There was a significant difference among the groups ($F(2,449) = 34.89, p < .001$).
- A Tukey post-hoc test for multiple comparisons showed that, at end-line, the mean scores for the Direct group ($M = 11.28, SD = 3.87$) was marginally significantly different than the Indirect ($M = 10.20, SD = 4.10$) and significantly different than GALOP ($M = 7.35, SD = 4.21$). In effect, even though the Indirect and GALOP had improved over the two data collection points, teachers in the Direct schools had maintained their lead in the use of play-based activities in their instructional practice.
- There was a statistically significant difference between the mean scores of Indirect and GALOP at end-line. This means that the number of play-based activities observed in lessons in Indirect schools was statistically higher compared to GALOP.

Table 16. Average scores for play activities observed across lesson by Intervention

	Learning study (N = 503)	End-line (N = 452)
Intervention	Mean (SD)	Mean (SD)
Direct	9.34 (4.11)	11.28 (3.87)
Indirect	6.20 (3.56)	10.20 (4.10)
GALOP	4.52 (4.10)	7.35 (3.87)
Total	7.43 (4.49)	10.20 (4.21)

Table 17 presents a breakdown of play-based activities used in lessons by intervention and region.

- While the average number of play-based activities used during lessons by teachers in Direct schools in Accra and Volta was almost the same between learning study and end-line, the North appeared to have made some gains. It is worth noting that at learning study, teachers in Direct schools were already using more play-based activities.
- The average number of play-based activities observed for teachers in Indirect schools in Accra and Volta at end-line is almost twice what was observed during the learning study.
- A similar pattern is observed for teachers in GALOP in Accra, with an average of about 4 more play activities observed between learning study and end-line.
- Taken together, the results echo the possible reinforcement of teachers' skills based on evidence and suggestions from the learning study.

Table 17. Average scores for play activities observed across lesson by Intervention and Region

	Learning study (N = 503)			End-line (N = 452)		
	Accra	Volta	North	Accra	Volta	North
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Direct	10.46 (3.54)	9.01 (3.37)	8.81 (4.66)	10.42 (3.88)	9.98 (4.22)	12.65 (3.21)
Indirect	5.82 (3.63)	6.67 (3.76)	6.17 (3.42)	10.63 (3.73)	11.67 (2.95)	9.41 (4.54)
GALOP	1.94 (2.21)	7.05 (4.00)	4.40 (4.07)	6.60 (3.25)	8.63 (2.40)	6.74 (5.05)
Total	7.27 (4.86)	7.90 (3.78)	7.25 (4.64)	9.76 (4.01)	9.85 (3.66)	10.74 (4.57)

Table 18 presents a breakdown of results by intervention group and teacher sex at learning study and end-line.

- On average, male and female teachers in Direct schools were observed using 11 out of the 16 play-based activities at end-line.
- Between 2022 learning study and end-line in 2024, male and female teachers in Indirect schools appeared to have made more gains in terms of the number of play-based activities used as part of lessons.
- The average number of play-based activities observed for female teachers in GALOP schools slightly increased between the two time points.

Table 18. Average scores of play-based activities observed across lessons by Intervention and Teacher Sex

Intervention	Learning study		End-line	
	Male (n = 201)	Female (n = 279)	Male (n = 183)	Female (n = 269)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Direct	8.40 (4.44)	9.81 (3.90)	11.60 (3.65)	11.02 (4.02)
Indirect	6.21 (3.62)	6.20 (3.52)	9.68 (4.23)	10.60 (3.99)
GALOP	4.72 (3.77)	4.45 (4.23)	6.60 (4.06)	7.61 (3.79)
Total	7.13 (4.33)	7.35 (4.61)	10.45 (4.21)	10.03 (4.20)

3.2. Qualitative Findings

The qualitative findings are based on school level and national level (i.e. master trainers and RTP staff) research participants' views on three overarching *a priori* themes – fidelity of implementation, effectiveness and sustainability of PBL in direct, indirect and GALOP intervention schools.

3.2.1. Fidelity of Implementation

In this thematic area, the objective was to gain insights into the degree to which the RTP's play-based learning (PBL) project was delivered as intended by its developers. To achieve this, it was important to learn from the research participants their experiences of the quality of delivery, participant involvement, and implementation enablers and constraints.

Quality of delivery

Participants in Direct schools across the researched regions – Northern, Volta and Greater Accra expressed their satisfaction with the quality of the training. Teachers and headteachers believed the trainings were regular or sufficiently frequent, in-depth, supportive and impactful. Thus, they gained substantial exposure to play-based learning (PBL) methodologies. The following words of the B3 Teacher from one of the Direct schools in Ga South capture the views of the other participants on the quality of PBL training they received:

It's good. Almost every month, we go for training once or twice and they take good care of us. How they facilitate, we also like it so much. And we think that if not because maybe they are going to another place, the training should continue.

Specifically, one of the teachers described the coaches as friendly, supportive and professional, emphasizing that they provided useful feedback to improve the implementation of PBL pedagogies in the classroom: *The coaches are very friendly. The last time, they went through all*

the lesson notes. After teaching, they gave us feedback on what could have been done better. They have really been helpful (Teacher, Direct, Tolon). The headteacher of one of the Direct schools in Anloga District expressed appreciation for the support her school received on PBL, describing it as enough for teaching: *The frequent training workshops for teachers and the presence of a coach in the school make the support enough for implementing play activities in their lessons (Headteacher, Direct, Anloga).* A basic three (B3) teacher from a Direct school in Ga South was more specific in her rendition, providing an example of what made the delivery of the PBL activities very good and useful. She explained: *It's very good and very useful too. I'm thinking of the three: **Reflect, connect, apply**. I use that a lot (B3 Teacher, Direct, Ga South).*

It must be emphasized that research participants of the Indirect and GALOP schools across the participating regions resonated with their counterparts in the Direct schools that the quality of training in PBL was impactful. However, they diverged with their colleagues, explaining that the training was infrequent and overloaded with limited support:

The workshops are very impactful, but we are not getting enough. I have been talking to friends under [the] Direct schools and realize that they have been going for more workshops. For three years, I have been there only three times. (B6 Teacher, Indirect, Ga South)

Some of the participants intimated that because of the infrequent or limited time for training, the trainers tried to cover a lot of material within a short time and thus, rushed through the process. As one of the basic six (B6) teachers in an Indirect school in Ga South District articulated: *The contents were many, and therefore the GES facilitators were in a rush. I realized that if the days were more than one week, they could have paced the lesson in a way that would be more suitable.* This experience was corroborated by a basic five teacher in a GALOP school in Ga West as follows: *The content if I remember vividly, was packed. I think that it should be reduced and if I remember we used two days also.* The RTP level staff believed that the ineffectiveness issues raised by Indirect and GALOP schools regarding the training were directly connected to poor district/school leadership, especially in terms of poor monitoring and supervision by school heads and the district officials. These concerns notwithstanding, analysis of the interview data revealed active learner and teacher participation in the RTP PBL learning activities.

Learner and teacher participation

The research participants in the Direct, Indirect and GALOP intervention schools across the regions indicated that learners and teachers positively embraced and actively participated in play-based learning activities. Teachers and headteachers referred to teaching and learning activities in classroom and school wide safety as areas of learner and teacher active

participation. As one of the primary school teachers explicated, learners loved play and if it was integrated in the learning, they were happy and participated actively.

It's like everybody, every child wants to do something when you use the play-based in your teaching. They all want to get involved. You know, it interests them, it excites them. So, everybody gets on board. Nobody is left out (B4, GALOP, Ga West)

Some teachers attributed the active learner involvement in teaching and learning activities to the play-based methodologies because firstly, they allowed for every learner to be on board the learning voyage, and secondly, they inspired learners to own the learning process. *Because of the play-based methodologies, it doesn't leave any learner behind since all of them are brought on board. It allows them to do more as they are doing the work by themselves.* (B6, Indirect, Ga South).

Similarly, teachers consciously use the PBL pedagogies because they made lesson delivery easier and the school safe and inviting for active learning. A teacher in the Direct intervention schools in the Volta Region captured this point as follows: *Yes, because lessons are now easy on my part as a teacher when I'm delivering. Because I use the play-based approach, make it playful, they [learners] want to participate, they want to do most of the work. So, it has even made my work easier as a class teacher* (B1 Teacher, Direct School, Keta). It is worth noting that notwithstanding the positive embrace of the PBL pedagogies, experiences of some teachers in Indirect and GALOPs revealed that transmission of PBL knowledge without practical demonstration could hamper effective adoption and practice. For example, a teacher from an Indirect intervention school in the Tolon District of the Northern region explained: *I am not able to use some of the [PBL] methods because sometimes you need to see somebody doing it for you to also learn but these were just mentioned without demonstrating for us to see.* This concern may have arisen because of implementation constraints.

That said, the improvement in learner participation as a result of teachers' use of play-based activities is reflected in the high percentage of teachers observed using PBL activities across regions and interventions. Also, teachers' views on the shifts in learner participation is seen in the medium to high (3.62 – 4.22) average scores teachers obtained on the lesson delivery item – *teacher uses activities that allow pupils to participate in lessons.*

Implementation constraints

The data from both the interviews and RTP staff level staff revealed that inadequate infrastructure and supply of teaching and learning resources constituted a constraint to effective implementation of PBL across the three-tier intervention schools in the researched regions. The views of stakeholders, including teachers, headteachers and RTP official were in resonance when it came to the role paucity of education infrastructure and teaching and learning resources played to constrain PBL implementation in schools. *We should be given a lot*

of resources materials. Because when you come back and you don't have enough, you need to sit down and prepare. It involves money and time (B4, GALOP, Ga West). A basic six teacher from an Indirect intervention school in Ga South clarified that it was not all the TLRs that teachers could improvise even if they were willing to: *Teaching and learning resources. It's not all of them that we can improvise. Okay. Some of them, you need to buy. They are very high for teachers to absorb all the costs. (B6, Indirect, Ga South).* Using furniture and nature of classrooms as an example, the headteacher of a GALOP school in Sagnerigu District further clarified the resource constraint: *Furniture and spacious classrooms are some factors that have constrained PBL in this school. We are not able to sit them in a way that facilitates effective supervision.* Even though, teachers in Direct schools shared in the views of their colleagues regarding resource constraints, the described degree of resource inadequacy as less severe compared to the Indirect and GALOP schools:

The challenges are not much, but sometimes it's the materials. The students need to play with things around. Yes, so sometimes the availability of the materials for them to use are not there. And that's one challenge I've since faced. (KG 2 Teacher, Direct, Keta)

The education infrastructure challenges were equally acknowledged by the RTP staff at the national level citing poor classroom infrastructure and large class sizes as constraints to effective PBL implementation.

The interview data from the Northern and Greater Accra regions revealed some interesting findings which though, specific to each region are worth consideration. Across the three intervention arms schools, a recurring theme that was described as a constraint to P3/RTP driven PBL implementation was teacher reluctance. Teachers considered PBL pedagogies as demanding and time consuming. [...] *how can I think of coming to teach, then you think of song, so it's like... I didn't like it at the initial stage because it was quite difficult, time-consuming". (KG, Direct, Ga South).* Relatedly, B4 from a GALOP school in Ga West said: *It [PBL] takes time. It takes a lot of time to get all of them [learners] involved. So, it's time-consuming"* (B4, GALOP, Ga West). However, the headteacher of the Indirect school in Ga South believed that teacher reluctance towards PBL activities was more of an attitudinal issue than the excuse of those activities being time consuming. He explained:

I always expect the teachers to be creative in the sense that when we say play-based, it doesn't mean that the play is always there for you. But based on the topic, you can create your own play to suit your lessons. They always think that there should be a pack of plays somewhere.

The RTP staff level data corroborated the issue of teacher reluctance labelling it as *the unchanged teacher mindset toward creative pedagogies such as PBL*. The observation about unchanged teacher mindset toward PBL aligned with an observation in the Northern region that

some teachers have natural dislike for play: *Some people[teachers] already don't like play, so you have a few who are not so much interested. Some even claim that it has made the children to talk to the teachers like their peers* (Teacher, Indirect, Tolon)

In the Direct schools in the Northern region, headteachers also identified multiplicity of interventions in schools as a major constraint to effective implementation of interventions including the P3 play-based learning. For example, one headteacher elucidated the issues as follows:

One factor that affects P3 is the multiple NGOs/projects operating in the school. Rising Academy comes to the school twice every week and when they do, the teachers have to implement their methodology and revert to LTP when they leave. So, there is a problem of different methodologies in the school. This NGO wants the teacher to operate a particular methodology and the another also wants theirs. This is a major constraint that I have witnessed in this school (Headteacher, Direct, Tolon).

Finally, interview data from the RTP staff level indicated that teacher capacity gaps (for instance, irregular meetings of PLCs) leading to poor understanding of PBL concepts and knowledge of activity-based learning pedagogies contributed to frustrating the implementation efforts. For example: *Education officials did not have the required capacity to effectively deliver learning in a way that improved literacy rates* (RTP Education Specialist, Accra). These challenges notwithstanding, the data also revealed certain strategies that served as implementation enablers.

Implementation enablers

Headteachers, teachers and master trainers of the Direct, Indirect and GALOP schools believed that the professional learning communities (PLCs) served as an avenue for equipping newly posted teachers as well as reinforcing the use of PBL learning pedagogies among the already established teachers. The views of the headteachers of the Direct intervention school in Weija, the Indirect intervention in Ga South and one of the master trainers in Ga South aligned when they emphasized the enabling learning space PLCs in their school provided for co-learning of PBL methodologies, especially for teachers who are novices to PBL. As Headteacher of the Direct school in Weija explicated: *What we've been doing is when somebody is newly posted, the person has not gone through the play-based teaching or learning before, we organize PLC to [expose] starters to the usefulness of play in teaching and learning*. Using the RTP book to elaborate the importance of PLCs as enablers of PBL implementation, the headteacher of the Indirect school in Ga South stated that: *Our PLC is based on RTP book that they gave to us on active learning. So, we are taking the teachers through from time to time. Every PLC session, we take them through so that gradually they will get used to most of the active learning and play-*

based methodologies. Corroborating these views from another angle was the Master Trainer in Ga South who said that:

Even when we, the master trainers go to the schools, we allow the teachers themselves, the curriculum lead, to lead the PLC in teaching their colleagues. So even if we are not there, they are able to teach their colleagues and help them. (Master Trainer, Direct, Ga South)

The importance of collaboration that P3/RTP play-based learning philosophy sought to inculcate in both educators and learners was emphasized by the headteacher of the Indirect school in Tolon District:

For me, collaboration among teachers is one of the things that has worked well. When a teacher has a challenge, he comes to me and we seek a colleague who can help. With this understanding, there is no competition among them. It's all about the children and not any one individual (Headteacher, Indirect, Tolon).

It was the collaborative nature of the PLC sessions, fostering teacher professional development through continuous learning and how they enhanced PBL activities that inspired stakeholders to describe PLCs as vital implementation enablers: *These collaborative sessions help teachers refine their skills, share experiences, and enhance their understanding of PBL, supporting more effective and consistent implementation of play-based approaches across GALOP schools.* (Headteacher, GALOP, Ketu South). Staff of the RTP national level office and the headteacher of the Direct school in Tolon however, emphasized that regular supervision and training underpinned the success of the PLCs and classroom incorporation of PBL activities:

The observation, headteacher supervision, PLC and regular training have worked well. These have helped the teachers to practice PBL in their classrooms. When the teachers know that they will be observed regularly, it generates a sense of interest in incorporating play into their lessons. (HT, Direct, Tolon)

Additionally, the adoption of positive disciplinary strategies was considered by some teachers an enabler of effective implementation. They equated positive disciplinary strategies to involving learners in establishing classroom routines, appointing them to leadership position and engaging in dialogue rather than use of cane and inappropriate language. A teacher of the GALOP school in Sagnerigu District confessed how his abusive language scared the learners. However, he stopped and embraced positive disciplinary attitude towards learners.

Previously, when a learner answered a question wrongly, I either shouted at the child or made the class hoot at the person but I have learned that such responses were not good. I have also stopped corporal punishment because it can scare children from learning (Teacher, GALOP, Sagnerigu)

A teacher in Ga West believed appointing recalcitrant learners as leaders could make them more cooperative for *“you realize that because the person is in charge, he controls himself and he doesn't affect others”*. (B5, GALOP, Ga West)

The interview data revealed that PBL training made caning as a means of disciplining learners very unattractive and that may have transformed teachers' disciplinary approaches. Thus, some teachers tried to use positive disciplinary approaches. One of the teachers shared her strategy as follows:

I was just using the cane. Sometimes, I caned the child in such a way that he/she does not come to school the next day. But as I am using the positive learning behaviour, the child does something and I give an activity that rather helps him/her to learn something new. Because of this, the child will come to school the next day. (Teacher, Direct, Tolon)

Highlighting his ability to involve learners in the process of establishing routines, which has in turn minimised learner misbehaviour, another teacher explained:

I quite remember that during the lesson plan preparation, we did something about classroom management and how to minimize unnecessary noise in the classroom, and the routines and regulations that you can enact with them. Since learners are part of whatever initiative that the teacher is bringing on board, they feel happy that they've also brought an idea that a teacher has taken and therefore we should all come together and abide by it. And with that, it has minimized misbehaviour significantly. (B6, Indirect, Ga South)

Teachers views on their reliance on positive discipline strategies and how it facilitates PBL is consistent with the results of the classroom observation. Thirty-four percent of teachers observed used positive discipline strategies (e.g. referring learner to agreed rules, assigning learner additional task). It is interesting that approximately 50% of teachers observed did not use any disciplinary method. It is possible that the positive class climate created overtime may have reduced learner misbehaviour.

Another important implementation enabler was the Teacher Champions. The RTP level staff, both nationally and globally and teachers in Direct, Indirect and GALOP schools in the Volta region roundly recognised teacher champions enablers of the implementation of PBL. *It has been so good working with the teacher champion because he is always open. Sometimes you want to plan a lesson and include play, he is approachable*. (B6 Teacher, Direct, Keta).

Beyond the school and district levels, findings from both the national and global level RTP Staff singled out government support through the agencies of the Minister of Education as crucial enablers of the implementation of PBL. For example, the National Teaching Council (NTC) support regarding the review and design of teaching and coaching manuals for the PBL project was an important implementation enabler. Similarly, the National Council for Curriculum and

Assessment (NaCCA) collaborated RTP/P3 to design the science, technology, engineering and mathematics (STEM) manuals. Then, the Ghana Education Service (GES) provided mentoring support through its school improvement support officers (SISOs).

Summary of findings

- Trainings or exposures of headteachers and teachers to PBL pedagogies were impactful although educators in the Indirect and GALOP schools wished they got more regular training as their counterparts in the Direct schools.
- Learners and teachers positively embraced and actively participated in play-based learning activities.
- Inadequate infrastructure and supply of teaching and learning resources constituted a constraint to effective implementation of PBL across the three-tier intervention schools in the researched regions and was a big implementation constraint.
- Multiplicity of interventions and their pedagogies competing for teachers' attention and adoption affected seamless PBL implementation.
- Some teachers' reluctance or unchanged mindset towards PBL activities because of their dislike for play as an element of learning.
- Creative pedagogical gaps among some stakeholders contributed to constraining PBL implementation.
- Utilisation of PLCs as spaces for professional development and adoption of PBL contributed to effective implementation.
- Deploying teacher champions as PBL implementors contributed and enabled effective implementation.
- Teacher adoption of positive disciplinary strategies proved enabling for PBL implementation.
- Government collaborative support through the agencies of Ministry of Education was implementation enabling.

These findings on implementation have a consequential effect on how effective the P3/RTP play-based learning approaches have been, especially regarding their uptake by the intended participants.

3.2.2. Insights into Effectiveness of RTP PBL

By insights into effectiveness of RTP play-based learning, the P3 endline study sought to understand how well the project improved teachers' knowledge of PBL, their attitudes towards the use of play in classroom practice, and the perceived impact of learners.

Improvement in teacher PBL knowledge of PBL

Generally, teachers, headteachers and master trainers across the three intervention arms were unanimous in acknowledging improvement in their knowledge of RTP's PBL and its philosophy. Teachers reported that since their involvement in the P3 project, their knowledge of PBL has improved. This was particularly evident in their understanding of the role of play in learning, the type of play activities suitable for classroom learning and their ability to employ a range of materials for demonstration purposes during teaching and learning. Regarding improvement in teacher knowledge of PBL, some teachers acknowledged that their original knowledge of play and its role in children's learning was scanty: *In fact, I used to think that play was just a way to let my pupils have fun. [But], through the training, I realised that you could consciously let them learn while they play.* (Teacher, GALOP, Sagnerigu). A counterpart teacher from Tolon District was also emphatic, stating that: *I thought it was the literal meaning of play, but I got to know that it is about using some activities to get the job done* (Teacher, Direct, Tolon). Some teachers acknowledged that they did not previously know anything about play, for example, games and its place in classroom teaching. As a case in point, B1 Teacher of Weija Direct school said: *[...] I didn't know anything about game and like incorporating game into what I was teaching. But now I'm doing it myself. So, it has helped me to know the actual things that we need.* The words of one of the headteachers below summarised the views of other participants regarding their knowledge of PBL:

Right now, most of the teachers know that you don't just enter the classroom and start teaching but use a play-based methodology to introduce the topic. So normally after the play, they do reflect, connect, and apply to give the children opportunity to share their ideas about what they have learned from the play. (Headteacher, Direct, Ga South)

Thus, generally, teachers and headteachers reported improvements in teacher knowledge of PBL. The interview data from the school and RTP staff levels revealed that the P3/RTP play-based interventions also motivated teachers' use or apply child-centred pedagogies in classrooms.

Perceived impact of teachers' practice of PBL pedagogies

Teachers in the different intervention schools across the regions reported that the interventions positively influenced their lesson preparation and facilitation. For example, one teacher remarked: *I remember we have been preparing the lengthy notes. But this one, when you follow the Right to Play format, you realize that your lesson notes are just brief, but direct too* (B5 Teacher, GALOP, Ga West). Another teacher corroborated as follows: *Now, if you give me the strand, I sit down and prepare my own thing [...] This play-based learning, oh, it has helped. It's making you more creative.* (B1 Teacher, Direct, Weija).

The RTP staff level findings aligned with those of the school level that most teachers were able to write their own lesson plans and use playful activities to deliver lessons. For example: *Teacher [...] responsiveness has been remarkable. Most teachers who received training through direct and indirect interventions have embraced PBL approaches.* (RTP Project Co-ordinator, Accra)

The shift to use of PBL was not limited to lesson preparation but also included lesson facilitation. As one of the beneficiary teachers explained:

Before the training, introducing play in lessons was a difficult task because it was not introduced to me in college. I now introduce play because I know that it helps the learners appreciate what I am teaching better. It may take a lot of time to introduce play, but it will help me achieve the objectives of the lesson. (Teacher, Indirect, Tolon)

A teacher in the GALOP school in Sagnerigu District in the Northern region shared that: *Previously there used to be fewer activities and I used to do a lot of the teaching. But now I introduce a lot of the play activities for them to collaborate and learn together.* (Teacher, GALOP, Sagnerigu).

Indeed, participants' perceived impact of the interventions on lesson preparation and delivery is reflected in the observed teacher practice. For instance, teachers' observed lesson planning scores across all regions and interventions in percentage terms at end-line ranged between an average of 64% - 81%. This is an improvement in their scores of 25% - 70% during the learning study. Similarly, the results showed an increase in the number of play-based activities teachers included in lessons at end-line, with at least an average of 7 play-based activities observed in lessons.

The findings from the RTP staff in the national office supported the school level findings but with a caution, stating that teacher motivation to use PBL activities was contingent on the quality of district level leadership. Instances of strong leadership and ownership of the project, for instance, showed better attitude compared to instances of poor leadership. For example, in some schools/districts:

Strong leadership and commitment play a crucial role in how play-based approaches can be useful in the classroom and improve learning outcomes. In the Weija-Gbawe District, the district Director of Education has embraced all approaches, has owned the project and influenced teachers in other districts (RTP r, Accra)

In buttressing the point that motivation to use play-based learning activities depended on leadership, participants from RTP national office pointed to the fact that in schools with poor leadership. For example, in contexts of poor monitoring and evaluation, teachers were not motivated to apply PBL activities in lesson delivery. (RTP, Accra)

Notwithstanding that the staff from RTP national office tied teacher motivation to use PBL learning activities to the quality of leadership, teachers cited the group activity (think-pair-share), reflect-share-apply, dramatization, songs, and nature walks as the common play-based activities they deployed to facilitate lessons. For example, one teacher who deployed the group-activity in class said that he found it very helpful because it gives learners the opportunity to control their learning and support another:

Anytime I teach, I put them in groups to collaborate to learn from each other. Some of the learners find it difficult to ask the teacher questions but when they are in groups, they can ask their colleagues if they don't understand anything. (Teacher, Direct, Tolon)

To another teacher, the think-pair-share learning activity enabled the learners to situate at the core of learning and own it. This allows for teachers to play a facilitatory role. The teacher said:

We discussed about think-pair-share where, as a teacher, you are just facilitating the lesson. You pair them in smaller groups. Then you give them the question. They themselves will come together, discuss with a partner, brainstorm, learn and come up with their initiative. And as they do that, they learn more (B6, Indirect, Ga South)

So, when children were grouped to reflect-share-apply or to think-pair-share, it made them alert because they knew that the teacher could be asked to do an activity (B3, Direct, Ga South).

Composing songs about a passage to be read for comprehension was another activity that teachers variously shared:

When you are going to read a passage, for example, you create a song about the passage. When they sing it, then they predict whatever you are going to teach in reading. As they predict when you are reading, then they know...they can grasp whatever is in the song. (B4 Teacher, Indirect, Keta)

Finally, teachers also reported nature walks as important activity-based learning they used for lesson facilitation: *There are times we go out of the class to observe the environment. When we returned, I asked them to name some of the things they saw and from there I sort these things into living and non-living things* (Teacher, Indirect, Tolon).

An interesting observation by one of the teachers in Ga West was that the effectiveness of the PBL approaches transcended their capacity to promote active learning to creating an awareness among teachers and learners that local, cheap and yet effective teaching and learning materials were readily available in their lived environment. For example, the remark: *Those times, we were thinking that every material should be bought from the market. Through that workshop, we realized that we can even use materials in our environment. So, we ask some of the children to bring those materials* (B5, GALOP, Ga West). Because of the paradigm shift from teacher-

centred to PBL learner-centred teaching approaches that empower learners to co-own the learning process, participants pointed to perceived impact of the PBL approaches on learners.

Perceived impact on learners

In justifying the need for learner-centred approaches to teaching and learning, one of the master trainers elucidated that the focus was no longer on the teacher but about **child agency** in learning that would empower children to lead learning with passion and confidence (Master Trainer, Indirect, Weija). Headteachers and teachers reported that child agency in learning promoted through P3/RTP's PBL in the learning space impacted their learning and growth in many ways including in literacy skills, academic and non-academic or soft skills. Using literacy as a case in point, one of the headteachers in Greater Accra region shared the following experience: *Very strong impact on their learning. Example is reading. Right to play introduced supplementary reading and early morning reading and it is impacting the children's literacy skills.* (Headteacher, Direct, Ga South). Using the group activity, for instance, where learners were asked to reflect-think-apply or think-pair-share, participants realised that it emboldened even passive learners to ask questions (Master Trainer, GALOP, Ga West). However, impacts on learners were also observed in terms of growth in collaborative and communicative skills: *If you use group work, the learners are able to explore their collaboration and communication skills among themselves* (B2 Teacher, Indirect, Keta).

Similarly, the PBL improved their social and soft skills. Some of the learners assumed the responsibility of peer coaching through which they learnt the art of cooperation, leadership and service to others (B6 teacher, Direct, Keta; B3, Direct, Ga South; Master Trainer, GALOP, Ga West). The view of the headteacher below captured those of other participants well:

I can say that our children are more creative now. They have the freedom to express themselves. And leadership is also developing among the learners. They are now sitting in groups and every group has a leader. So, when they discuss anything, they are supposed to elect somebody to do the presentation. So not only academic skills, but non-academic skills are also being developed. (Headteacher, Indirect, Ga South)

Therefore, it could be seen that despite some bottlenecks to the implementation of PBL approaches, the process was impactful in many ways, including improvement in teachers' knowledge and application of PBL philosophy and pedagogy, and children's agency in learning.

Summary of findings

- Participants, especially teachers' knowledge of PBL philosophy and pedagogy has improved
- Play-based interventions have motivated teachers' use or application of child-centred pedagogies in classrooms, including the use of local, cheap but effective TLRs

- Children agency in learning has improved because play is a language they understand and learning through play-based activities is the means through which they participate actively. Learning through PBL activities has empowered them to co-own the learning process and grow in their academic skills (e.g. reading) and non-academic skills (e.g. collaboration, leadership, communication and service)

Depending on how well the targeted implementers of the PBL assimilated or became responsive to its philosophy and embedded approaches, they could sustain the PBL into the future beyond the P3/RTP project.

3.2.3. Insights into the sustainability of PBL in Ghanaian education system

This theme focused on gaining insights into the extent to which playful learning pedagogy has been institutionalised in the Ghanaian ECE and primary education system and the capacity to continue implementing PBL into the future.

Institutionalisation of PBL in ECE and primary education in Ghana

Participants thought that play-based learning was institutionalized at the early childhood level compared to the primary. In other words, play-based learning is much more prominent at the early childhood level than primary. According to participants, while the ECE curriculum does not explicitly include exemplars of play-based activities, the development of the in-service (INSET) teacher manual aligns with and supplements the curriculum and provides guidance on PBL activities for teachers. Participants recognized RTP's role in the development of this manual, as explained by one master trainer:

Early childhood has play. If you look at the curriculum itself, the samples they have in it, you don't really see the play in there. But we have the teacher's guide for kindergarten. The INSET manual for teachers. There is play in it. Apart from that too, they have other books for activities. I think with the primary level, something of that sort will help in integrating learning through play in all the subjects. (Master trainer, Direct, Weija)

This view resonated with other participants especially the headteacher of Ga West GALOP school stated that in analysing the NTC training documents, she noticed that the Right to Play play-based learning approaches and the books the NTC-led GALOP trainers gave them also embed these approaches. As one headteacher directly asserts: *Yes, it [PBL] is already there in the teaching.* (Headteacher, Indirect School, Keta). Findings from interviews with RTP officials at the national office aligned with the above observations from the school level that PBL was largely institutionalized in ECE and primary curriculum because of pre- and in-service training:

We engage pre-service teachers (because of our work with colleges of education) and we extend support to in-service training ...The concept of play and methodology [are]

well captured and with regular monitoring, and visits to schools by SISOs, teachers can integrate PBL in lesson delivery (RTP Programme Director, Accra)

Nonetheless, views from the Indirect and GALOP schools in Ga South, Tolon and Sagnerigu largely pointed to poor institutionalization of PBL activities in both ECE and primary schools. The master trainer of an Indirect primary school in Ga South was categorical that there was a gap in integrating play at the school, identifying lack of right and safe environment for children to engage in playful learning activities. Focusing on the ECE, he was emphatic that PBL should have been the focus of the ECE policy framework: *Because of the interactive nature of the PBL, [it] should have been the focus ECE [policy framework] so that it could expose KG learners to practical and interactive methods of learning* (Teacher, Direct, Tolon). Drawing on his experience of the ECE framework, the master trainer supported the view of his colleague intimating that until his exposure to their RTP training, they knew nothing about learning through play (LtP):

The framework of ECE was done, we didn't know about LTP but through the training, we now know that teaching at the ECE should not be done at the subject level. It should be done by themes and it's through these themes that the child will understand the lessons. (Master Trainer, Indirect, Tolon)

A view by the master trainer of the GALOP school at Sagnerigu in the Northern region that, *PBL can be integrated into ECE because that level is the foundation of all learning* represented a further concern that PBL was not yet institutionalised in ECE. These varied insights regarding institutionalisation of PBL approaches in ECE and primary education suggested that whether PBL was deeply institutionalised or not, the availability of institutional and technical capacity was necessary.

Availability of institutional and technical capacity to advance PBL

There was a general belief among the participants that the level of institutional, technical and professional capacity development that the P3/RTP training promoted was reasonably substantial to continue with PBL activities in schools. Focusing on the actors in the P3 project as a reference point, an RTP Official at Tolon District articulated that they were reasonably equipped with knowledge of PBL to keep implementing it: *For capacity, the various actors on the P3 project have received a lot of capacity building. As of now a lot of our actors are aware of PBL, have the knowledge and can implement the intervention* (RTP Official, Direct, Tolon).

Participants, including the master trainers concurred with the views of the RTP official, explaining that the training offered to district education officials has built their capacity to continue training teachers to use PBL: *Because RTP had the idea and they were able to train them. So even if the program ends, we still have the idea, we have the capacity, the ability to still train the new teachers, recruited teachers that will even come in* (Master Trainer, Direct, Ga South).

One other area that participants used to underscore their position that there was available capacity to sustain PBL approaches in Ghana was the strengthened PLCs. As a master trainer in Keta District clarified:

The project has strengthened the role of Professional Learning Communities (PLCs) by clarifying their academic purpose. Teachers now understand that PLCs focus on addressing instructional challenges and supporting play-based learning, rather than solely on teacher welfare. This has fostered a culture of peer support, where knowledgeable teachers assist others during PLC sessions (Master trainer, direct, Keta)

The findings from the national and Global RTP officers shared similar sentiments regarding the capacity of education stakeholders to keep using PBL pedagogies. They identified education managers to include agencies of the Ministry of Education, District Teacher Support Teams (DTST) and teachers and insisted that all these actors have the capacity to collaboratively implement PBL into the future. For example, they referred to teachers' capacity to use local materials to improve learning, the DSTSs' capacity for regular monitoring and assessment of classroom practice and the collaborative support which the MoE agencies, including NaCCA, NTC, NaSIA and GES can offer.

Despite the positive views about capacity readiness of education actors in Ghana to continue to implement PBL approaches, participants cautioned there were still technical and will-to-implement gaps that must be paid attention to. As the headteacher of an Indirect school in Tolon District articulated: *In terms of technical know-how, there is a challenge because there are a lot of teachers who still have challenges with the new curriculum. Some of the facilitators couldn't cascade down.* The headteacher added that: *We have the financial capacity, but the difference is the will to dedicate funds to PBL activities it* (Headteacher, Indirect, Tolon). The caveat about will power to implement was something the RTP Official at the Direct school in Tolon District also raised, stating that: *The institutional set-up is right and if anything, it is the will to implement the PBL policy that is the issue.* Viewing parents as key actors of education, a teacher in Ketu South noted that their inadequate knowledge and appreciation could pose a capacity challenge for sustaining PBL approaches: *Parents are not fully aware of PBL because they have not been to the training. So, whatever message that we give them as teachers is what they also take.* (B2 Teacher, GALOP, Ketu South)

Summary of findings

- Play-based learning is used much more prominent at the early childhood level than primary
- There is reasonably substantial institutional, technical, professional and technical capacity in Ghana to continue with PBL activities in schools

- Even though continued capacity development in PBL pedagogies is necessary, the main issue regarding PBL sustainability is the lack of home-grown will to dedicate resources to PBL and to implement PBL policies.

The findings, drawn from the overarching themes, namely fidelity of implementation, effectiveness and sustainability of PBL offer important lessons.

Key lessons

Key lessons in this context denoted relevant experiences which stakeholders of the P3/RTP project at the school and national/global RTP offices have learned from the implementation of play-based learning methodologies in ECE and primary schools in Ghana. They are drawn from the findings which provide an illumination on P3/RTP project implementation processes that have or have not worked well. Regarding what has worked well, the following important lessons were learnt:

- Teachers who were exposed to PBL through the direct intervention enjoyed more frequent and impactful training.
- Training teachers on differentiated learning worked well for teachers with accompanying positive influence on children's literacy skills such as pronunciation of words.
- Training teachers to adopt positive disciplinary strategies in schools and classrooms worked well for PBL implementation because it created safe and inviting learning environments that improved children's school attendance.
- RTP's objective of improving reading culture through the supplementary reading programme increased children's passion for reading and is yielding positive results.
- Regular monitoring and supervision of classroom practice with feedback inspired teachers to be more intentional about and committed to the application of PBL approaches.
- Exposing teachers to the use of low-cost local/contextual materials /teaching aids including, stones, plastics, bottle tops and plants did not only make learners identify with learning better but also reduced the cost of purchasing foreign made TRLs.
- Leverage existing communities of practice to intensify the exposure and training of teachers
- Using teachers to champion the implementation of PBL (Teacher Champions) was highly appreciated by fellow teachers because it allowed for peer or co-learning and application of PBL activities.

- The RTP/P3's respect for and appreciation of existing structures, institutions and knowledge in the design and implementation of PBL attracted better collaborative support or active participation of key stakeholders, including agencies of the MoE.

The following are lessons about the implementation processes that did not work well and as a result affected the effectiveness or the targeted impact on stakeholders:

- Limited or infrequent PBL training sessions for teachers of indirect and GALOP schools led to overpacked content, and this made them not enjoy to the same degree the quality and impact as those in direct intervention schools. However, complaints of infrequent training and supply of resources by participants of the indirect and GALOP intervention schools could be linked more to the assumption that those in the direct schools enjoyed financial benefits because of the regular training sessions than those participants not getting enough training support.
- Cascading approach did not work well enough in some situations because of little follow-up after exposure to interventions.
- Project Design was observed by officials at the RTP national office to be too ambitious making it a bit overwhelming
- RTP/P3's failure/inability to completely fill in physical resources and operational gaps, including monitoring and supervision affected effective implementation of PBL negatively.

These lessons which take roots from the findings embed important implications for policymakers and implementers can enable PBL programming going forward.

3.2.4. Policy implications

This endline evaluation study project has a two-pronged objective. Firstly, it intends to provide an understanding of what has worked well in the P3 project that aimed to improve the quality of education for Ghanaian girls and boys aged 4-12 by: a) improving the capacity of the Ghanaian education sector to integrate play-based learning activities into the school curriculum and classroom practices, b) improving the efficiency of teacher support systems, and c) strengthening capacity in the community and among caregivers to sustain the expected changes to teaching and learning through PBL to achieve holistic learning outcomes. Secondly, study aims to identify lessons learned for future projects and for the education sector to build upon. Based on the findings, the following key policy implications can be deduced:

1. Trainings or exposures of headteachers and teachers to PBL pedagogies positively impacted their knowledge and practice of playful methodologies. However, inadequate infrastructure and supply of teaching and learning resources could hamper the

implementation playful pedagogies, especially in indirect and GALOP intervention schools.

2. Even though exposing teachers to different learner-friendly pedagogies can improve their scope of knowledge, multiplicity of such interventions, competing for teachers' attention can lead to superficial adoption and poor application. They can also cause intervention fatigue among teachers.
3. Teacher reluctance towards PBL activities because of their natural dislike for play may not encourage all teachers to integrate PBL activities in lessons.
4. Strengthening and utilising the PLCs and teacher champions can be cornerstones to effective implementation of PBL.
5. When the quality of PBL intervention delivery is good or high, it is likely to improve knowledge of participants in the intervention's target areas and inspire participant creativity and application of the skills gained.
6. Play is the language children understand and when they can use play to learn, their agency in learning – their self-efficacy for learning soars, empowering them to grow their collaborative, leadership and communication skills. In other words, play-based activities can be a master key to the core of children's world of learning.
7. Because Ghanaians are traditionally socialised to associate play in formal educational settings to a peripheral educational activity that is meant for tender age children who can engage in proper learning or an activity for students to break from learning, PBL learning is more prominent in ECE than primary schools. Given the current understanding of the centrality of play to inclusive, engaging and adaptive child-learning, being intentional about extending PBL activities in primary schools could yield positive learning outcomes.

4. Pre-service teacher training institutions

The final part of the endline evaluation focused on a key objective of the P3 project, improving the capacity of pre-service teacher training institutions to integrate PBL into their training programme. This was to be achieved through a partnership with the University of Education Winneba (UEW) and the 15 teacher training Colleges of Education (CoE) to improve the capacity of pre-service institutions to integrate PBL into the training programme.

4.1. Study sample

We zoned the CoE into three - southern (University of Education, Ada CoE, Akatsi CoE), middle (St. Louis CoE, Kumasi and Bia Lamplighter CoE), and northern (Bagabaga CoE, John Bosco CoE) for this part of our evaluation. This represented 54% ($n = 7$) of participating institutions. A vice

principal (VP) each from six CoE ($n = 6$); four lecturers from early childhood and basic education departments were also included. We also included 50 pre-service teacher trainees 20% ($n = 20$) males and 60% ($n = 30$) females, and 24 tutors (including UEW lecturers) constituting 83% ($n = 20$) and 17% ($n = 4$) of females. Also, included were 12 college coordinators' who attended off-site training organised by RTP, the project implementers, orientation programmes for partner schools.

4.2. Key Findings

4.2.1. Training

Tutors, including RTP-Leads for the colleges had difficulty recalling total training sessions they attended. While tutors could not document their invitation or nomination to attend such workshops organised by RTP, they were able to recall attendance ranging between 1.7 to 7.7, which averaged 4.7 ($SD = 3.0$). Figure 2 shows 29% of tutors benefiting once, 21% twice, and 29% thrice, while 7% was recorded for those who attended four and five times. Some tutors who served as RTP coordinators and coaches working with RTP reported training between 6 and 10 times.

About 58% of tutors agreed that each training was *impactful*. In comparison, 8% suggested expansion in the training to include colleague tutors, 19% requested further training to enable them to support pre-service teachers in adopting LtP pedagogy, and 4% commented on the packed nature of the training sessions. Some tutors (11%) suggested that PBL pedagogy should be limited to early childhood (children) programmes. About , 73% of the tutors indicated that the play-based learning project had successfully impacted their instructional approaches and pre-service teachers' learning in the colleges (Figure 7). However, 27% believed that it had partially achieved its objectives.

A female RTP coordinator from the Southern Zone affirmed the programmes' impact:

Tutors and [teacher] trainees have [sic] learnt from it [learning through play] a lot. Trainees do [sic] implement some of these LtP approaches during off-campus teaching practice. One significant achievement is that play is also used to promote peace in class when some students are not talking to each other. A lot more can be achieved if we make play intentional as part of lesson delivery.

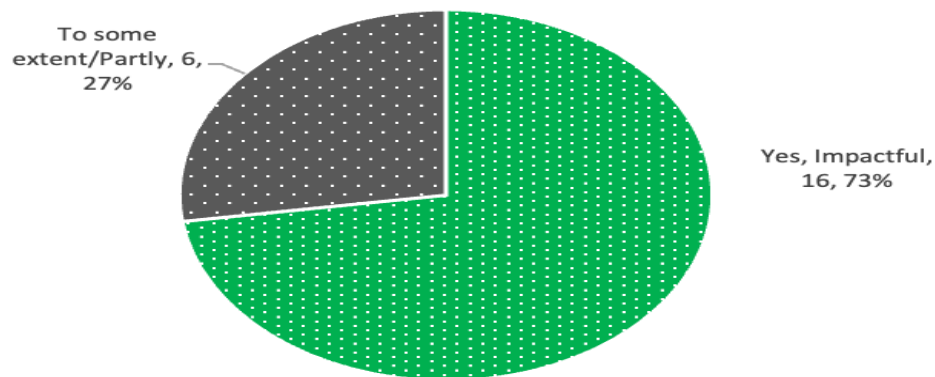


Figure 7. Fidelity of implementation from college tutors' perspectives

William, an RTP support tutor from the Southern Zone, also stated that *"it [LtP] is helping a lot, it saves time, and pre-service teachers are using it wonderfully [sic]."*

According to an associate professor from the Southern Zone, the programme was particularly successful with the first-year students. However, as these students progressed into their specialisation areas, they did not attach seriousness to PBL pedagogy. He explained that this was due to the highly structured theoretical nature of teaching schedules at the University. His views are captured in these narratives:

Apart from Level 100 [first year at the university], when they are all together [in combined classes], they do not have a problem. [But] When you introduce higher-level concepts like trigonometry, they [students] do not find the connection with play-based learning; the teaching at our level [university environment] is theoretically focused rather than play-based. Our students see PBL for courses specifically titled Play these, play that [courses with play titles are what the students focus on [sic] and no other course areas].

However, tutors indicated that the programme had influenced their inquiry-based pedagogy and increased awareness and utilisation of PBL approaches during on-campus (Micro-teaching) teaching practices and supported teaching service (STS) amongst teacher trainees. A male tutor from the Northern Zone said *"it [LtP] has changed my philosophy of learning and teaching; teaching is supposed to be practical"*.

A female tutor of mathematics education in the Southern Zone reiterated that, "the LtP has sharpened my skills in lesson delivery. With LtP, you need to be creative and think smartly about what play and other strategies to deploy to make lessons lively". Tutors also said it had improved their creativity in lesson planning and delivery - *"it helped in revealing my creative side to lesson planning and delivery. Learning should be, after all, fun and easy"*. A male tutor

with educational psychology specialisation affirmed, *“All this need is a lot of creativity on the part of the [sic] tutors and pre-service teachers”*. In the views of others, *“it [LtP] has changed my philosophy of learning and teaching. Teaching is supposed to be practical”*, a male tutor of educational psychology in the Northern Zone stated.

Recommended Strategies

Many tutors felt that the workshops and review meetings organised by RTP were important for the programme’s success. In contrast, others identified the cascading method led by tutors of colleges to train pre-service teachers and in-service teachers to integrate play into a standards-based curriculum. A faculty member in the Department of Basic Education believed,

RTP engaging teacher training institutions is a good thing, and not dealing with the teachers on the field directly is a good thing [as well], and [this] is a laudable approach. Another good strategy is targeting the pre-service teachers. But the frequency of the training should [be] increased. Quality of training has been solid [adequate].

Similarly, the project implementation created awareness and intentionality amongst tutors to deploy PBL approaches in their content deliveries. The RTP champions and supporters mentioned professional development sessions as other essential strategies that supported the orientation for tutors who could not attend off-campus workshop sessions organised by RTP.

On the other hand, tutors were concerned about the programme’s inability to align students’ assessment with learning outcomes, examination-focused instruction at the colleges’ 4-year bachelor degrees, and the off-campus nature of the training programmes for tutors. For instance, a male lecturer in an early childhood programme stated,

LtP is more with early childhood programmes, but some protocol issues did not help us because dealing with the lecturers, [RTP staff should] visit [sic] them and find out how the pedagogy was progressing. But that bit was missing from the RTP team. Then, engaging the student-teachers, after training the lecturers, some packages should [have] cascade [sic] to the department for engaging the students as well.

Administrative appointments at the University of Education, Winneba, affected the PBL project experience for some faculty members. RTP’s decision to deal with a Dean of Faculty instead of direct contact with the implementing academic departments limited impact of the project.

While it was important to respect gatekeeping roles in each institution, some lecturers expressed reservations about RTP’s inability to engage departmental heads who could identify curriculum experts to support in-service teachers’ coaching and training activities. A male lecturer argued,

RTP was dealing with faculty heads [Deans] and what should have reached us [including invitation letters, curriculum champion selections, and conferences] was [sic] not

reaching us and that [had] affected implementation in our department. Before you hear about it [RTP programme], they are [sic] almost going to be affected [implemented].

Above all, faculty members recognised the appointment of deans, heads of departments, and RTP champions from other departments as challenging for implementing the PBL programme at the university. Besides this, splitting the former faculty of education into two and having them headed by different deans was problematic for the programmes' success at UEW. For instance, a faculty member lamented, *"What makes it worse, when the faculty was separated, RTP was still dealing with other faculty [ignoring other academic departments], and that really has affected implementation"*. The faculty member concluded on collaboration, *"RTP should be able to deal directly [engage] with departments [that are] teaching pre-service teachers [at the university]"*.

4.2.2. Contextual Factors Impacting LtP

Figure 8 depicts 11 contextual variables impacting PBL instruction in colleges of education, with 27% attributed to tutor non-acceptance and 20% to large class sizes. Demands on tutors to meet several learning targets, the 4-year bachelor programme and insufficient teaching and learning resources required for creative learning pedagogy constituted 28% of contextual issues impacting the project. Also, 15% of factors were attributed to tutor transfer, religion, and inability to access play-based learning for continuous improvement. About 4% of the factors attributed to branding PBL as 'play' were identified as an adverse label that some tutors considered disincentive for some tutors teaching upper primary programmes and lack of clarity in PBL in the 4-year bachelor programmes at the colleges. Tutors acknowledged that the bachelor programme required tutors to adopt learner-centred approaches; specific activities outlining play activities are silent from the framers of the colleges' programmes.

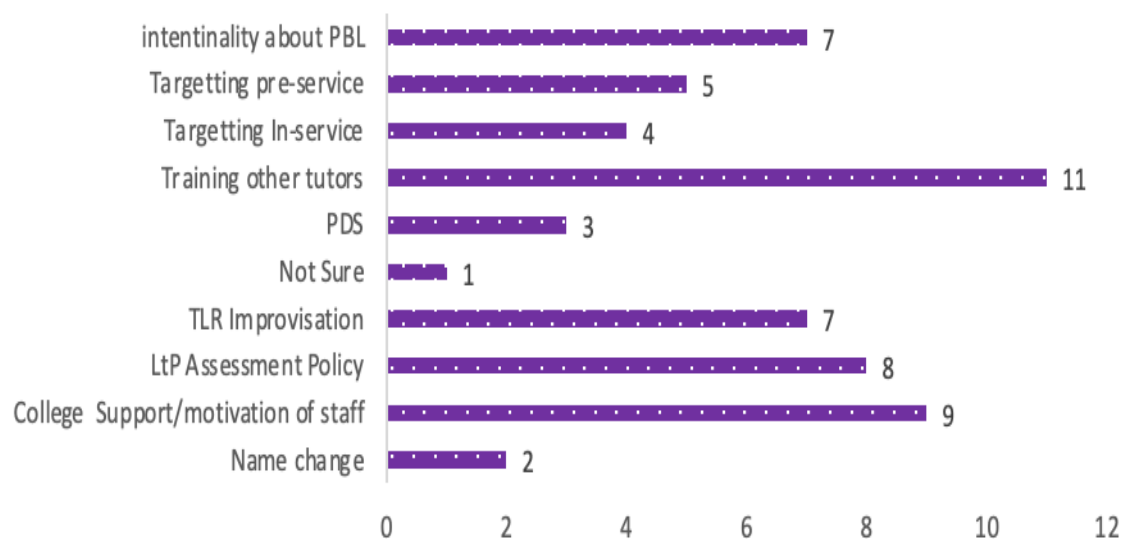


Figure 8. Contextual factors impacting LtP

4.2.3. Sustainability of Play-Based Pedagogy

Eleven tutors believed that due to the new recruitment of tutors into the colleges of education and the RTP's inability to extend the training to all existing tutors, PBL pedagogical training should be extended as a sustainability mechanism (Figure 9). Nine tutors also recommended staff motivation from their colleges, eight proposed formalised assessment of LtP, while other proposed provision of teaching and learning resources (TLR) to cover every sub-strand in the bachelor programmes at the colleges, intentionality to adopt PBL pedagogy and targeting pre-service and in-service teachers in the Ghana Education Service who are the direct implementors of the standards-based curriculum.

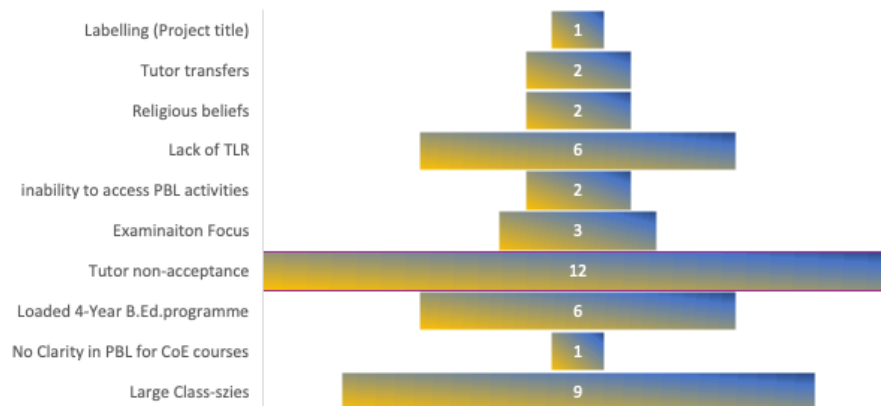


Figure 9. PBL sustainability schemes

4.2.4. Pre-Service Teachers' Experience

We interviewed 51 final-year and pre-service teachers, 65% (n = 33) females and 35% (n = 18) males from the three zones. An average of 9 participants per focus group discussion (FGD) who also experienced play-based pedagogy for 4 years in their respective academic programmes. The FGD revealed that play-based manuals were not provided to students to complement college mastery. However, they recounted the types of play tutors used in their classrooms which were mostly games such as ludo, pick and act, and jig-saw puzzles dominating: role play, songs, demonstrations, and dramatization complement students' experiences.

Experience with PBL Approaches

Students' experiences with play-based pedagogy were explored, and five themes emerged, including promotion of critical thinking, content retention, interest in subject areas, and learning new concepts

Students from Bagabaga College of Education stated that LtP approaches helped their critical thinking skills development, learner-centred instruction, linking strands to learner environment, gaining learner attention, and ease of understanding concepts in subject areas. Students also acknowledged that play-based pedagogy had contributed to their appreciation of mathematical concepts, and they were prepared to adopt the pedagogy in their profession (Ada College of Education).

However, students' narratives identified reservations about the universal application of PBL. They hypothesised that some courses did not require play as it is time-wasting to deliver lessons. Hence, many of their tutors did not introduce them to play-based pedagogies. From the Southern Zone, students shared that not all [tutors] teach with play. Two out of 10 would use play as part of their teaching. The reason given for the lack of attention to play in delivering college lessons was the pressure to finish topics. There was a view that some courses did not require play-based approaches whilst others felt that integrating play in some courses is difficult. As one student argued: *"It is easy with maths. We were put in groups usually to practice it [learn]"*.

Though students recognised the importance of LtP, time constraints had prevented many of their tutors from using it, citing large classes and resources. For instance, pre-service teachers in Ada College of Education shared, *"The play is a good thing, but the only thing is [that] some tutors don't seem to have time do it [LtP]. It may be due to the large numbers in the classes, and the limited resources available"*. They affirmed, *"The play is in the curriculum, but the timetable is so packed it is difficult to practice it constantly"*. From Akatsi, students emphasised the workload from subject areas that *"there is too much workload in the semester"*. A student from John Bosco College of Education, Navrongo reiterated,

The curriculum demand is high, and I am unsure if there is an alignment [of play-based learning activities] with [the 4-year bachelor] curriculum. The way the curriculum is packed means that play cannot be effectively used. So, the standard teaching method is what [sic] can work, and that is what is used under the circumstances by our tutors.

Others outlined the learning environment in Ghana's schools that impacted play learning activities during their off-campus teaching. From the Western Region, students averred, *"With early grade, it is in the curriculum. But the practical situation on the ground cannot make its application practicable"*.

Addressing the sustainability of PBL pedagogy in basic education curriculum, pre-service teachers identified the incorporation of play in students' textbooks, use of ICT tools, mentor attitudes, teaching and learning resources (TLRs), improvisation, and redesigning the 4-year bachelor programme with a focus on play and deemphasizing theory-based teaching. A ST Louis College of Education student argued, *"textbooks and curriculum should have play-based*

[activities] *and take steps to supply more materials for the plays*". They also suggested integrating computer resources to *"build [develop] plays and games that can apply and fit into lessons"*.

Students also identified the attitude of some in-service teacher mentors who in their view sometimes frustrated them when applying play in lessons. They observed that the examination-focused nature of the primary education curriculum compelled mentors to direct their teaching towards textbooks and targets the Ghana Education Service had set for them to achieve. In addition, the unavailability of TLRs in primary schools frustrated pre-service teachers during STS (off-campus teaching). Teacher trainees narrated, *"The resources need to be there, and classrooms organised well with some drawings or pictures to aid the process, provide more materials, governmental support, continuous guidance and supervision, and development of assessment modules for PBL activities should be considered"*. They recommend, *"Allocation of time for PBL, use a collaborative approach to curriculum development, develop a course in PBL in the universities to enable further research into it, and involve teachers in the field in workshops and seminars"*.

Colleges Curriculum Alignment with Ghana Education Service Practices

Pre-service teachers observed a disconnect between the curriculum at the CoE and the new competency-based curriculum introduced by the National Council for Curriculum and Assessment (NaCCA) in 2018 and implemented by the Ghana Education Service schools, where the students are sent for field experiences during the STS segment. From the southern zone, a student noted:

We realised that the topics [in the CoE] were theory-driven because the actual work in the classrooms [GES], the one [NaCCA syllabus and strands] that we went to meet, we realise that it is [sic] different thing than the one we are learning over here. Most of them [the contents]. We realised that we were in a different environment. [a male student].

A final year student in the Department of Primary Education, also stated,

we had a number of [sic] problems when we went to teach in the [sic] private schools because we were given number [sic] tests, quizzes and exercises to complete [in the children exercise books] per week and month. As [some] teachers have 5-6 subjects to teach in a class with a loaded timetable, they think [contemplate] why don't they use the traditional classroom approach [teacher-centred] instead of play-based approaches? So, it is up to you, the teacher [pre-service], to adjust.

Luke, who specialises in primary education, shared a personal conversation with a tutor who lamented about completing his content due to the limited time to complete the course before the examination. He said, *"I had a conversation with a tutor complaining about completing his*

syllabus based on the short time they had to teach while returning from strike". Luke continued, "For the curriculum, we are thinking of passing the exams and not about skills, meeting the target, and when we leave the exams, we can't remember. *The curriculum is loaded*". Another student also lamented,

During off-campus teaching, we have one hour to teach, and by the time you [sic] introduced your starter [ice-breakers], the time was gone and entering into [sic another subject. So, the demand on us to meet the school targets is taking our attention away from play-based activities and [we are] unable to develop skills [children's core competency outcomes outlined in the NaCCA curriculum].

Collectively, the discussants differentiated which course tutors attempt to integrate play into their instruction. "For topics like differentiated assessment, the tutor took us out", Obed averred. Outlining the impact of play-based activities on their learning, Felicia confessed, "When our maths [numeracy] teacher introduced play into teaching fractions, it made me [to] develop interest in mathematics and love the subject. And I can say [that] I am prepared to go and teach learners in the GES [Ghanaian schools]".

However, students lamented the tendency of play to hinder the completion of semesters' topics in a course. For instance, Bridget stated, "When our science teacher introduced play, it took us almost three weeks to complete a particular topic. So, it depends on the teacher. In the absence of play-based learning, we would have covered about 4-5 topics". According to Felicia who expressed frustration there was the need to "organise workshops and mentorship programmes to understand the curriculum. So, the reforms are good, but partners should focus on implementation. Sometimes, we have ideas to create play-based learning, but the unavailability of TLRs discourages us. When the TLR is there, most teachers would like to use them to play.

(Re)emphasising PBL in Training

Students reported the inability of their tutors to share play-based manuals with them. A trainee student suggested that:

It wouldn't be wrong if we study play-based [pedagogy] as a whole [sic] course. It wouldn't be wrong because this is the problem we will meet in the classroom. But we memorise the whole book and [at] the end of the course we get an A [grade]. You go to the classroom; you are not doing anything [lack of capacity] and not productive. But imagine play-based is a whole course study maybe in our final year and you go the classroom you know what to do, and [it] will help.

Her view aptly aligns with a professor at the Department of Basic Education, UEW who argued, that P3 partners should consider supporting specialised short courses in play-based learning for final-year pre-service teachers to prepare them for creative pedagogical applications required

for NaCCA curriculum at the basic education level. He argued that about 70% should be devoted to play-based pedagogy and 30% to theory approach for effective teaching at the college level.

Teacher trainees felt that ensuring a conducive learning environment and attitudinal change was lacking but needed for effective PBL pedagogical implementation in Ghanaian schools. Bridget, a mathematics tutor and RTP lead lamented, “sometimes, practising teachers in the field ... serve as barrier to our Junior High School (JHS) students when they go for off-campus teaching”.

Teacher trainees highlighted the importance of activity-based learning for developing confidence of pupils in the classroom. They acknowledged that tutors who employed play-based approaches were their favourite as they helped them to understand how play can be used to teach complex concepts in their respective courses. But they also recognised the prerogative of tutors to adopt the pedagogy as only a few teachers employed songs, puzzles, think-pair and share approaches in their lesson deliveries. The examination focus approach to the degree programme delivery and the non-alignment of the 4-year bachelor programmes administered by different affiliate universities were seen as problematic for teacher trainees.

4.2.5. Colleges of Education Principals

Six male Vice Principals (VPs) with tenure between 6 months and 3 years in office were interviewed from the three zones. Primarily, the VPs’ role on the project was to ensure the integration of PBL into teaching at the colleges and supervise PBL mentorship training and coaching for in-service teachers affiliated with their respective colleges. While 3 VPs attended between 1 and 3 RTP trainings, the rest did not participate in RTP’s off-campus training.

Generally, the VPs acknowledged there has been active learning behaviours in the pre-service teachers in the colleges. From the middle zone, a VP stated, *“PBL should not be underestimated. It is not just playing as others think; it is an effective way to deliver lessons. Already tutors have accepted it as it keeps classes active, ...”*. However, time constraints for tutors using the PBL pedagogy was mentioned. From the northern zone, a male VP noted, *“time constraints had somehow limited its [PBL pedagogy] effectiveness because some [tutors] complained of the limited time and the semester is packed activities”*. A VP from the southern zone remarked, *“From what I see when I go round to monitor on-campus and STS session], it needs improvement”*.

VPs recommended three strategies to nationalise creative learning approaches in the CoE, including teacher professional development sessions (PDS), assessment of activity-based learning at the colleges of education, and increased budget to promote PBL pedagogy. In addition, that PBL needs to strongly be aligned with the NaCCA curriculum.

VPs believed that more attention needs to be given to the development of assessment protocols for PBL so that it takes a more central and important role in the teacher education curriculum. As a VP from the southern zone argued, P3 partners should *“review assessment*

processes and adopt more practice and demonstrative approaches to assessment’. Some also identified the project’s branding as challenging to its sustainability. From the northern sector, the VP observed, *“Change the name from play to interactive pedagogy or active, interactive pedagogy. Make it part of the college assessment plan and the learning scheme”.*

Summary and Recommendation

The structure of pre-service teacher curriculum in its current state encourages tutor discretion in the use of play-based pedagogy as tutors and teacher trainees focus on topics in course modules designed by mentoring universities. The lack of formal assessment protocol for creative learning outcomes in most colleges is occasioning the discretionary use of PBL pedagogy. Besides, CoE courses are still theoretical with few trained RTP champions impacting pre-service teachers’ creative learning needs.

Though tutors and vice principals acknowledged the implementation of the PBL interventions through colleges of education using direct and indirect strategies, the random selection of tutors to participate in the programme resulted in apathy towards the project in the selected institutions. Silent voices from tutors and lecturers who were overlooked during selection for training by the RTP coordinators reported favouritism, hence, the apathy. The following are recommendations that emerge to strengthen the contribution of pre-service teacher education to improve the training of pre-service teachers to adopt PBL as an integral part of their instructional practice:

1. Institutionalising formal assessment of PBL pedagogy to signal its value and importance in learning to teach in basic education schools.
2. Promoting PBL across all subjects starting with basic play activities to inquiry-based activities will help to maximise PBL in instructional practice at college level and when pre-service teachers start their teaching career.
3. Songs, rhymes, games, and other play-based pedagogies being promoted by RTP should be complimented with play-based assessment for pre-service teachers. This will reinforce the value of play-based learning pedagogies in pre-service teacher education.
4. Despite supporting partner schools with varied teaching and learning resources (TLRs) including footballs, games, and electronic devices, PBL training manuals should be provided to all pre-services teachers and tutors to guide them on how to use PBL approaches in learning to teach at the basic school level.
5. RTP-led trainings should consider campus-based workshops in addition to off-campus P3 programme review meetings involving other stakeholders to increase exposure.

6. To achieve sustainable impact at pre-service teacher education level, there needs to be PDS facilitation sessions for tutors, regular workshop for university lectures, and STS (off-campus) training for pre-service teachers to expand creative pedagogy.
7. If pre-service teachers are to develop positive mindset about PBL approaches, they must encounter it at all levels of their preservice training where it is infused in learning to teach. PBL as a pedagogical approach should be introduced in all methods courses at the CoE level, starting with basic principles of PBL to more advanced forms as pre-service teachers learn to teach at higher basic education grades. This will avoid the perception that PBL is only appropriate and relevant at ECE level.

5. Summary of Key Evaluation Findings

We outline the key findings drawing on the quantitative and qualitative data to address the three areas that the evaluation aimed to illuminate – *fidelity of implementation, effectiveness, sustainability and replicability*

Fidelity of Implementation

Two main questions addressed the fidelity of implementation of the P3 project: (1) How well was the P3 project delivered as intended? (2) What worked well with the integration of PBL in large-scale government education programme such as the GALOP and engagement with Pre-service teacher education institutions.

1. On balance, the P3 project achieved a satisfactory level of implementation fidelity. Teachers and headteachers across the implementation arms felt they received adequate exposure to PBL pedagogies through the P3 training workshops and cascading of training inputs. Even though teachers in the Indirect and GALOP schools received less training in terms of number of training compared to teachers in Direct schools, this appeared not to have adversely impeded their ability to use PBL approaches in their classrooms, as the classroom observation analysis generally showed. What it should be is that the Indirect and GALOP interventions were able to produce similar improved results as compared to teachers in Direct intervention schools. It suggests that the cascading approach adopted for Indirect and GALOP schools and the support these teachers received through mentoring and coaching appear to compensate for the decreased number of training workshops as compared to the number of training that teachers in the Direct intervention schools received. There was the issue of lack of adequate infrastructure and supply of teaching and learning resources which some teachers, headteachers and teacher educators posed critical implementation challenges in some training colleges and schools.

2. Teachers were generally satisfied with the quality of training they received describing the frequency and in-depth nature as adequate and responsible for improving their use of play-based learning (PBL) methodologies. However, some teachers mostly from GALOP and Indirect schools felt the content of training was at times overloaded.
3. Some teacher capacity gaps persisted and led to poor understanding of PBL concepts and knowledge of activity-based learning pedagogies. This raises the issue of how best to target teachers who still hold negative views about PBL even after receiving training to expose them to the benefits to childrens' learning.
4. Professional learning communities (PLCs) emerged as crucibles for sharing and learning about the benefits of PBL and became a valuable platform for teachers to continue learning about PBL.
5. Government support through the agencies of the Minister of Education was crucial in the implementation of PBL. The National Teaching Council (NTC) supported review and design of teaching and coaching manuals for the PBL project. Similarly, collaboration with the National Council for Curriculum and Assessment (NaCCA) to design teacher manuals, the engagement and contributions from GES's school improvement support officers (SISOs) facilitated effective implementation of the P3 project.
6. On the pre-service teacher education, the P3 project's strategy to strengthen the University of Education's capacity to promote PBL approaches helped to equip tutors to improve first-year students' knowledge and understanding of PBL approaches. However, as students progressed into their subject specialisation areas after the first year, PBL received less attention due partly to the highly structured theoretical nature of teaching schedules at the University. The challenge is how to maintain a focus and interest in PBL instructional approaches throughout the teacher education programme. Future project implementation strategies at the pre-service teacher education level should concern itself with how it can promote PBL beyond the first year teacher education training programmes where assessments are more high stakes and PBL assumes less importance.
7. Tutors in the teacher education colleges pointed to the workshops and review meetings organised by RTP as key to how their understanding and adoption of PBL in college training practices. Cascading of training through which tutors train pre-and in- service to integrate play into a standards-based curriculum was an implementation strategy that was generally viewed as responsible for widespread understanding of PBL methodologies and its potential to improve student learning experiences and outcomes.

Effectiveness

The main questions regarding the P3 project's effectiveness are: (1) How much teachers across the 3-arms had improved their knowledge, attitude, and practice? (2) Which elements of the P3

project are responsible for the changes in teachers' adoption of PBL approaches? (3) How effective was the P3 project in improving pre-service teachers' adoption of PBL methods?

1. On the strength of the quantitative evidence which compared the classroom practices of teachers in the three intervention groups in 2022 and 2024, the P3 project had enhanced teachers' ability to plan, deliver effective lessons and use a wide variety of play-based learning approaches. Teachers associated many of the PBL approaches they were using to the effectiveness of the training they had received but also the mentoring support that the project had instituted in their schools.
2. Effective adoption of PBL approaches was contingent on the commitment of district level leadership to partner with RTP to promote PBL approaches in their schools. This was not universal but noticeable where this support was strong. Strong leadership and ownership of the project at district and school level ensured that PBL approaches received a level of attention that translated into positive attitudes and adoption of PBL approaches. On the other hand, , weak leadership and commitment limited effective adoption in some schools.
3. Data on teachers observed using play activities by grade level – KG, lower primary (i.e. grades 1, 2 and 3) and upper primary (grades 4, 5 and 6), generally showed that more KG teachers adopted the use of PBL activities, particularly incorporating traditional games, songs, dances in lessons compared with about two-thirds and half of teachers in lower and upper primary, respectively. Generally, teachers at the upper primary level, created less learning opportunities that required inquiry and play-based activities that were more student-centred. KG level teachers across all the implementation arms showed more evidence of using instructional approaches that reflected play-based learning methodologies and approaches.
4. Some teachers felt that there has been a noticeable improvement in student learning outcomes that they partly attributed to the implementation of the P3 project. It was not possible to verify this by testing students or examining their assessment records. What appears evident from the interviews is that the P3 project had made teachers more aware of the importance of child agency in learning which they attributed to how the use of PBL activities empowers students to co-own the learning process and grow in their academic (e.g. reading) and non-academic skills (e.g. collaboration, leadership, communication and service).

Sustainability and Replicability

A distinctive objective of the P3 project was to adopt an implementation approach that ensured sustainable of the gains and produce insights into how to replicate results in other context and at scale. To this end, the two key questions that guided inquiry on sustainability and replicability

were: (1) To what extent has the P3 project enabled PBL pedagogy to be institutionalised in the Ghanaian ECE and primary education system; (2) How has it contributed to government/district level institutional level capacity for roll-out and longer term impact?

1. There was general agreement that play-based learning had become more institutionalized at the early childhood level compared to the primary education level, especially at upper primary. While the ECE curriculum does not explicitly include exemplars of play-based activities, the role of RTP in developing the in-service (INSET) teacher manual has been instrumental in providing guidance to teachers on how to implement PBL activities. The adoption of PBL training materials and manuals is a visible contribution to government policy to mainstream inquiry-based student-centred instructional approaches in public schools.
2. There is shared belief that the P3 project has improved institutional, technical, professional and technical capacity necessary for sustaining PBL activities in Ghanaian basic schools. From the quantitative and qualitative evidence, we would argue that the implementation approach adopted to reach scale through the cascading of PBL approaches via indirect and GALOP schools has been a particular success story. The quantitative evidence shows improvements in teachers' instructional practices comparable across intervention groups which suggest that the decision to adopt a cascading intervention approach had paid off in terms of reaching a lot more teachers and produced improvements comparable to teachers in direct intervention schools. But using the cascading approach was not without its challenges as some GALOP and Indirect teachers felt it only worked well where there was good follow up and support after exposure from initial training.
3. Evidence of where teachers continue to use PBL approaches including pre-service teachers suggest that project's close collaboration with agencies of the Ministry of Education and District Teacher Support Teams (DTST) is instrumental.
4. Although the policies to inculcate PBL, activity-based and child-centred approaches in basic schools is in place, it is the translation of policy into practice that poses the biggest challenge. However, the P3 project has demonstrated pathways by which policy translation into effective practice might be achieved. Strengthening teacher support mechanisms especially using coaching and mentoring is as important and valuable as the content of training. PBL approaches gives practical expression to education policies that call for more student-centred and inquiry-based approaches to teaching and learning in Ghanaian schools.
5. Finally, government and institutional capacity to roll-out interventions such as the P3 project requires strengthening districts teacher support teams, SISOs and mentors/coaches to support teachers to implement the knowledge and skills gained from training. Both need to

be given as much attention if the kind of improvements demonstrated by the Indirect and GALOP school teachers is to be replicated in more schools.

6. Conclusions and Recommendations

The final evaluation study sought to provide an understanding of what has worked well in the P3 play-based learning project and to identify lessons learned for future projects and for the education sector to build upon. The study revealed many important findings. The key ones that require critical attention are highlighted below:

1. Participants of the Direct, Indirect and GALOP schools across the participating regions appreciated the high quality of training in PBL, describing it as impactful. However, unlike their colleagues in the Direct schools, teachers of the Indirect and GALOP schools lamented they had limited number of trainings and support. As a result, their sessions were often overloaded and rushed through by trainers who tried to cover a lot of material within a short time. Thus, they call for more frequent training. If the training was impactful despite limited training sessions, it begs the question that they are asking for more frequent training because for every project implementer, the most important target is for the project to make an impact on its targeted audience. It may as well be that because the Direct schools received training directly from the staff of RTP and TLRs support, their counterparts assumed that also went with financial benefits compared to the Indirect and GALOP interventions. As the findings revealed, the Direct intervention may be effective, but comparatively more expensive. Therefore, as both school level and RTP national level findings point to, it is important that RTP and the Ghana Education Service (GES) be intentional about collaboratively empowering the Teacher Champions for a more decentralised, peer-based PBL training. It is also recommended that RTP should leverage the PLCs organized in schools by resourcing them to provide a collaborative space for teacher champions trained in PBL to promote it.
2. Headteachers and teachers, while acknowledging the importance of exposure to different learner-friendly pedagogies to improving their scope of knowledge, they also cautioned that multiplicity of such interventions, competing for teachers' attention can lead to superficial adoption and poor application. They can also cause intervention fatigue among teachers. Respondents emphasised the need to invest in pre- and in-service teacher training or education to enable them to embody the spirit of PBL. RTP and MoE should collaborate to integrate play in the teacher trainee programmes of the colleges of education. **This should include training in PBL learning assessment.** Teachers who are well-prepared in play-based learning methodologies will sustain PBL practice in the classroom. If PBL is integrated in the content of Colleges of Education, Government is already paying the educators so there will be no need to source special funds to organise training on PBL. Additionally, it is important

that RTP and MoE through its agencies invest resources in community engagement, co-ownership and co-responsibility to fully own the PBL approaches. In other words, they should support Ghanaians to develop home-grown will to dedicate resources to PBL and to implement PBL policies.

3. Teachers agreed that adoption of positive disciplinary strategies helped to create safe and inviting learning environments that improved children's school attendance and freedom to engage educators in learning dialogue. This notwithstanding, some teacher reluctance or unchanged mindset towards PBL activities because of their misunderstanding of the value of PBL was acknowledged as a dynamic that should not be taken for granted. This is because culturally conservative teachers still see play as peripheral to learning. Other teachers believe that PBL activities can blur their highly hierarchical line between them and learners. Thus, it is important that RTP be intentional about identifying such dispositions and design its training programmes in a way that addresses this challenge.
4. Play is the language children understand and when they can use play to learn, agency in learning – their self-efficacy for learning soars, empowering them to grow their collaborative, leadership and communication skills. In other words, play-based activities can be a master key to the core of children's world of learning. But this requires strong leadership to ensure effective monitoring and supervision that will impel teachers to promote learning through play.
5. Because Ghanaians are traditionally socialised to associate play in formal educational settings to a peripheral educational activity that is meant for tender age children who can engage in proper learning or an activity for students to break from learning, PBL learning is more prominent in ECE than primary schools. Given the current understanding of the centrality of play to inclusive, engaging and adaptive child-learning, being intentional about extending PBL activities in primary schools could yield positive learning outcomes.

7. References

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8. Appendices

Appendix 1

Assumptions behind the expected outcomes.

Expected P3 Programme Outcome	Assumption
1. Ghana adopts policies that include holistic/core skills that enable Learn through Play (LtP)	As teachers trained on LtP pedagogies and provided with the necessary tools and support to start using play in the classroom, the positive value/impact of LtP will be recognized by education stakeholders at all levels and prioritized moving forward, leading to sustained investment and support for LtP by the MoE.
2. Improved capacity of education sector to integrate LtP to deliver the curriculum.	Frameworks, tools, and resources created nationally related to training, coaching and mentoring, peer learning and specifically the integration of LtP are rolled out in GALOP and used by education officials at the regional and district levels, and distributed to the schools and teachers they are intended for.
3. Teachers have improved skills to implement LtP within their learning environments 4. Teachers have improved or increased awareness and understanding to implement LtP in their learning environment 5. Teachers implement the LtP approach in their learning environments.	Improved skills in the practice of LtP alongside improved CoPs and principal/head teacher capacity to support and sustain improved teaching practices will result in a meaningful culture shift in schools, where teachers embrace and sustainably adopt LtP in their classrooms, fully supported by their school environment. The existing teacher transfer policy that requires teachers to stay at post for at least three will be enforced to reduce transfers of teachers from P3 intervention schools after they have received training on LtP approaches. Teachers who have received training on LtP will be willing to apply the methodology into teaching practice. Teachers are regularly physically present in their classrooms in order to implement what they are learning on LtP.

6. Improved capacity of Communities of Practice (CoPs) to provide peer support to teachers to integrate LtP approaches	CoPs will generate valuable learning and sharing of well-established and innovative ideas, as well as contextually specific knowledge and experience on what works, serving as dynamic and useful forums for support, guidance and the encouragement of reflective practice.
7. Caregivers have increased awareness and understanding of the importance of holistic/core skills for their children and how LtP develops these skills	Parents are concerned for and want to support their child's well-being while acknowledging that gender-discriminatory attitudes, behaviours and norms are a significant barrier in achieving equitable learning outcomes for girls. Strengthening Parent Councils will ensure an effective and participatory forum for engagement.
8. Improved ability of district administration to support teachers to integrate LtP into their teaching practice.	When district officials observe positive change at the school level that can be attributed to the integration of LtP in the classroom, they will be further motivated and committed to supporting teachers and the institutionalization of LtP at the district level
9. Improved capacity of national, regional and district level education officials to plan and monitor the integration integrate LtP into INSET (in service training)	The National In-service Training Unit, after being trained on LtP methods by RTP, will leverage the nationwide decentralized structures to promote continuous professional development in LtP and integration into teaching practice at the district level
10. Improved capacity of pre-service teacher training institutions to integrate LtP into training for student teachers.	The University of Education Winneba and the teacher training colleges will acknowledge LtP as a method of teaching that brings positive value to the learning journey of students and integrate it into their pedagogical training.

Appendix 2

Evaluation Framework and Questions

Overarching Evaluation Question:

What are the P3 project's achievement against its planned activities and the following outcomes?

- Teachers integrate play-based approaches into their teaching practice.
- Caregivers provide physically and emotionally safe and supportive learning environments to complement the effort of schools.
- Play-based learning is integrated into INSET activities to achieve holistic learning outcomes from early to upper grades.

Research Questions	Target Group	Issues
Fidelity of Implementation <i>Integrity or adherence of implementation i.e. how well the P3 intervention was put into practice.</i> Adherence 1. How achievable were the intended goals of the P3 project? 2. To what extent have these goals been achieved? 3. What <i>adaptations</i> and <i>changes</i> were made during the implementation and why? 4. How has the P3 project contributed to achieving the relevant components (i.e., Components 1, 2, 3 and 5) of the GALOP programme in terms of integrating PBL?	▪ RTP Head office (Josephine, Harrison, Gao, etc.,) and RTP District office staff ▪ District Support Staff ▪ Teachers	• Documentary analysis - Review RTP documents – e.g. Logic model and outputs reach etc. • How well did project activities, content, and delivery adhere to established protocols, fidelity standards, and schedules? • What training did RTP offer to target groups and beneficiaries; how do they rate the effectiveness of the training; what monitoring modalities were put in place, what did it reveal and actions it prompted. • How do beneficiaries/target groups describe the <i>quality</i> and <i>relevance</i> of RTP training or support in implementing PBL approaches in schools? Explore what they have been able to do and what they have found difficult and why – constraints, challenges and enablers? • What was covered by training, what is the gap between what professionals were trained to do and what they were able to do? What explains the difference? • Pedagogical materials provided to teachers – how many were to be supplied and what explains gaps. • Explore the cascading approach used by the project to reach more beneficiaries particularly the methods used to target Indirect

		and GALOP schools – explore strengths and weaknesses of RTP’s three-prong intervention approach – i.e. direct, indirect and GALOP. • Discuss the coaching and mentoring visits by RTP and education officials in the 7 districts and sample of the 48 districts which received support from district support teams without RTP • Explore monitoring systems that were put in place to ensure cascading worked well.
Exposure & Dosage <i>Amount and intensity of the intervention delivered (e.g., frequency, duration of sessions).</i> 5. How often did targeted beneficiaries receive support in implementing PBL? 6. How adequate was the support? 7. (a) What were differences in the level of support for Direct, Indirect and GALOP interventions? (b) How did the level of support influence the uptake of PBL? 8. How do targeted beneficiaries perceive the frequency of the training and support in implementing PBL?	▪ RTP Head office and District office staff ▪ District education officers ▪ Teachers and headteachers ▪ Caregivers ▪ District Teacher Support Teams (DTSTs). ▪ CSOs ▪ Pre-service Master Trainers ▪ Tutors of Colleges of Education ▪ University Lecturers from UEW	• Views of RTP staff on what they saw as the strengths and weaknesses of the three intervention approaches – i.e. Direct, Indirect and GALOP; for each how do they assess their impact; on balance were the Indirect and GALOP approaches sufficient to achieve their intended objectives? If there were to do it again, what will they change or improve and why? • What was the frequency of support to professionals e.g. coaching & mentoring visits by RTP and education officials; views from teacher champions and curriculum leads on the training/support received to develop content and materials for the implementation of cluster level CPD); Training of Teachers on Learning through Play (LtP) through Continuum of Teacher Training (CoTT) • Training of Caregivers – views on their training – as a result of training what were they able to do; what did they find • Training of Civil Society Organisations (CSOs); CSOs meetings with parents and

		caregivers on gender-specific learning needs of boys and girls • Training for Master Trainers and National Master Trainers • Training of District Teacher Support Teams (DTSTs) • Was training and support considered adequate and reasons; Were those trained/supported able to carry out their responsibilities – how do they describe the quality and support received on the integration of Learning through Play (LtP)? Was the cascading approach i.e. used to deliver some aspects of the project sufficient in terms of what happened downstream after training? How was cascading monitored and what lessons were learnt. • From RTP office staff and documents: what was intended number of training and what was delivered i.e., how many workshops and training sessions were organised and effectively implemented? How do they explain differences, if any, between the three regions? • Discuss with college tutors their training on LtP (Teachers Colleges) – was training adequate in terms of amount and areas/issues covered • Discuss with pre-service Teacher Training department at UEW their training on coaching and mentoring – was training adequate – what was positive about the training and what can be improved? (explore whether they felt it was too theoretical or found it practical?)
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Effectiveness <i>Which elements of the P3 project are responsible for the changes or effect that can be seen or measured?</i> 9. How do professionals and caregivers perceive the impact of training on the use of PBL practices in schools? 10. How effective was coaching/mentoring, peer learning, training workshops in promoting teachers use of PBL practices? 11. How effective was the programme in improving pre-service teachers' adoption of PBL methods? 12. (a) Which types of PBL methods did the programme promote and which ones were adopted more effectively and why? 13. How much have Direct, Indirect and GALOP teachers <u>improved</u> in their <i>knowledge, attitudes, and practices</i> in relation to PBL, and what explains any differences? 14. How effective was RTP strategy to introduce PBL through the different intervention arms (i.e. direct, indirect and through GALOP)?	▪ Teachers – Direct, Indirect & GALOP ▪ Master Trainers & Master National Trainers ▪ UEW lecturers ▪ College of Education Tutors ▪ College of Education students ▪ Caregivers	• Main focus is comparing teacher classroom and survey data from 1st learning study with similar data from final evaluation • Administer a survey of pre-service teacher trainees which ask about the level of changes to their knowledge and skills as a result of training in PBL methods • Provide insights into different types of play teachers use for lessons and how these reflect RTP support activities for LtP • Explore target participants views on the different support received and its effectiveness on their knowledge of PBL activities and practice.
Participant Responsiveness <i>Participant responsiveness is influenced by adherence, exposure, and quality of delivery. Engaged participants</i>	▪ RTP Head office and District office staff ▪ Teachers, Headteachers	. ▪ MoE/GES knowledge of the P3 programme; actions taken to support programme implementation; extent to which

<i>are more likely to benefit from the programme, which reflects the effectiveness of the other components</i> 15. How well did targeted groups (i.e. professionals, caregivers, system leaders and pre-service training institutions including UEW) respond to and implement their respective roles in the P3 programme? 16. What modalities were used by RTP to engage each of the targeted groups (i.e. workshops, training activities, meetings etc.) and how effective were these in terms of implementing PBL in schools? 17. What strategies did the P3 project implementers use to engage with MoE/GES and other agencies to introduce PBL in Ghanaian schools? 18. From the perspective of RTP and targeted groups which strategies worked well, and which so well and why?	▪ UEW and teacher training colleges ▪ District Education Officials ▪ Caregivers	the P3 programme influenced/shaped national and/or school level policies on integration of Learning through Play (LtP) into INSET and classroom practices; explore national rollout of LtP through GALOP – explore which aspects of the rollout can be directly attributed to the capacity building of national, regional and district level education officials. ▪ District administrators’ capacity/ability to support teachers to integrate LtP into teaching practice – challenges faced, and approaches used to address them; constraints -wider system and district & school level e.g. resources, capacity issues and how it impacted on beneficiary responsiveness ▪ Knowledge and skills of district support teams to support teachers integrate LtP into their teaching – explore what the support teams were able to do, what they saw as achievements and continuing constraints. ▪ What interactions did the team have with MoE/GES and what were the intended goals ▪ How were targets in each group reached? What factors facilitated or impeded modes of engagement across groups? ▪ Caregivers’ responsiveness – methods (e.g. supplemental learning activities such as school reading, homework clubs and play-based activities to reinforce learning in school -focus on Direct Partner Schools) that were used to engage them – appropriateness; how well these created awareness of their responsibilities
Implementation complexities		

<i>Lessons learned in implementing PBL in schools, challenges that may have impacted on project outcomes</i> 19. What worked well and what were the enablers in integrating play pedagogy across the three intervention arms (Direct/Indirect/GALOP)? 20. To what extent did the P3 project identify bottlenecks that could limit project impact for the three intervention arms (Direct/Indirect/GALOP) (b) What strategies were adopted to mitigate the impact of such bottlenecks? What worked well in terms of facilitation strategies and what did not work so well, and why? 21. What gaps still exist, and what future actions are needed to ensure sustained integration and effective delivery of PBL in Ghanaian primary schools for holistic child development?	▪ RTP Head office and District office staff ▪ District education officers ▪ Teachers ▪ Headteachers ▪ UEW staff and teacher educators in Colleges of Education	▪ Provide insights into the approaches used in the three implementation arms – focus on training and capacity building activities exploring what each beneficiary group found to be challenges and conditions that might make implementing LtP more effective. Complexities that arise from institutional culture; concept of ‘play; in learning – how the concept of PBL or LtP is presented, cultural notions, traditional instructional cultures; resources; system alignment i.e. the extent to which policy at national, district and school level are aligned to reinforce PBL approaches – discontinuities e.g. whether teachers feel that PBL has endorsement from National and District Level officials and what their experiences tell them – what messages they receive from SISOs and headteachers about importance of PBL approaches and responses to requests for resources; explore whether training is demand or largely supply driven. ▪ Ask each beneficiary group what they recommend overcoming implementation challenges; what should be done differently to ensure sustained integration at national, district, school and community level.
Sustainability and Replicability <i>RTP’s play-based learning intervention was designed to</i>		

<i>produce benefits beyond the programme's lifetime. Features of the implementation of PBL that allow its influence to go beyond this lifespan and make it replicable in similar context.</i> 22. What are the key lessons learned on the P3 project that can be used to improve similar future projects? 23. (a) To what extent has playful learning pedagogy been institutionalised in the Ghanaian ECE and primary education system? (b) What have been the levers of change of any such institutionalisation and the contribution of the P3 project? 24. To what extent do education actors and government level systems have the capacity (institutional, technical, financial), attitude, and ownership mindset to sustain the implementation of PBL at scale?	▪ RTP Head office and District office staff ▪ District education officers (Direct/Indirect & GALOP) ▪ MoE & GES staff with knowledge of the programme ▪ Teachers & Headteachers (Direct/Indirect/GALOP) ▪ UEW staff engaged in training and college of education tutors	▪ Issues to explore include, capacity building, resource provision, policy alignment, materials etc. ▪ Embeddedness of PBL in INSET provision especially at school level ▪ Aspects of PBL that can continue to be implemented with limited resources. ▪ How much of what has been achieved is due to sustained input from the programme via the different implementation arms e.g., direct, indirect and GALOP; how well integrated is PBL in system level policy and planning and to what extent has it become an integral part of whole school development starting from early to upper grades. ▪ Explore what beneficiaries or target groups say should continue to happen after programme exit to sustain gains – besides resources explore non-monetary incentives and policy changes.
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Appendix 3

CLASSROOM/LESSON OBSERVATION SHEET (P3 ENDLINE EVALUATION)

ID1. ID of Enumerator	
ID2. Name of School	
ID3. Circuit	
ID4. District	[1] Weija-Gbawe [2] Ga South [3] Ga West [4] Keta [5] Ketu South [6] Angloga [7] Tolon [8] Savelugu [9] Kumbugu [10] Sagnarigu
ID5. Region	[1] Accra [2] Volta [3] North
ID6. Intervention	[1] Direct [2] Indirect [3] GALOP
ID7. Academic Year	2024/2025
ID8. Term	First
ID9. Was teacher observed during Learning study?	[1] Yes, teacher was observed during Learning Study ® ID10 [2] No, but teacher has been part of P3 intervention ® ID14 [3] No, but teacher has not been part of P3 intervention ® OB1
ID10. What class does teacher teach?	[1] KG 1 [2] KG 2 [3] Class 1 [4] Class 2 [5] Class 3 [6] Class 4 [7] Class 5 [8] Class 6 [9] JHS 1 [10] JHS 2 [11] JHS 3
ID11. Is teacher's class the same as during Learning study?	[1] Yes [2] No
ID12. Is teacher's school the same as during Learning study?	[1] Yes [2] No
ID13. Full Name of Teacher	
ID14. What class does teacher teach?	[1] KG 1 [2] KG 2 [3] Class 1 [4] Class 2 [5] Class 3 [6] Class 4 [7] Class 5 [8] Class 6 [9] JHS 1 [10] JHS 2 [11] JHS 3

ID15. Full name of teacher			
ID16. Date of Lesson Observation			
ID17. Subject taught/observed Primary specify but KG write theme or lesson	[1] Literacy or English Language [2] Numeracy or Mathematics [3] Science		
ID18. Topic/strand: Sub-topics/sub strand			
ID19. Reference Materials:			
ID20. Aspects			
Planned Time for lesson delivery (in minutes)		Actual Time for lesson delivery (in minutes)	Time Variance:
The lesson observation seeks to identify total number and percentage of teachers trained in PBL who demonstrate four key indicators of gender responsive play-based learning methodology during their lesson as observed through the classroom observation. These criteria include: • Whether the lesson used play-based learning approaches • Whether the lesson provided opportunities for reflect, connect and apply. • Whether the teacher made use of positive discipline approaches. • Whether the lesson was gender-responsive in its treatment of boys and girls and in terms of content delivered, materials used and learner engagement.			

Part A: Teacher and Class information (before lesson observation)			Circle codes
Ques. #	Questions/Observations	Answers	codes
1	Sex of teacher	1. Male	0
		2. Female	1
2	Highest Professional qualification	a. Diploma in Education	1
		b. Bachelor of Education	2
		c. Master's in education	3
		d. Other(s) specify	4
		e. None	5
3	Has the teacher received training from RTP or RTP supported training from the district? [if No or Don't Know, skip to question 5]	a. Yes	1
		b. No	2
		c. Don't Know	3
4	If yes in question 3, above, what kind of training did teacher receive? (Please circle all that apply)	a. Foundational training	1
		b. Play as a methodology	2
		c. Positive learning environment	3
		d. Refresher training	4
		e. Others (specify)	6

5	Language teacher used during lesson observation [Selected all languages used if more than one]	a. English	1
		b. Ga	2
		c. Dagbani	3
		d. Ewe	4
		e. Twi	5
		f. Others (specify)	6
6	Number of girls present:	RECORD NUMBER:	#
7	Number of boys present:	RECORD NUMBER:	#
8	Number of children with special needs/disability present (ask teacher):	RECORD NUMBER: Boys	#
		RECORD NUMBER Girls	#
9	Number of desks in the classroom?	RECORD NUMBER:	
10	Number of textbooks available: Literacy/English Numeracy/ Mathematics Science		
		RECORD NUMBER	
		RECORD NUMBER	
		RECORD NUMBER	
11	Are boys and girls distributed around the classroom?	a. Yes	1
		b. No, boys are with boys and girls are with girls	2
		c. No, girls sit in front and boys at the back	3
		d. No, boys sit in front and girls at the back	4

Part B: Instruction Planning Skills (Assessment of Lesson Plan)			
12	Is there a lesson plan with clear performance indicators available when requested from teacher? <i>[NB: skip to Q19 if No lesson plan is available]</i>	a. No lesson plan available	1
		b. Lesson plan available but no learning objectives/performance indicators	2
		c. Lesson plan available with clear objectives/performance indicators	3
		d. Lesson plan available with clear objectives/performance and appropriate teaching and learning resources	4
		e. Lesson plan available with clear objectives/performance indicators, appropriate teaching and learning resources related to current or previous lesson/topic/theme	5
13	Are objectives SMART and relevant to topics?	a. Objectives are irrelevant to topics/subtopics/themes	1
		b. Objectives are clear and relevant to topics/sub-topics/themes but generally in abstract terms	2

	S – Specific M- Measurable A – Achievable/Attainable R- Relevant T- Time bound	c. Objectives are clear and SMART, but NOT related to evaluations which are stated in lesson plan	3
		d. Objectives are clear and SMART, and related to evaluations which are stated in lesson plan	4
		e. Objectives are clear and SMART related evaluations stated in the lesson and include at least 2 profile dimensions in the syllabus.	5
		Profile dimension (Knowledge, understanding, application, process skills and attitudes)	
14	Does the lesson plan include any interactive group activities (e.g. games, group work, pair learning, role plays, demonstrations, songs? Rhymes?)	a. Lesson plan does not include any interactive group activity	1
		b. Lesson plan include one interactive group activity	2
		c. Lesson plan include two interactive group activities	3
		d. Lesson plan include three interactive group activities	4
		e. Lesson plan include more than three interactive group activities	5
15	Are relevant Core Competencies stated? [e.g. critical thinking and problem solving, creativity and innovation, communication and collaboration, cultural identity and global citizenship, personal development and leadership, digital literacy]	a. No core competencies are stated	1
		b. Core competencies are stated but are not relevant to topics/sub-topics/themes	2
		c. Core competencies are stated and are relevant to topics /sub-topics/themes	3
		d. Core competencies are stated relevant to topics/sub-topics/themes and related to lesson objectives	4
		e. Core Competencies are stated. They are relevant to topics/sub-topics/themes, related to lesson objectives and pupils' daily lives	5
16	Has the teacher stated appropriate TLRs?	a. Teacher did not state TLRs	1
		b. TLRs stated BUT not relevant to lesson objectives/performance indicators	2
		c. TLRs stated and are relevant to lesson objectives/performance indicators	3
		d. TLRs are stated relevant lesson objectives but not clearly linked to the stages of lesson development (i.e., Introduction, lesson delivery, evaluation)	4
		e. TLRs are stated relevant lesson objectives/performance indicators and clearly linked to the stages of lesson development (i.e. Introduction, lesson delivery, evaluation)	5
17		a. Activities are provided but not related to core competencies	1

	Does the lesson plan have learner activities related to the core Competencies? [E.g. Group activities will relate to collaboration and communication, leaderships]	b. Activities provided that are related to core competencies of the lesson, but these are not relevant in relation to understanding new concepts	2
		c. Activities are provided relevant to core competencies and enable pupils understand new concepts.	3
		d. Activities are provided relevant to core competencies, enable pupils understand new concepts and existing knowledge.	4
		e. Activities are provided relevant to core competencies and enable pupils understand new concepts to apply new knowledge or concepts to their daily life.	5
18	What visual aids are displayed on walls? [This is a categorical item] [Circle all that apply]	a. Manufactured wall charts	1
		b. Home-made wall charts	2
		c. Pupils' work from this term	3
		d. Pupils' work from previous terms	4
		e. None displayed	5
		f. Both manufactured and home made	6
		g. Other (Specify)	7

Part C: Teaching Methodology and Delivery (Observations during teaching)			
19	Are the learning objectives/ content standard/Performance Indicators for the lesson made clear to the pupils at the start of lesson?	a. Teacher does not state any performance indicators at the start of the lesson	1
		b. Teacher writes performance indicators on the board but does not explain	2
		c. Teacher explains performance indicators but does not write on the board	3
		d. Teacher explains performance indicators and write them on the board	4
		e. Teacher explains and write on the board performance indicators and asks pupils' understanding	5
20	Does teacher use the board appropriately?	a. Teacher does not write on the board	1
		b. Teacher writes on the board but not clear and visible	2
		c. Teacher writes on the board and is clear and visible	3
		d. Teacher writing on the board is clear, visible and logically organised	4
		e. Teacher writing on the board is clear, visible, logically organized and systematically used to help learners during reflections	5
21	Does the teacher use TLRs in teaching?	a. Teacher does not use any TLR in lesson	1
		b. Teacher uses TLRs, but not relevant to lesson objectives/ content standard/Performance indicators.	2

		c. Teacher uses TLRs which are relevant to lesson objectives at appropriate stages in lesson.	3
		d. Teacher uses TLRs which are relevant to lesson objectives at appropriate stages in lesson. Teacher makes pupils to use TLRs actively.	4
		e. Teacher uses TLRs which are relevant to lesson objectives at appropriate stages in lesson. Teacher makes pupils to use them actively and links to pupil's previous lesson and daily life	5
22	Does the teacher use appropriate questioning skills?	a. Teacher does not ask questions at all in lesson.	1
		b. Teacher asks only low order (recall) and rhetorical questions such as yes-or-no questions.	2
		c. Teacher asks a combination of 'yes/no' and 'how/why' questions but does not ask pupils to explain their rational for their responses	3
		d. Teacher asks a combination of 'yes/no and how/why' questions and occasionally ask pupils to explain their rational on their responses	4
		e. Teacher asks a combination of 'yes/no, and how/why' questions sequenced in order of difficulty. Teacher consistently asks pupils to explain their rational on their responses	5
23	Does teacher clarify learners' misunderstandings and helps identify their successes?	a. Teacher does not clarify learners misunderstanding	1
		b. Teacher rarely clarifies pupils misunderstanding	2
		c. Teacher occasionally clarifies pupils misunderstanding	3
		d. Teacher frequently clarifies pupils' misunderstandings	4
		e. Teacher consistently clarifies pupils misunderstanding	5
		f. Did not happen	88
24	Does teacher encourage both boys and girls to answer questions?	a. Teacher does not encourage boys and girls to answer questions	1
		b. Teacher rarely encourages boys and girls to answer questions	2
		c. Teacher occasionally encourages both boys and girls to answer questions	3
		d. Teacher frequently encourages both boys and girls to answer questions	4
		e. Teacher consistently encourages both boys and girls to answer questions	5
25	Which of group of pupils does the teacher encourage to answer questions or ask questions? [this a categorical item]	a. Mainly boys	1
		b. Mainly girls	2
		c. Both boys and girls	3
26	Do pupils (boys and girls) ask the teacher questions on their own initiative?	a. Pupils do not ask the teacher questions on their own initiative	1
		b. Pupils rarely ask the teacher questions on their own initiative	2

		c. Pupils occasionally ask the teacher questions on their own initiative	3
		d. Pupils frequently ask the teacher questions on their own initiative	4
		e. Pupils consistently ask the teacher questions on their own initiative	5
27	Which group of pupils ask the teacher questions on their own initiative? [this a categorical item]	a. Mainly boys	1
		b. Mainly Girls	2
		c. Both boys and girls	3
28	Does the teacher address individual pupils in class by name? [This is a categorical item]	a. Not at all	1
		b. Yes, mostly boys	2
		c. Yes, mostly girls	3
		d. Yes, Both girls and girls	4
29	Does teacher speak to pupils in a friendly tone? [E.g. does not shout at or ridicule pupils]	a. Teacher does not speak to pupils in a friendly tone	1
		b. Teacher rarely speaks to pupils in a friendly tone	2
		c. Teacher occasionally speaks to pupils in a friendly tone	3
		d. Teacher frequently speaks to pupils in a friendly tone	4
		e. Teacher consistently speaks to pupils in a friendly tone	5
30	Does the teacher actively acknowledge student effort when they give incorrect answers? [For example: thank them for participating]	a. Teacher does not actively acknowledge student effort when they give incorrect answers	1
		b. Teacher rarely actively acknowledges student effort when they give incorrect answers	2
		c. Teacher occasionally actively acknowledges student effort when they give incorrect answers	3
		d. Teacher frequently actively acknowledges student effort when they give incorrect answers	4
		e. Teacher consistently actively acknowledges student effort when they give incorrect answers	5
31	Does the teacher introduce activities that allow pupils to actively participate in the lesson?	a. Teacher keeps talking without involving pupils in any activity	1
		b. Teacher introduces activities but demonstrates them by teacher him / herself.	2
		c. Teacher introduces activities but pupils do not participate actively	
		d. Teacher introduces activities which arouse pupils' interest and participate actively	3
		e. Teacher introduces activities that promote mutual learning among pupils (Pupils initiate collaborative inquiry-based learning).	5
32	Does the teacher walk around the classroom and check in with students? [this is categorical item]	a. Not at all	1
		b. Sometimes	2
		c. Frequently	3
33	Does the teacher use questions for reflections to end the lesson?	a. Teacher does not use questions for reflections	1
		b. Teacher asks only low order (recall: yes-or-no questions) for reflections.	2

		c. Teacher asks a combination of 'yes/no' and 'how/why' questions but does not link to lesson objectives	3
		d. Teacher asks a combination of 'yes/no' and 'how/why' questions for reflections and links to lesson objectives	4
		e. Teacher asks a combination of 'yes/no' and 'how/why' questions for reflections, links to lesson objectives/performance indicators. Teacher asks pupils to explain their rationale to determine their understanding	5
34	Does teacher make evaluation of the lesson taught? [This includes oral and written evaluation]	a. Teacher makes no evaluation of the lesson	1
		b. Teacher evaluates lesson but assessment is not related to objectives/core competencies	2
		c. Teacher evaluates lesson but some of the assessment are not related to objectives/core competencies	3
		d. Teacher evaluates lesson and all of the assessment are related to objectives/core competencies	4
		e. Teacher evaluates lesson and all of the assessments are related to objectives/core competencies and pupils demonstrate understanding of the lesson	5
35	What strategies does teacher use to maintain discipline during the lesson? This is categorical item	a. Teacher uses physical punishment (e.g. caning, beating, kneeling, cleaning classroom)	1
		b. Teacher shouts or yells	2
		c. Teacher withdraws privileges	3
		d. Teacher uses positive discipline strategies (e.g. refers learners to agreed rules, assigning learners to share books for the day, modelling good behaviour)	4
		e. No disciplinary method was used	5

36	Does the teacher use appropriate play-based activities?	Yes [1]	No [0]
a.	The teacher encourages movement activities in lesson		
b.	Teacher incorporates traditional games, songs and dances in lesson		
c.	The teacher encourages pupils to use manipulatives (e.g., counters, bundles of sticks, charts, objects etc.) in the lesson		
d.	Teacher offers children the chance to choose activities and/or materials for play		
e.	Teacher engages children in using stories to deliver lesson		
f.	Teacher organizes a variety of learning spaces for play (e.g. reading corner)		
g.	Pupils have chances to play with materials or objects (different shapes and colors)		
h.	Teacher encourages child-guided activities or experiences with scaffolding		

i.	Pupils work in pairs or groups		
j.	Pupils share their learning in different ways		
k.	Pupils choose from a variety of learning activities		
l.	Pupils works are displayed in the classroom		
m.	Pupils respond to open-ended questions and discussions		
n.	Pupils explore outside of the classroom		
o.	Pupils engage in activities with their senses [E.gs. Find something patterned; Find something to make music with; find something soft; Find a smell you like]		
p.	Pupils respond to class content with physical actions [E.gs. Touch your nose; Kofi says dance; sit; jump]		

37	Where is the lesson held?	1. Classroom (Indoor) only 2. Outdoor only 3. Both classroom and outdoor
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OBSERVATION OUTCOME		
GO THROUGH AND CHECK FOR ANY MISSED QUESTIONS, AND ANY OTHER ERRORS. CODE ANY ITEM YOU MAY HAVE MISSED AND CORRECT ANY ERRORS.		
OB1	Observation result	1. ☐ Complete 2. ☐ Incomplete 3. ☐ Refused 4. ☐ Teacher has not been involved in P3 intervention
OB2	If refused, why?	1. ☐ Has no time - busy 2. ☐ Not interested
OB3	If incomplete, why?	

Note. Adapted from "GES Nationwide INSET Programme - SBI/CBI Lesson Observation Sheet," by Ghana Education Service, 2005, & One South Development Consulting, Lesson Observation for the GREAT Project Baseline.