



LEGO Foundation Play Box Study: A Retrospective Assessment of Practices

Synthesis report

Date: 22 August 2022

Authors: Gareth Rossiter, Ignacio Torrano, Danielle Freed

Submitted by Itad



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List of acronyms

CfE	Care for Education
ECD	Early Childhood Development
LbD	Learning by Doing
LF	LEGO Foundation
LQ	Learning Question
LtP	Learning through Play
MEL	Monitoring, Evaluation and Learning
MENA	Middle East and North Africa
MoE	Ministry of Education
MoES	Ministry of Education and Science
MoEYP	Ministry of Education, Youth and Sport Performance
MoU	Memorandum of Understanding
NGO	Non-governmental organization
PB	Play Box
SEL	Social-emotional learning
StC	Save the Children
ToC	Theory of Change
UWS	United World Schools
WCH	War Child Holland

Executive Summary

1 Introduction

The Play Box (Play Box) is the first non-commercial product produced by the LEGO Foundation. It comes in two versions: the DUPLO Play Box aimed at children aged two to seven; and the LEGO System Play Box, aimed at children aged seven and older. It consists of a range of pre-selected new DUPLO or LEGO bricks, as well as random bricks from unsold or damaged boxes.

Play Box also entails different levels of training to help teachers with the following: i) Facilitate children's practice of free play activities; ii) Guide purposeful play activities; and iii) Help children to develop specific skills.

Play Box training also assists with the integration of learning through play (LtP) into formal settings such as classrooms or early childhood development (ECD) centres.

1.1 Purpose, objectives, and scope

The LEGO Foundation has been implementing (Play Boxes) for more than 10 years. The Foundation aims to build a future in which LtP empowers children to become creative, engaged, and lifelong learners. The Play Box, a flagship intervention of the Foundation, is used as an aspect within three of the Foundation's initiatives and with various partners.

The Foundation wishes to reflect on the Play Box and identify what has and has not worked well. The Foundation commissioned Itad to conduct a retrospective study. Its **purpose** is to understand how the Play Box has been and is being implemented in various geographies.

Two specific **objectives** and nine learning questions (LQ) frame the study. The learning questions were developed by the LEGO Foundation. The study sets out to understand what happened, how it happened, where and with whom and to assess what has worked. It seeks to identify good practices that can be shared and replicated and identify opportunities for improvement.

The **scope** of this report spans to 6 case studies. Five of them have a geographical focus (South-Africa, Ukraine, Cambodia, Mexico and MENA region) and one with an organizational focus. The period of review varies across case studies, but it normally does not go beyond 10 years back. This synthesis report synthesizes the findings identified across the case studies.

1.2 Learning questions

There are 9 Learning questions that guided the case studies. For the purpose of this synthesis report, we have grouped them into **four modules** which provide this report with a narrative. We have mapped these themes against the original LQs (see Annex A) as per below:

- Play Box **Journey** (LQ 1)
- Play Box **People** – Perceptions and experience (LQs 2, 3 and 9)
- Play Box **Settings** – Models, partnerships, and strategy
- Play Box **Implementation and Use** (LQ 4, 5, 6, 7 and 8)

These themes shape the structure of the findings which is presented in Section 3.

1.3 Structure of this report

The report has five main sections. **Section 2** outlines the methodology for developing this report which synthesises the findings of the six case studies that have been completed for this retrospective assessment. **Section 3** presents our main findings and supporting evidence, structured according to the 4 modules presented above. **Section 4** details emerging recommendations for the LF and partners based on the findings.

2 Synthesis methodology

The methodology for the synthesis involved three steps:

1. We **collated evidence from the 6 case studies** using the four modules presented above (PB Journey, PB People - Perceptions and experience, PB Settings – Models, partnerships, and strategy, and Implementation and Use). Within each module, we then undertook a **cross-case study analysis** to identify common patterns and themes, and to highlighted good practices.
2. We then **triangulated the different data sources** to identify what we felt were the key cross-case study issues. Importantly, unlike the individual case study reports, we did not synthesise against every evaluation question. Rather, using the four modules as a framework, we focused on the issues which occurred most frequently across the 6 case studies, and those which underlie and help explain these patterns.
3. Once we had drafted the key findings, we conducted a **team synthesis meeting** to discuss, interrogate and refine these findings. This was used to challenge the analysis and ensure it resonated with the various case studies. This meeting was also used to develop the key recommendations. Following this, the report was drafted.

3 Findings

This section focuses on the cross-case study patterns and themes in four main areas: the PB Journey (3.1), the PB People (3.2), the PB Settings (3.3) and the PB Implementation and Use (3.4).

3.1 PB Journey (LQs 1, 2 and 3)

This section focuses on the history of the PB. It outlines the origins of PB in the LEGO Foundation (Section 3.1.1), it describes how PB developed into large-scale partnerships (Section 3.1.2) and how it evolved in the locations where the PB is currently operating (Section 3.1.3).

3.1.1 Organizational roots

When PB emerged the LEGO group was looking to re-invent the organisation after experiencing critical times during the early 2000s economic crisis. The idea to recycle unused boxes of bricks was suggested. Philanthropic efforts were growing globally and campaigns around environmental issues were gaining momentum. While the economic crisis had almost brought the LEGO group to bankruptcy, the LEGO family identified the need to reclaim LEGO's history and identity from the bottom up: *"Going back to the bricks"*.

PB fitted well into this thinking. A LEGO employee had the idea to repurpose unused, unsold LEGO bricks as donations to disadvantaged children. This idea shaped the first "Charity Boxes", the seed concept for what has developed into PB today.

PB interventions emerged. These interventions happened informally across agencies. PB has grown organically since. The boxes emerged as a collaborative effort between LEGO entities to provide LEGO bricks to children and service providers in low-resourced environments. People from different teams and entities in the LEGO group worked together in a flexible, informal manner to take forward the development of the PBs. The idea developed quite rapidly and organically. PB had taken root in several locations in a relatively short period of time.

This way of working has shaped the key thinking that underpins PB operations. The collaboration and flexibility that was a key feature in the early days shape PB in the present.

3.1.2 Early years and first partnerships

Soon, standard Play Boxes were developed filled with flexible sets of bricks. The first partnerships were established with the main aim to distribute the boxes. The first content developed was characterised by its flexibility and focus on the bricks. The first partnerships were established to get PBs distributed beyond the reach of the LF. These first partnerships were rudimentary, but early production and supply processes were established.

The need to develop some guidance to support the use of the bricks and provide the users with options to use the bricks that they were receiving was seen as a priority from the outset. Soon after, education content was identified to supplement the boxes. This learning content has been incorporated into PB in different learning settings and methods as the PBs grew over time.

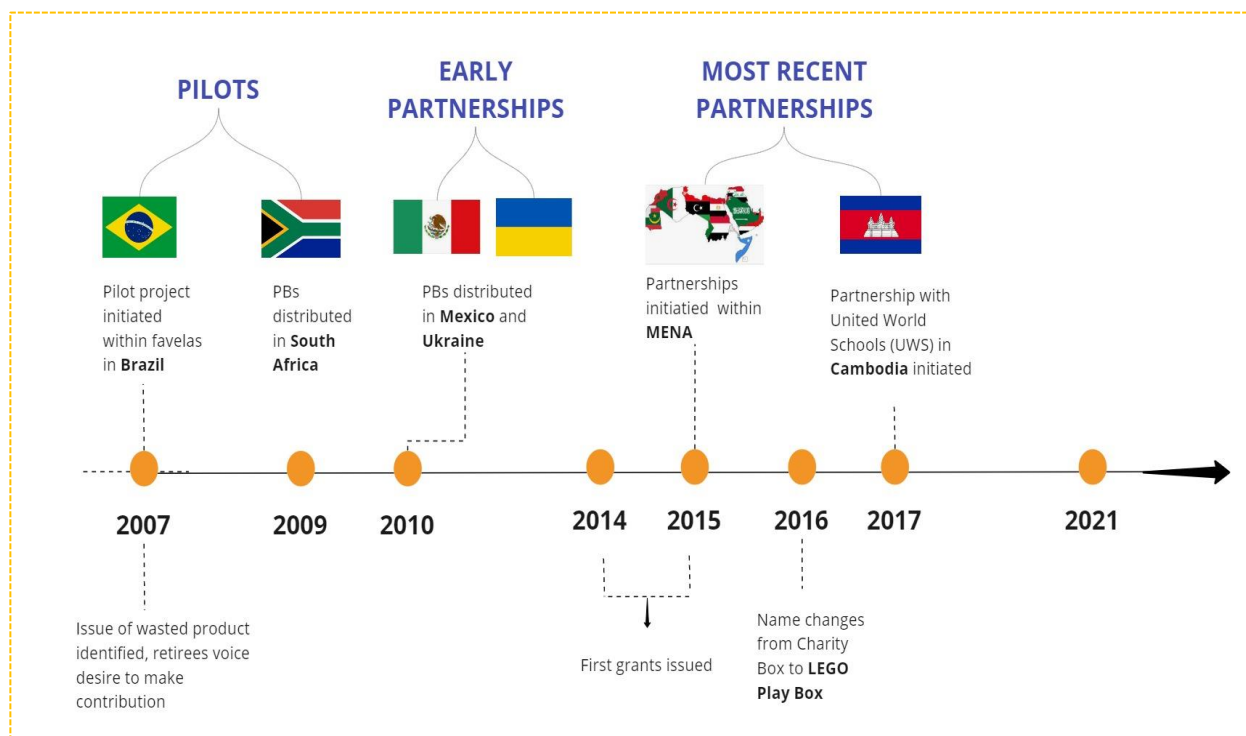
The first larger-scale partnerships were established in Brazil in 2007 and in South-Africa in 2009. Brazil represented the first larger-scale, successful international pilot ‘Charity Box’ donation and was made by partnering with one of LEGO Education’s Brazilian distributors. This pilot donation was provided to a group of favelas in Brazil and after the success of this distribution, other countries were invited to participate. A partnership was initiated in South Africa with the partner now known as Care for Education (CfE).

After the success of these pilots, requests from international NGOs grew and partnerships in other locations, mainly Mexico and Ukraine, emerged. These early partnerships were with Danish-based INGOs and faith-based organisations. These partners received PBs as in-kind donations. The organisations were ‘volunteer-managed’ and did not receive additional funds for operational or other costs.

Current, active partnership efforts include those with UNICEF in the Middle East and North Africa (MENA) region, United World Schools (UWS) in Cambodia, Save the Children Mexico, the Government of Ukraine’s Ministry of Education and Science (MoE), and Care for Education (CfE) in South Africa (see **Error! Reference source not found.**). PBs are used in three of LF’s Initiatives¹. Volunteer-managed and contract-based partnerships are currently being run with UNICEF MENA and UWS. These partners do not receive additional operational and implementation funds. An initiative-based partnership is in place in South Africa. Care for Education receives flexible, multiyear PB grant funding.

¹ “Initiative” is the term used by LEGO Foundation for country programs

Figure 1 PB Partnerships timeline



Source: Elaborated by the authors

3.1.3 Evolution in key locations

South-Africa

PB was started in 2009 in South Africa. A community-wide project called “Developing Talents Through Creative Play”, funded by UBS foundation was supported by the LF through the donation of PB boxes. This was the catalyst. Because PBs were successful in this project the LF funded a small NGO to expand PBs in South-Africa. Care for Education (CfE) was started. A non-profit organisation with experience and knowledge of the South African context was considered an appropriate vehicle to work with NGOs and community organisations.

Currently South Africa is one of PBs largest interventions in terms of PBs distributed, number of partners as well as capacity and knowledge of the PBs. CfE plays a central role in supporting PB in other localities mostly through training. CfE trainers have been key in the development of training material and approaches, always working closely with the LF Experience and Facilitation team. Materials and approaches developed by CfE have been used to set up PB in Mexico, Ukraine, MENA and Cambodia.

Ukraine

LF activity in Ukraine started in 2010. Operations were initially managed from LF Billund. LF formalized its relationship with the Ukraine Ministry of Education and Science (MoES) in 2012 with the signature of a Memorandum of Understanding (MoU). The MoU of 2012 enabled the implementation of the Learning through Play and Learning by Doing methods in the preschool institutions in eight regions of Ukraine. LF Ukraine trained kindergarten methodologists, provided methodological materials and ongoing mentoring support as well as PBs. Gradually, the number of kindergartens participating in the project increased.

The establishment of a LF foundation office and the recruitment of a person to champion and lead the management and implementation of LF was instrumental in the evolution and sustainability of the PBs in Ukraine. The new lead had the mandate to develop and grow the Ukraine initiative.

The extension of the MoU in 2017, set out the proposed collaboration between the MoES and LF to implement educational reform. LF Ukraine scaled up its operations and implemented systemic interventions at different levels of the education system. The reform provided a window of opportunity for the LF as the thinking underpinning these reforms coincided with the LF mission. PBs were introduced more broadly into the education system in Ukraine to support the reform aimed at changing the traditional teaching methods and role of the teacher in the classroom.

Mexico

Prior to 2018, distribution of PB to support government-subsidised Early Childhood Development (ECD) centres was managed by the LEGO Group. Training was first conducted by the LEGO education partner, Care and Share for Education and then implemented directly by the LEGO Foundation in partnership with the government agency Sistema Nacional para el Desarrollo Integral de la Familia (DIF). The LEGO Group and Foundation in Mexico reached over 3,000 public ECD centres.

After the change in government in Mexico in 2018 government support for DIF stopped and many public ECD centres lost funding and were subsequently closed. The Mexican government refused imports of PBs. The LF was able to create a bond to import and also produce PB directly in LEGO's factory, LOM (LEGO Operaciones de Mexico). Now PBs are distributed, and training implemented in the state of Campeche.

Now LF Mexico is now partnering with Save the Children (StC) in a programme that will be integrated with an ongoing StC programme "Crianza con Ternura" (Raising with Tenderness) providing caregivers and educators working in a variety of government run Early Childhood Development Centres with activities and tools. The programme will be implemented in nine Mexican states, Baja California, Chiapas, CDMX, Puebla, Yucatan, Sinaloa, Oaxaca, Guanajuato y Nuevo León, and will be built around Play Boxes being imported from Denmark. The programme is expected to reach 18,000 children, 5,000 caregivers and educators, 400 directors, and 50 staff from the government.

MENA

PB partnerships in MENA started in 2016 when the LF approached several international organisations within the MENA region to offer support to their programmes through the PB, including physical boxes and training. These international organisations included War Child Holland and their office in Lebanon, and UNICEF offices in Denmark, Jordan and, more recently, Egypt.

PBs are currently used by UNICEF in Jordan, Egypt, Iraq, Lebanon, and Palestine and by War Child Holland (WCH) in Lebanon. In Jordan, PB activities are integrated in Child Protection and Education (formal and informal programmes), which involves working in partnership with the Ministry of Education (MoE) and NGOs. Following Jordan's experience, Egypt initiated a PB partnership with the LF which involves working with Education in Emergencies programmes, child protection for refugees, and Egyptian community schools. Egypt's programmes target refugee children of all nationalities. War Child Holland Lebanon's mandate stretches across underserved areas in Lebanon, including camps close to the borders with Syria.

Cambodia

PB in Cambodia works exclusively with the partner United World Schools (UWS). Under this partnership, the LF has provided PB boxes accompanied by training on Learning through Play (LtP) methodologies and practice. The LF has sent two shipments to UWS, one in 2018 and a second one in 2021. The shipment was delivered under the condition that teachers using the boxes would receive training on LtP methodologies and how to use the boxes. In 2017 two members of the UWS team attended training in Billund, Denmark at LEGO Foundation (LF) headquarters who then returned to Cambodia to share this learning.

3.2 PB People – Perceptions and experiences (LQ 2, 3 and 9)

This section reflects on the perceptions and experiences of key groups of the 100 plus Play Box people who participated in the six case studies. It highlights their experiences as critical agents of change who enable children in disadvantaged circumstances to develop and learn through play. A feature of all the case studies was the shared commitment to humanitarian values as well as the resilience and ingenuity displayed by the people responsible for implementing the complex Play Box process from Billund to the sites of learning and teaching in five diverse regions. The section is structured around the different PB stakeholders: Retired volunteers (Section 3.2.1), LEGO Foundation personnel (Section 3.2.2), Partners (Section 3.2.3), Trainers (Section 3.2.4), Teachers and practitioners (Section 3.2.5) and Parents (Section 3.2.6).

3.2.1 Retired volunteers

The commitment of the retired volunteers who sort and package the PB bricks over the past 10 years is informed by their belief in PB and their desire to be active participants in a charitable community. A total of 250 volunteer retired LEGO staff have sorted and packaged the PB bricks for shipping for over 10 years. They only require help once a year when they fulfil the large order from the Ukraine Ministry of Science and Education. As one of these retirees explained, “[Play Box] confirms the LEGO values, family spirit”. (Personal communication, April 28, 2021).

3.2.2 LEGO Foundation Personnel

The LF personnel have proved visionary in promoting LtP for neglected communities through the PB process. The majority of LF respondents appreciate the value of PB as an “entry point” to promoting Learning through Play (LtP) as a means to close learning and development gaps for young children from disadvantaged groups. They regard both the flexibility of Play Box for use in various education contexts as well as its connection with the LEGO Family’s values as important attributes. In recent times the fact that the PB process aligns with the LEGO Foundation’s research findings on Learning through Play has added to its appeal.

One LF informant did not share the positive perceptions.² This person voiced the concern of some staff that Play Box promotes commercial LEGO products in emerging markets. This member of the LF staff believes that certain PB partners have their own resources which should be easier for them to use. This concern conflicts with the more broadly reported perception that the high-quality LEGO bricks are especially attractive to children and teachers in resource-poor contexts because they convey a sense of the beneficiaries’ worthiness. For example, educators and LEGO Foundation Mexico staff shared the perception that the message sent when LEGO bricks were distributed to under-served schools, was “*our children matter*.” A partner in South Africa described Play Box as “a ‘top-dollar resource’ in under-resourced settings”.

This contributes to the belief that the bricks are an effective ‘entry tool’ to learning through play. And, as the case studies show, the use of PB does not preclude trainers, teachers, and practitioners from the use of other locally developed LtP materials. From a LEGO Foundation Senior Staff Member: “*It’s a huge value to have a mechanism to provide immediate support with low operational requirements and great opportunities to share quantity and inspiration. [PB is an] opportunity to use hands-on material...*” (Personal communication, April 14, 2021).

Because the Play Box vision and process is responsive to different partners’ needs and timetables, supply issues were generally regarded as confusing and contributing to organisational inefficiencies

² 17 of 18 respondents interviewed for the purposes of the organisational case study detailed positive perceptions of the PB and future possibilities for its use across contexts. The majority of respondents (16 out of 18) had more familiarity or PB use over the years.

among the relevant Foundation personnel. Their understanding of the commercial supply processes conflict with the 'ad hoc' processes Play Box has required to date.

3.2.3 Partners

Play Box partners are dedicated to the learning and development of resource-poor children in their regions. They are well versed in the particular challenges presented by traditional parenting and authoritarian, teacher-centred education practices in their settings. As developmentally appropriate change agents they respond flexibly to the Play Box/LtP process. Teachers who are familiar with transmission teaching methods sometimes resist LtP approaches. Partners' responsiveness to teacher resistance is illustrated by their ability to adapt to training and implementation feedback and by, for example, building online peer support groups for practitioner motivation and context-specific problem solving.

There are innumerable examples of partners' belief in and practical commitment to the Play Box/ LtP processes. Among these are:

- In South Africa, Care for Education has led the design and implementation of further contextualised, implementation-focused training and materials. It is a pivotal partner in a positive South African network and has shared its experience by training Play Box partners from different regions.
- In MENA, the UNICEF implementers have demonstrated their prioritisation of inclusivity by adapting Play Box practices for use with physically and mentally challenged children as well as with emotionally traumatised refugee communities.
- In Mexico, the LF officers (and recently Save the Children Mexico) have continued to introduce and adapt LtP training to local conditions despite the debacle affecting the Mexican production and supply of LEGO bricks.
- United World Schools in Cambodia have had to adapt to challenging attitudinal, logistical and language challenges in the deep rural areas where it operates.
- In Ukraine, the Play Box/LtP trainers adopted a strategic pre-and in-service approach to the challenges of supporting the Ministry of Education and Science in implementing educational reform with reluctant teachers and sceptical school communities. The partnership with the MoES has been strengthened by the development of effective training programmes together with building teacher communities of practice.

The NGO partners appreciate the LF's respect for their local knowledge and implementation experience. However, these partners report the need for grants to consider the expensive Play Box logistics and training follow-up which fall outside of their regular scope of work. Other than in the case of the long-term Memorandum of Understanding (MoU) with Ukraine's government, LF partnerships with international and local NGOs have historically been informal and relationship based.

3.2.4 Trainers

The majority of study participants emphasised the need for quality and practical hands-on training. On the whole, their perceptions of the cascaded training of trainers (whether in-person or online from CfE) were positive. A former UWS Programmes Director underlined the value of participation first level of training in Billund for understanding how to cascade Play Box training to primary schools in Cambodia: *"It was probably the best training I have been on – and I have been teaching 20 years. It was fantastic."* Another partner explained how Play Box trainers must overcome trainees' resistance to the strangeness of the LtP concepts and tools in their country settings: *"For some people, not having worked with PB before, it was difficult to grasp for them and [they questioned] 'What is this? What does it do?' For many people involved in this, as soon as they were part of the [PB] training and tried the [PB] programme*

themselves, they thought ‘now I see’...there is a strong wish and motivation on our side to continue collaboration [on PB].” (Personal communication, April 29, 2021).

Small supportive networks of quality Play Box trainers appear to have grown across and within Play Box regions. These trainers can exchange innovative approaches and adapt materials to their languages and contexts. In addition, several trainers reported examples of how they adjusted their training programmes because of trainee feedback.

There was unanimity among the trainers that once-off training of teachers and practitioners was insufficient. They advocated for top-up training and on-site follow-up for effective and sustained Play Box implementation by practitioners. In most instances NGO partners regard these training consolidation measures as too expensive without additional LF financial support.

3.2.5 Teachers and Practitioners

Teachers and practitioners across all regions had to overcome their reluctance to shed engrained methods and uncertainty about the value of play. However, once they made the shift, they enjoyed the obvious benefits in children’s enjoyment and engagement in class. They reported improvements in teamwork and communication as well as gains to children’s confidence, problem-solving and perseverance. In South Africa ECD practitioners reported that the local primary schools had given them positive feedback since they had introduced Play Box methods: *“The primary schools love getting our kids (after completing Grade R). The schools report that the children are well prepared for Grade 1. Our children excel. And the parents of our children tell us this as well.”* (Personal communication, March 2021)

A teacher reported that Play Box was a “lifeline” in low-resourced settings and several early childhood practitioners commented that they were constantly discovering new ways of using Play Box for in- and outdoor curriculum activities: *“We have a tool that can make a massive difference (in community ECD centres where practitioners have little if any training) by taking what happens there very rapidly to a different level.”* (Personal communication, March 2021)

For many South African ECD practitioners Play Box provides job satisfaction. Normally they are un- or under-trained. As a result, they struggled to think of constructive activities to fill the day: *“When I learnt (through using LEGO) how to play with the children in the classroom, this made all the difference. Before I used to find teaching these children exhausting. Now I catch the energy the children have around learning and playing and have more energy to give back to them.”* (Personal communication, March 2021)

In Ukraine teachers and practitioners became engaged in communities of practice for the first time. They found value in belonging to Play Box/LtP peer groups on WhatsApp and neighbourhood ECD practitioners met to discuss and develop their ideas for their Play Box entries to the Play Fest. Teachers in several regions were motivated by the way children’s enthusiasm for Play Box activities encouraged parents to investigate, support and in certain instances become involved in classroom activities. This breaking down of traditional parent-teacher barriers bore fruit during Covid-19 school closures when teachers were able to send bricks and activities home with the children or caregivers were able to run small Play Box groups in the community.

3.2.6 Parents

As mentioned, the introduction of Playful Learning methods has changed the routine practice and interaction between teachers and parents to more active partnerships. For example, one-to-one parent-teacher meetings, transitioned into joint play sessions with teachers and parents engaged in LtP methods for the growth and benefit of the children.

Nearly half of the MENA respondents believed that PB promotes dignity amongst recipient populations.³ Parents in displaced person's camps viewed PB donations benefitting their children as a signal of respect and hope.

The implementation of LtP and learning by doing methods is seen as an attractive feature for prospective parents when contemplating school choice. In most regions, educational institutions where LtP approaches are implemented are sought after by parents for the attitude of teachers to the children and for their academic success.

3.3 PB Settings

The Theory of Change (ToC) for Play Box (see Annex B) seeks to illustrate the space for different interventions in different contexts. This section draws on the ToC for PB to provide a frame for this analysis. The section describes the aspects of each of the settings that have impacted on the identification of PB partners and strategy. It then describes the features of the model and the attributes of the partners with whom LF works. It analyses each model to present considerations for lessons from each. An overview (3.3.1) is followed by descriptions of the models in Ukraine (3.3.2), South Africa (3.3.3), Mexico (3.3.4), MENA (3.3.5) and Cambodia (3.3.6).

3.3.1 Overview

Although PB is different in each of the case studies, each example provides evidence of the versatility of PB as an intervention. Despite the very different settings and models of operation, all the cases demonstrate how:

- PB has been used as a catalyst to shift pedagogical approaches that encourage learning through play.
- Play Box provides an appropriate set of tools to enable teachers with limited skills and knowledge and few resources to shift their practice with relative ease.
- PB provides a set of tools particularly useful in resource-constrained environments.
- PB has been used to assist with the development of children's cognitive, social and emotional and motor skills across formal and non-formal curricula.

Improved teaching and learning practice and improved learning outcomes for learners is the long-term objective envisaged in schools, classrooms and education systems where PB is being used to encourage an increase in LtP and LbD pedagogy.

The PB intervention in each case seeks to encourage shifts in teaching practice from existing transmission modes to practice that engages children in playful and practical learning. The education systems where PB is working have all traditionally relied on "chalk-talk" transmission teaching as the default approach. The models describe the approach to achieving this shift in challenging circumstances.

While one intervention is designed to influence changes across the whole education system (Ukraine), others look to bring about change in micro systems. In each of the cases change in teaching and learning practice in education systems is envisaged. There are differences that influence how this is likely to happen in each country context. Different strategies are required, some systemic, others more targeted.

The cases provide lessons to share across geographies where PB is being implemented and to consider when future PB interventions are being planned and implemented.

³ N=8 respondents out of 18 respondents

3.3.2 Ukraine

Setting

The Ministry of Education and Science in Ukraine embarked on the reform of education and science in 2017. This is the response to a perception that education in the country needed to modernize its approaches to ones that encouraged the development of competencies in learners needed in the modern world. The New Ukraine School reform programme is one of the pillars of this education reform strategy.

The LF Ukraine is supporting the national government's effort to implement educational reform across all primary schools in Ukraine. The education reform entails a shift in pedagogic approaches by teachers. There are 15,300 primary schools and 14,000 secondary schools in Ukraine. Teachers are trained in one of the 75 higher pedagogical institutions in Ukraine. 25 institutes of pedagogical studies offer post graduate training for teachers. Although teachers are valued the profession is not viewed as a popular career choice for young people.

Features of the model

The model for PB in Ukraine is an ambitious systemic intervention. PB is integrated into a programme of education reform that is led by the Ministry of Education and Science of Ukraine (MoES). LtP and LbD approaches using PB are integrated into training curricula in preschool, primary school, in-service teacher training centres and pre-service teachers' institutions.

A memorandum of understanding outlines the agreement of partnership (and the plan for implementation) between the MoE and LF. Between 2014 and 2020, a total of 59,105 Play Boxes (PB), both DUPLO and LEGO systems, were distributed in Ukraine to 300 preschools and 15500 primary schools impacting 1,152,750 children. PBs have also been donated to 14 in-service teacher training centres and 23 higher pedagogical institutions.

Eleven trainers (coordinators) are currently employed by LF. They work in the different pedagogical institutions and are responsible for training the educators, providing mentoring and methodological support, and coordinating institutions' participation in different initiatives organised by the LF Ukraine like Play Mate and Play Fest. All institutions that participate in the project have been provided LEGO Play Boxes (including LEGO DUPLO, LEGO System and Six Bricks). Play Boxes are one of tools for applying the playing and doing methods for learning.

Currently, LF Ukraine delivers in-service training modules on playful teaching methods in teacher training institutions. These modules have been incorporated into the curriculum offered to future teachers through cooperation with pre-service pedagogical institutions.

Analysis

Play Box in Ukraine represents the most comprehensive model of intervention. Play Box is integral to a plan for longer- term change in an education system, specifically the shift in pedagogical approaches in schools from transmission teaching methods to a more participatory process of learning involving learning through play and by doing.

The Ukrainian model is the ideal, but it critically requires a strong government partner who is committed to change and equipped to ensure the implementation of reforms in the system. Reform processes usually provide momentum. With strong political will, governments can harness the effort of a critical range of players in the system.

The Ukrainian model ensures reach across the education system. Training in LtP and LbD is offered nation-wide in each of the teacher training institutions for pre-service and in-service teacher development. PBs are distributed throughout the network of primary schools and kindergartens.

The partnership with the MoES ensures that efforts are sustained in the system. Skills and knowledge to use new participatory approaches for teaching and learning, in pedagogical colleges and schools are

developed and retained. Strong systems of continued support have been established across both training and implementation practices.

The lead's knowledge of the PBs, of the Ukrainian context and her work in setting up the initiative in the country have proved to be critical determinants in the establishment of the relationship with the MoE and, consequently, the success of the Ukraine initiative.

The model provides the ground for opportunities for researching what works and whether impact on learning is being achieved. In addition to the national monitoring of the "New Ukrainian School" policy implementation and independent monitoring of LbD in schools' co-operative research with the Australian Council for Education Research on "Learning by doing in Primary Schools" of impact in the classroom commenced in 2020.

3.3.3 South-Africa

Setting

In South Africa ECD provision is varied, under-resourced and inadequately organised. While primary and secondary schooling for children from lower-income households in South Africa is free, 84% of ECD service provision is fee-paying. The sector is largely community-based and comprises mostly small social enterprises often supported by non-government agencies. Provision is conducted in a range of places. Many are home-based informal playgroups of young children held in shacks and small houses.

There are infrastructural inadequacies such as inadequate water and sanitation linked to low fiscal allocations to the sector. Poorly paid ECD practitioners generally have low levels of qualifications. Notably, this is a matter of concern because there is no incentive for well-qualified practitioners to remain in ECD.

There has been a policy limbo for ECD; the policy space within which the ECD sector operates is still unclear although this is said to be a priority area for government.

Features of the model

Play Box has become a flagship component of the LEGO Foundation initiative in South Africa. It contributes to developing learning through play (LtP) in early childhood educational settings. In partnership with LF CfE undertook the work of developing teaching and learning materials, training trainers, training practitioners, supporting continuous development and managing the supply chain of Play Boxes to support these projects.

The Play Box model in South Africa has focused on providing support to the ECD sector in communities across the country. Since 2014, CfE has distributed 24,848 Play Boxes impacting 258,480 children. The significant majority of Play Boxes are distributed to community-based ECD sites in resource-constrained environments after practitioners have been trained.

CfE has constructed positive partnerships and built a strong network of civil society organisations (ECD sites, forums, and NGOs) who are using PB and have significant reach across the country. Play Box has not been marketed. Instead, requests for support have come from applicants who have usually heard about Play Box through 'word of mouth'. PB now has significant reach across urban areas and into deep rural areas predominantly in the provinces of Gauteng, Western Cape, KwaZulu Natal and Free State.

Analysis

PB is underpinned by a network of positive partnerships that is resilient, innovative, flexible and responsive. Partners add significant value. The attributes of these partners are invaluable in resource-constrained settings where they work.

LtP practice is being rooted and sustained. A foundation of good practice is being developed with benefits for teachers and children. The organic growth of PB in South Africa is a strength.

Although organic growth promotes health and strength, strategic choices in targeting interventions of supply and training may be needed. The challenge will be to find the approaches that will be the best balanced between centrally planned interventions and ones that grow from the ground up.

There are opportunities for PB to work more systematically with players in the ECD sector to incorporate LtP into curricula, training and practice to strengthen practitioner development over time.

There are also opportunities to design research processes that will provide insights to help improve practice and measure impact.

3.3.4 Mexico

Setting

In Mexico, some critical factors constrain the provision of good quality education. Factors include weak institutions, inadequate funding, as well as educational inequities particularly for the poor, girls and young women, rural and indigenous communities. Schools differ greatly in quality, and many have sub-standard infrastructure, a lack of learning materials, inadequate teacher preparation and highly crowded classrooms. By law, children are guaranteed a compulsory education through high school but in practice there are often prohibitive costs which act as barriers to students for continued study. There are strong commonalities in socio-economic conditions in other contexts where Play Box is operating (e.g. MENA, Cambodia, South Africa)

Several loosely coordinated sub-systems operating under the auspices of different ministries, social security institutes and other national agencies as well as private organisations are responsible for early childhood development and education. Obligatory early childhood education (ECE) starts from the age of three and is mainly free and accessible to all. Enrolment rates among 3–5-year-olds increased from 64% in 2005 to 84% in 2017, with universal enrolment in kindergarten. The number of indigenous children attending school has improved from 72.2% in 2012 to 76.5% in 2016.

The quality of early childhood development (ECD) services varies greatly. Formal government centres have higher percentages of certified professionals on-site (teachers, psychologists, doctors, etc.), which is often not the case in community-based programmes. Child-to-teacher ratio is often 30 to 1, making provision of the individual attention needed at a young age challenging.

Features of the model

The flexibility of Play Box in Mexico has enabled a pivot to an implementation focus despite challenges.

There have been challenges with importing Play Boxes into the country and changes in government and policy. Play Box focussed on adapting implementation to contextual needs and opportunities. The LEGO Foundation had, in partnership with the government agency, Sistema Nacional para el Desarrollo Integral de la Familia (DIF) which ran government-subsidised Early Childhood Development (ECD) centres, reached over 3,000 public ECD centres with two Play Boxes per centre.

LF Mexico has developed a training and capacity building model which engages those close to the ground and draws on their knowledge, priorities, and realities in order to adapt capacity building strategies.

An agreement with Save the Children Mexico and the LEGO Foundation will underpin the next phase of PB. Save the Children will integrate the Learning through Play approach in their programming in Mexico.

Analysis

By adapting strategies to realities on the ground the LF Mexico has demonstrated resourcefulness. The team ensured that the programme could be successfully carried out, even with the absence of bricks. Here, they integrated recycled materials.

Adaptation of the training approach and materials using local input and ideas and ensuring the right fit for Mexico was an invaluable intervention. It has ensured the continuation of training and support and the development of capacity for the future.

Flexibility and versatility are critical ingredients. Shifts in circumstances (e.g. politics, resources, external events) are likely to pose challenges.

3.3.5 MENA

Setting

MENA is host to approximately one third of the world's refugee population and a quarter of internally displaced persons. The Syrian crisis has pushed millions outside their territories into neighbouring countries, such as Turkey, Jordan, Lebanon and Egypt.

Lebanon hosts 1,717 million registered refugees. The country has an extremely fragile infrastructure and economy. Jordan hosts 750,195 and Egypt 256,632.

Many of the children in the camps where PB is being used were born and raised in camps and are marginalized. The children have not only been traumatized through conflict and war, but relentless economic hardship. It is reported that more than 90% of Syrians in Jordan are suffering economic hardship. They are predominantly women and children.

Features of the model

In Lebanon, War Child Holland works with partners across underserved areas in the country, including camps close to the Syrian border. It serves children and their families through centres and camps supported by non-governmental organisations (NGOs) with psychosocial and educational programmes.

In Jordan UNICEF runs a group of centres that fall under their Makani programme. PB has been incorporated into this programme. This in partnership with the Ministry of Education and local NGOs

In Egypt UNICEF has incorporated PB into programmes of education in emergencies, child protection for refugees and community schools that target refugee children of all nationalities.

Analysis

The MENA model exemplifies the best of the humanitarian underpinnings of Play Box. It provides a demonstration of how effective the intervention can be used with vulnerable and traumatized children in stressful settings.

The PB model in MENA demonstrates the flexibility of PB as a teaching and learning tool. PB is being used in formal and non-formal educational settings. Practitioners have developed different approaches for its use based on their contexts.

3.3.6 Cambodia

Setting

The Ministry of Education, Youth and Sport Performance (MoEYP) in Cambodia has made progress in improving access to education for its children.

Low scores for early grade reading and numeracy for the country show that improvements in enrolment have not been matched with improvement in quality of teaching and learning. Primary school enrolments reached 97% in the 2017/8 academic year (a 15% increase from levels in 1997).

Fewer children have access to ECE. In the 2018/19 school year only 18.5% of 3-year-old children were enrolled in ECE, as well as 39.4% of 4-year-olds and 63% of 5-year-old children. Children living in remote rural areas, indigenous children, those from lower socioeconomic background and children with disabilities face significantly greater challenges in accessing ECE.

Features of the model

The PB model in Cambodia works exclusively with the partner United World Schools (UWS). UWS has a mandate from the Cambodian government to open Kindergarten and Primary schools in remote regions. It supports schools by providing material resources as well as teacher training. After five years these schools are then passed over to the government. The Cambodian curriculum is followed in all UWS schools.

UWS supports teachers to move away from rote teaching methods toward more participatory practices. Most teachers in this context are unfamiliar with new and alternative teaching pedagogies and a key challenge has been supporting them to recognize the value of play in the classroom. Partnership with LEGO is viewed as an opportunity to introduce teachers to Playful Learning methods in the classroom and witness the benefits this experience can offer students.

Analysis

Play Box in Cambodia, the most recent of cases in the collection, provides an opportunity to examine some of the strategic, partnership, planning, training and implementing considerations when setting up PB. A key issue highlighted here is the lack of access to LEGO outside donations through the PB initiative, raising concerns regarding the sustainability of PB use. Other concerns exist regarding the sustainability of high quality PB training and implementation related to staff turnover and accompanying loss of organizational learning.

The Cambodian case provides a useful opportunity to learn about approaches to introducing participatory LTP methodologies into an environment where these are unfamiliar. Namely, the Cambodian case highlights what is required to shift the pedagogical approaches used by teachers in a context where rote learning and transmission teaching dominate the practice.

The partnership between LF and UWS is appropriate. UWS seeks to introduce participatory practices in the schools it opens and runs. The partners are well-suited for an intervention working within the micro systems of schools run by UWS in Cambodia.

3.4 Implementation (LQs 4, 5, 6, 7 and 8)

This section focuses on cross-case study patterns and themes within the area of PB implementation: Planning and Supply (Section 3.4.1), Training and Facilitation (Section 3.4.2), Uptake and Use (Section 3.4.3) and Observable Outcomes (Section 3.4.4). To explore these areas, Guskey's model of professional teacher development (outlined fully in Annex C) is used as a framework. It enables consideration of how these areas can contribute to the implementation of a successful program of teacher development. These findings are summarized in this framework in Table 2.

3.4.1 Planning & Supply

A total of 106,579 PBs, both DUPLO and LEGO Systems, were distributed globally between 2014 and 2020. They were distributed in 14 countries from diverse regions (Sub-Saharan Africa, Middle East and North Africa, Central and Eastern Europe, South-East Asia and North America). **These PBs are estimated to have reached more than 1.5 million children.**

During this period, PB planning and supply processes were adapted over time based on partner and/or initiative needs. The key adaptations included:

- Identifying how to increase production of PBs over the last six years.
- Developing an internal PB forecasting and planning database.
- Modifying PB content.
- Changing the name of PB.

There are variations in PB funding in different contexts. Evidence indicates differences in implementation between volunteer-managed contract-based PB cases and grant managed or LF initiative cases. In some instances, there has been insufficient operational financing to accompany in-kind donations from LF. Implementing PB entails operational costs and administrative time and effort across organisations.

Partners in volunteer-managed arrangements with LF have to cover costs of ongoing implementation of PB. These partners serve marginalized communities and cite pressing development or humanitarian challenges as competing priorities for limited internal funding. They do not possess the funding to cover in-country delivery logistics while also monitoring and providing on-the-job support to PB efforts. Thus, consistent quality of implementation across all contexts is compromised.

Volunteer, contract-based efforts have resulted in less accountability, less documentation and less implementation flexibility than grant-managed of LF initiatives. Where PB efforts are integrated into broader initiatives, PB accountability and communication with the LF are regarded as less than optimal by several LF staff. These staff would prefer the following:

- Standardised and robust technical quality standards and related reporting mechanisms;
- Formally agreed implementation quality expectations and accountability processes;
- Better communication between initiatives and partners and/or initiatives and LF Denmark.

Partners, LF Denmark, LF initiatives and LEGO Group all report that typical supply and distribution processes were well-managed. Evidence from case studies and supply chain survey data indicates that internal capacity and systems to manage the supply chain from receipt to distribution have been established. In some cases, such as South Africa and Ukraine, partners and initiatives have sometimes hired external parties to distribute PBs. Evidence indicates that self-reported clear supply chain protocols have been established in line with LF from both partner perspectives and the perspective of LF Denmark. However, certain volunteer partners reported insufficient resources for in-country logistical requirements such as storage and distribution. LF Denmark did not report any major concerns associated with partner management of supply and distribution.

Both the LEGO group and partners noted that the way in which risks were identified and managed could be improved. As noted, partners reported a need for financial support from LEGO to meet supply chain needs. While organizations with close and consistent collaboration with LEGO Denmark⁴ report clear, consistent, transparent communication with LEGO; certain independent partners⁵ report that communication on supply matters was not as straightforward. Different types of PB partnerships have resulted in different distribution criteria with some respondents noting a need to ensure PB distributions are being made to benefit the most marginalized populations.

3.4.2 Training and Facilitation

Initially the PB curriculum and training approach was not included as a component of PB distribution. Within some geographical contexts where recipients had never been exposed to LEGO bricks or LtP, informants of this study observed a lack of understanding of how to use bricks to promote LtP. In response to this need PB curricular resources and a cascaded training approach were added to the PB intervention over time. Now training is an obligatory component of engagement with the PB on the part of partners. PB curricular and resources are seen as a critical aspect of the PB across both organizational and partner respondents.

Training was generally regarded positively by participants. Specifically, the implementation of a training approach which blends theory and practical knowledge, delivered in a participatory manner is appreciated and recognized as valuable across the case studies. Evidence from the literature review

⁴ CfE, LEGO Ukraine

⁵ UNICEF country office, WCH, UWS

highlights that initial participant perceptions are critical for the success of teacher development programs. Positive perceptions on quality, utility and relevance at this level are generally a prerequisite to all higher-level results.⁶ Across the case studies, participants viewed the training method and approach for trainers and practitioners positively. The dynamic manner in which training was delivered was repeatedly cited in appreciation. Respondents valued the delivery of a balance of theory and practical knowledge. Most frequently they expressed appreciation for the opportunity to engage directly with the bricks in a participatory manner.⁷

If processes are not in place to allow participation across all stakeholders there is the potential for the quality of training to become diluted and/or misinterpreted as it is implemented across cascades.

Where implemented, the cascade approach for PB training is viewed as a logical and cost-efficient means to distribute PB training. However, research identifies faults with this model and the need to take targeted actions to mitigate these flaws.⁸ Evidence collected across the case studies indicates that more could be done to ensure the fidelity of this process and to ensure learning is not lost or misconstrued as it “cascades” down levels. In most of the contexts there has been an unfamiliarity with LtP and other participatory approaches initially. Because of this, these risks are important to consider. For example, teachers in Cambodia noted their limited experience in the implementation of playful methods, while those in Mexico reported working within an education system still strongly tied to notions of authoritarian teacher/student relationships. These features are also reflected in the other settings.

If implemented in a top-down approach with little opportunity for feedback, there is the risk that the cascade training approach will become diluted and not appropriate for specific contextual needs.

If those being trained participate actively in all processes and the quality of training is assured through formative evaluation at each level of training the risks of dilution are mitigated. The Ukraine and Mexico cases where participation and feedback have been woven into the processes illustrate this point. Participants appreciated the application-focused training models and the ability to interact with facilitators. These examples of continuous refinement provide useful lessons. Table 1 presents a high-level understanding of where each case study meets five key criteria recognized as necessary if cascade training is to be successful.

Table 1 Successful Cascade Training – Five Key Criteria⁹

Assessment Criteria	Case Study and Rating				
	Cambodia	Mexico	MENA	South Africa	Ukraine
The method of conducting the training must be experiential and reflective rather than transmissive.					
The training must be open to reinterpretation; rigid adherence to prescribed ways of working should not be expected.					

⁶ Key literature highlights that critical factors that determine perceived quality include expertise on the part of the teacher trainer alongside the utilization of participatory methods focused on a balance of both theoretical and practical issues (Stuart and Kunje, 1999; Akyeampong et al, 2010; Kruijef, 2010; Darling-Hammond and McLaughlin, 2011).

⁷ Evidence uncovered throughout the literature review points to the critical need for teachers to be taught participatory pedagogy through participatory processes. Namely, teachers need to be active in the learning process and to learn through the same methods they will be using their students (Darling-Hammond and McLaughlin, 2011)

⁸ For example, Robinson (2002) outlines these problems as, “the dilution or misinterpretation of the information, lack of confidence, knowledge and understanding on the part of the trainers and the often further disconnection between those providing the initial training and the realities of the classroom for the eventual recipients who received the training at the second, third or fourth hand.” (Robinson, 2002:53). Other researchers point to the inconsistency in using cascade models to teach participatory approaches when the model itself represents a one-way transmission of knowledge in which content is passed on to multiple levels of target audience without discussion or feedback between them (Ngeze, 2018)

⁹ According to: Hayes, D. (2000). Cascade training and teachers' professional development. ELT journal, 54(2), 135-145.

Expertise must be diffused through the system as widely as possible, not concentrated at the top.					
A cross-section of stakeholders must be involved in the preparation of training materials.					
Decentralization of responsibilities within the cascade structure.					
Key:					
	To a large extent				
	To some extent				
	To a limited extent				
	Not at all				

Source: Elaborated by the authors based on Hayes, D. (2000)

The LF has missed some opportunities to support the development of targeted contextualised curricular resources. Respondents across the study voiced an appreciation for the opportunity to engage in a course of study viewed as both relevant, practical and aligned to larger practitioner objectives. Specifically, the opportunity to expand teacher skill sets and shift teacher practice towards more participatory methods was seen as a valuable component of PB engagement. Designed in an open and non-prescriptive manner, curricular materials are seen as a useful tool in which facilitators can develop confidence in directing a core set of exercises and grow in their ability to facilitate playful learning methods. However, as the PB curricular and training resources from LF Denmark are standardized, both organizational and case study level respondents cited missed opportunities for LF to contribute to the contextualization of PB training and provision of targeted support. This includes providing PB contextualization guidance for key LF priority thematic areas, such as social and emotional learning or early literacy and numeracy. This can be seen clearly in the case of MENA, where LF support in the development of tailored content for facilitators working with target groups including children with learning difficulties and those with PSS needs would have been both valuable and highly welcomed.

There is robust evidence of a strong appetite from participants for both more and deeper LtP training. However, these demands alongside critical continued support are often not within the capacity of partner organizations faced with competing priorities and limited funding. Across the study, participants voiced strong levels of appreciation for the opportunity to engage in LtP learning. However, one common observation cited across all case studies was the need for both more and deeper LtP training. Participants commonly reported feelings of disappointment that training was not longer and comprised of a more in-depth exploration of the practices and pedagogy of participatory learning approaches. As noted above, many partner organizations operate within a marginalized context and must navigate a system of competing priorities with limited funding. In these cases, organizations report that they do not have the human or financial resources to meet these demands. Similarly, while partners recognize the need for continued support to fully embed new practice and shift teacher mind-set, most respondents noted a lack in organizational capacity to fully provide this support.¹⁰ In meeting these needs, evidence suggests that follow-on support for PB and LtP implementation on the part of LF has been inadequate. Needs identified

¹⁰ There is strong evidence throughout the research to indicate that for learning to be internalized and transferred into practice individuals need to receive regular feedback on the effects of their efforts alongside opportunities to collaboratively reflect on their experiences (Guskey, 2000; Westbrook et al, 2013).

here include the development of a multi-level PB/LtP capacity building approach¹¹ that may be integrated into partners' learning systems and programs alongside the establishment of clear and consistent follow-on support practices provided to partners on the part of LF.

Alternative methods for continued support in the form of peer-to-peer learning exchanges or the establishment of Communities of Practice have emerged. These represent cost-effective means to support teachers. In supporting teachers in shifting from rote towards more participatory practices, there is a need to recognize that sustainable changes occur slowly. Critically, professional development must be seen as a process, not a single event. As touched on above, frequent, regular engagement provide participants the best opportunities to internalize learning. Notably, the social nature of face-to-face tutorials, peer learning, workshops and in-class support all create significant impact in supporting teacher success in this area.¹² While organizations have reported resource challenges in providing this support, there is good evidence to indicate that the establishment of low-cost Peer to Peer learning groups as well as the establishment of shared Communities of Practice, can both provide cost efficient vehicles for teachers to share knowledge and critically reflect on their learning. In the case of Mexico where limited human and financial resources were noted, the creation of learning groups for teachers provided a means for teachers to reflect on learning in a manner that was noted as valuable amongst both teachers and administration. In the case of Ukraine, the use of online platforms such as Facebook learning groups as well as shared messenger systems were both lauded by participants as providing key spaces for teachers to engage with peers and deepen their practice.

3.4.3 Uptake and use

PBs are used in various ways across contexts. These include free play materials by children in ECD Centres and classroom settings but also as didactic learning material in low-resourced settings. Additionally, PB have also been integrated into partner programs over time to support Social-emotional learning (SEL), for rebuilding communities' post-disaster, exploring parental perceptions of play, and for teacher training purposes. As noted above, one core aim of the PB alongside its curricular resources is for the PB to serve as a tool with which facilitators can develop and refine LtP approaches. Correspondingly, LF respondents cite a vision in which practitioners have been supported in developing the confidence in LtP where the bricks can be used for new, innovative and fit-for-purpose needs. The findings outlined below explore how case study evidence supports this degree of uptake and the corresponding challenges and enablers to the process.

There is strong evidence to indicate that the PB exists as a key entry point in supporting teachers in their development of an understanding of the value of play in the classroom. A recurrent theme across case studies is the need to support teachers in shifting both mind-set and practice away from rote and authoritarian methods toward more participatory approaches such as LtP and LbD. In considering this shift it is useful to note that, similar to practitioners in many fields, teachers are often hesitant to adopt new procedures and practices unless they can feel confident they can make them work. Strong evidence from the literature reviewed highlights that teachers do not form and alter their beliefs as a direct result of training, but rather based on visible learning outcomes.¹³ That is to say, teachers must first see something work before they can believe it. In this regard, there is strong evidence across case studies to indicate that the PB has been a successful tool in allowing teachers to see first-hand the benefits of play in the classroom.¹⁴

¹¹ Comparative to the 4-level system of training delivered through CfE including basic, advanced and refresher levels of instruction

¹² See for example, Orr et. al, (2013).

¹³ See for example, Guskey (2000)

¹⁴ For example, in the case of Ukraine, the PB is cited as a key tool in providing retirement age teachers an opportunity to see the tangible benefits of play and LtP in the classroom. Further, the use of PB was observed to incite new levels of motivation amongst younger practitioners, acting as a catalyst for teachers to critically reflect upon and adopt new practice. Similarly, participants in Mexico describe a 'contagious' effect the PB spurred amongst teachers when they were able to see student responses to brick based activities in the classroom.

Competing priorities often served as a barrier to the application and use of PB in the classroom, with this challenge seen to be more pronounced in higher primary level grades. As noted above, teachers need continued support in making a shift towards the use of new pedagogic practice. Reluctance to make this shift can become compounded when faced with competing priorities such as a pressure to meet strict curriculum guidelines alongside those to implement new pedagogic practice in the classroom. Across case studies, the use of LtP alongside the demands of the larger curriculums in which they sat was highlighted as a key stumbling block for both teachers and members of the leadership. Notably, this challenge was reported to be less pronounced within both less formal and Kindergarten level contexts.¹⁵ Given the larger objectives for PB to be adopted as an LtP tool that can be used across the curriculum, this gap highlights the critical need for targeted training and continued levels of support on how Playful methods can be woven into daily classroom practice to meet curriculum objectives. Similarly, this gap also highlights the existence of space to work and support larger systems so that LtP values are themselves woven into wider curricular objectives.

Where teachers are eager to implement new LtP approaches, wider resource challenges often serve as a barrier to the utilization of PB in the classroom. When assessing the ability of teachers to implement new methods into classroom practice it is key to consider evidence gathered within the literature which indicates that even in cases where teachers have demonstrated an understanding of the underlying principles advocated by an intervention, they were often less able or willing to implement these reforms when faced with challenging conditions.¹⁶ Relevant to this review, a key objective of the PB model is to reach those contexts most vulnerable. Following, across case studies respondents noted clear examples of wider resource challenges. One common challenge noted was the practicality of implementing PB activities within cramped classrooms comprised of large student numbers. Across most other cases, the need for teachers to navigate basic classroom resource deficits was cited as a major stumbling block in their ability to undertake new teaching methodologies. Within these resource constrained environments, it is also notable to consider evidence which indicates PB are often perceived across stakeholders to be a precious resource. This often has the unintended result of creating an additional barrier to its utility as a freely used tool to be implemented across the curriculum.

Evidence indicates that where support has been available longer and with more rigor, teachers have been better able to implement PB as an LtP teaching resource. Coinciding with the understanding that successful teacher development must be an ongoing process, there is strong evidence to indicate that where continued efforts for teacher support have been forged, teacher uptake and use of PB and larger LtP methods has been the most comprehensive. This is most evident in the case of Ukraine where teacher instruction and continued support in LtP pedagogy has been embedded into a comprehensive system of teacher training which includes multiple vehicles for ongoing teacher support.¹⁷ Other evidence exists within the South African case where evidence gathered from both observations and participant respondents indicate that those teachers with an extended experience of PB use were able to implement LtP methodology with more confidence. On the other hand, in the case of Cambodia where continued teacher support has faced challenges, leadership and teachers alike note that while the PB has been successful in introducing practitioners to the value of play, there is still much room for growth in teachers developing the capacity to use PB confidently and innovatively as a teaching resource.

3.4.4 MEL and Observable outcomes

There have been no significant PB MEL efforts to date across LEGO organizational entities other than operational monitoring and a few fragmented MEL efforts. Considering its high operational and

¹⁵ For example, evidence from both Cambodia and MENA indicates there was greater levels of uptake in non-structured learning environments versus more structured Primary level environments. Similarly, evidence from Ukraine indicates that uptake amongst Kindergarten teachers was seen to be the highest. In assessing these findings, it is important to note that while these findings serve to support our understanding of where PB holds an opportunity to gain traction, they also point to a key space for growth in the larger PB model

¹⁶ See for example: Orr et al. (2013); Westbrook et al. (2013)

¹⁷ These include formal teacher mentorships as well as the establishment of peer to peer learning opportunities and communities of learning

implementation costs, both LF and external partner staff view that MEL is essential in understanding if, how and where PB works. Further, despite evidence of this being an organizational priority the LF Evidence team has had limited to no PB involvement. PB MEL has been dependent on LF Denmark, LF's initiatives, external partners or LEGO Group's staff individual interest and motivation. Amongst LF respondents this is seen to have contributed to PB invisibility, lack of implementation rigor and lack of credibility. There are no LF-led standardized PB indicators, LQs, or processes to measure and monitor PB outcomes against geographic contexts or partnership types over time. The creation of stand-alone PB MEL processes and systems at country or partner levels have been dependent on the siloed efforts of individual members of staff. As such, implementation process, update and use data is largely anecdotal. Notably, according to several respondents there are issues with the amount and quality of PB data reported in the past, which has not been cohesive or collected in a rigorous way to showcase outcomes. Following, outcomes that remain unmeasured and unmonitored include those related to:

- PB training for national LtP facilitators utilizing PB as part of LtP **capacity development** as well as service providers/parents caregivers supporting child use (e.g. knowledge, attitudinal shifts, and/or uptake and use of applying LtP pedagogical practices)
- **Child Development** outcomes and systems' outcomes related to PB use in various settings have also gone unmonitored or unmeasured
- **PB implementation processes across contexts** as a means to determine what PB implementation success looks like to date

There are many opportunities within the LF Evidence team that the PB could leverage as a means to understand more fully the aspects associated with reach, quality implementation, outcomes and future impact. In gaining a more rigorous understanding of if, how, where PB works there exist opportunities to be explored. Briefly, these include but are not limited to: the identification of PB-specific LQs aligned to those developed across LF initiatives; identification of anticipated PB outcomes/related indicators aligned to LF measurement initiative framework currently under development; alignment of PB measurement efforts to the five stated LtP outcomes; and the identification of PB implementation and outcomes studies which could contribute to LF research priorities.

There is strong anecdotal evidence to suggest that PB implementation is supporting teachers in shifting both belief and practice toward new more participatory teaching methods. Given that LF has conducted limited to no PB MEL efforts to date, concretely detailing PB reach and impact goes beyond the scope of this study. Therefore, our understanding of impact stems primarily from the anecdotal evidence gathered from participants within this study. To this end, there is strong evidence to suggest that engagement with PB has been successful in providing an entry point for practitioners to explore and witness the tangible results of LtP. Common across each case study, participants have cited engagement with the PB as a critical element in their development of an understanding of the value of play in childhood development. Further, the wide-spread appetite for both more and deeper LtP training speaks to the degree to which the PB has been able to act as catalyst in shifting teacher attitudes towards an interest in exploring new pedagogy.

Across contexts where play is often not prioritized, engagement with PB has been an opportunity to support a larger understanding of the value of play amongst parents and the community. In the implementation of new pedagogic practices, challenges often exist in the benefits of play not being fully recognized across teachers, the community and parents. There is often a class between imported theories and local culture, practice and beliefs. Notably, often the largest obstacle in the implementation of a play-based approach can be parents, often applying pressure for teachers to employ more didactic instruction. Evidence across the case studies suggests that engagement with PB has been a critical entry point for parents to gain an understanding of the value of play. In both Cambodia and Mexico where authoritative teacher/student relationships remain prevalent, evidence suggests PB engagement has provided parents an opportunity to witness the positive effects of play on children. In the case of Ukraine, parents are

engaged in a range of PB activities including PB festivals and direct teacher/parent PB workshops. Evidence indicates that this engagement has led to parents holding in higher value those institutions where LtP approaches are implemented.

Anecdotal evidence gathered from teachers and facilitators indicates that the engagement with the PB and other LtP approaches have had a positive effect on both students and the classroom environment.

In assessing student outcomes it is important to note that the relationship between professional development and the impact on student performance is difficult to assess in a real world setting inherent with intervening variables.¹⁸ While formalized systems of evaluating PB influence on child development are difficult to establish, anecdotal evidence has supported a better understanding on how PB has impacted students and their learning environments. Aligned to larger bodies of research highlighting the key role LtP methods can play in healthy, positive development of holistic skills, practitioners across each case study cited positive effects on student attitude, student performance and overall motivation toward learning as a result of engagement with the PB. Notably, the range of implementation opportunities to support child development can be seen in the case of MENA where the PB has been successfully used to support those students with disability and PSS needs.

Guskey's Framework

As a means to explore these areas Guskey's model for evaluating professional development represents a useful tool. The model enables the analysis of the parameters of the professional development offered to teachers. More specifically, this framework will be used to present findings so that questions of both 'what' and 'why' can be addressed within this context.

Forming the backbone of this model are five critical stages or levels of information to consider, each hierarchically arranged from simple to more complex. When considering the model, it is important to note that each level builds on the ones that come before. That is, success at one level is necessary for success at the levels that follow. Table 2 presents a high-level understanding of how the PB model has been implemented across case studies and how these aspects contribute to each of Guskey's critical levels.

Table 2 Guskey's Model for Evaluating Professional Teacher Development

Guskey's Critical Levels	Strengths and Weaknesses
Level One: Participant Reactions	• Participants widely regard PB training in positive light • Training is seen to be delivered through a balance of practice and theory • Participatory teaching practices are seen as critical component to training • Quality of trainers perceived as high • Content viewed as relevant and useful • Participants voice desire for both more and deeper learning opportunities
Level Two: Participant Learning	• In some cases, the establishment of effective feedback channels is used to inform and adapt program design • In other cases, there is still space for the establishment of participatory processes that would ensure contextually relative and quality training • The establishment of localised Communities of Practice for knowledge sharing

¹⁸ See for example, Fung, C. K. H., & Cheng, D. P. W. (2012)

	• Peer to peer sharing groups developed as a cost-effective means of continued support • While the need for continued support is recognized, there is a lack of organizational capacity for its full provision
Level Three: Organizational Support and Change	• Value of the development of LtP skillset widely recognized amongst participants and communities • Evidence of a strong commitment to the shifting of teacher practice among participants and organizations • Lack of organizational capacity to ensure proper monitoring, documentation and quality standards
Level Four: Use of Knowledge and Skills	• Strong evidence that where teachers have had consistent and sustained support, LtP methodologies are implemented within the classroom. • There exist a range of inter-acting factors (teacher mind-set, existence of traditional authoritarian roles, lack of broader resources) at play influencing the ability of teachers to implement LtP practices
Level Five: Learning Outcomes	• Limited to no PB MEL efforts across LEGO organizational entities • Difficulty in isolating student outcomes within complex systems of overlapping interventions • Strong anecdotal evidence to points to contributions PB make on a range of child development indicators • Strong anecdotal evidence to support the fact PB has made contributions to an understanding of the value of play outside the classroom into the wider community

Source: Elaborated by the authors based on Gusky's framework

4 Recommendations

This section presents recommendations for the LEGO Foundation as organization as well as its partnerships with government and NGOs. Section 4.1 include matters of Strategy, Planning and Supply (Section 4.1.1), Internal Organizational Arrangements (Section 4.1.2), Research (Section 4.1.3) and Training and Facilitation (Section 4.1.4). Section 4.2 presents recommendations for the LEGO Foundation and government partners including Learning through Play Approaches (Section 4.2.1) and Practitioner Development (Section 4.2.2). Finally, Section 4.3 outlines recommendations for the LEGO Foundation and Non-government and Institutional partners including Capacity (Section 4.3.1), Practice (Section 4.3.2), Continued Support (Section 4.3.3) and Materials (Section 4.3.4).

For each of the case studies recommendations were set out as suggested ways for improvement. Some of these recommendations are specific to the Play Box case in the country or region. Many recommendations are common across geographies. To reach this synthesis, the recommendations from each of the case studies were considered and initially clustered in common themes and then around issues. A synthesis of the recommendations was organized. Each recommendation is presented and supported with underpinning conclusions.

4.1 Recommendations for the LEGO Foundation

4.1.1 Strategy, Planning and Supply

Conduct an analysis of costs associated with integrating the PB in a sample of current partnerships. This analysis would be useful to understand cost implications for different models that need to be factored into budgets. Collaborate with partners that have historically been involved with PB.

Determine how PB efforts could be financed in the LF. Along with operating costs of PB production and supply there are human and financial investments that will be needed to integrate PB responsibilities into LF. The costs of undocumented 'invisible' time that staff spend on PB efforts should be factored.

Identify opportunities with various initiatives that have not previously integrated PB to pilot PB. The E&F team could collaborate with the Programmes team (Initiative leads) to do this.

Consider strategies to support the comprehensive integration of the PB and LtP into government and partner programmes (formal and non-formal). The LEGO Foundation should consider extending financial support in all cases to ensure ongoing training and support for this integration.

Forge longer-term strategies in each country with partners to ensure Play Box is integrated into a programmatic plan to improve LtP policy, training and practice in each country and increase reach, penetration and impact. LEGO Foundation and its partners are well-placed to do this. Evidence from the cases indicates that it is better for these strategies to be built from the ground up and avoid being hamstrung by official bureaucracy.

Explore the implications of extending existing PB interventions to assure that PB interventions are sustained over the long term. These extended interventions could include a multiyear strategy aligned with partners' programming; implementation and research plans.

Build LtP management and training skills and knowledge in each country. Nurture and build partnerships and networks across communities where Play Box is rooted to both develop LtP and strengthen organisations on the ground. Support a variety of programmes of appropriate training and support measures for projects to grow and to sustain the intervention.

Consider adapting the PB supply process including:

- A more transparent process and criteria to determine PB logistics and supply focal points with each partner organisation or initiative;
- Map and document local supply (and production, where relevant) processes;
- Identify a consistent way to assess and mitigate PB supply risks;
- Provide partners and Initiatives with in-country supply and logistics funds;
- Increase the number of DUPLO boxes shipped as part of PB efforts; and
- Develop equity-based partnership selection and PB distribution criteria.

4.1.2 Internal Organizational Arrangements

Consider a communication process in LF to raise and increase awareness about the history of PB, its effective use and its potential for promoting LtP internally and externally. The origins and history of PB are largely unknown in the LF. PB is little-known in the LF, many staff members of LF are unfamiliar with how Play Box is being used across geographies. However, stakeholders involved with PB efforts hold overwhelmingly positive perceptions. This communication could include interviews, blogs or written articles, features on LEGO Foundation website, or short videos.

Consider the best option to incorporate PB into the LF organisational structure. On paper, the PB is positioned in the E&F team. However, LF implementation is the responsibility of LEGO entities, LEGO local business units and Initiatives.

4.1.3 Research

Consider researching what works in shifting teacher practice. A recurrent theme across the studies has been the challenge to shifting engrained teaching practice from transmission teaching and rote and exam-based learning that is prevalent amongst teachers in many cultures and contexts.

Consider researching the impact of PB on learning. The LEGO Foundation with partners could design and implement research projects to measure learning improvements for children over time using PB and LtP methods. Randomized controlled trials could be set up to research the impact of Play Box on LtP and the early learning outcomes in a range of settings and for various interventions.

Consider longitudinal research projects investigating improving practice. Consider designing and implementing research projects to measure teaching improvements over time with selected partners. Consider constructing random controlled trials with partners to measure this impact.

Document and research how PB and LtP can be used to provide psycho-social support for children, to include children with disability and ensure gender equality.

4.1.4 Training and Facilitation

Continue to build a quality training approach that is grounded in respected theories of childhood development, is delivered in a participatory fashion by competent teacher trainers and is contextually appropriate. These factors have been recognized as key to the success of the program.

Continue to build skills and knowledge of trainers at various levels. Provide multi-level training to ensure effective capacities and consolidate learning, skills and practices. Cases indicate the calibre of trainers and the quality of training that has been developed in different geographies is a key component of the PB. These human resources are critical to the growth and development of LtP methodologies in the long run. The PB is recognized by practitioners as a useful and effective tool in which to incorporate LtP methods across the curriculum.

Build participatory monitoring and evaluation into the assessment and development of training programmes. The need for more systematic monitoring was mentioned by a number of educators.

Share teacher stories of success. As a means to both strengthen the image of teachers as a respected professional as well as support teachers in making the shift to more participatory practices, consider developing strategies in which to expose examples of good practice. Suggestions in accomplishing this include: The utilization of established online networks to share targeted content designed to expose teacher success and attract the attention of educators unfamiliar with the implementation of LtP or LbD. Support and share research activities exploring key issues and questions on the implementation and impact of Playful Learning methods

Promote and expose good practice. Support the establishment and practice of Communities of Practice. Encourage the use of social media networks through which ideas and training can be shared. Support the development of local content. Consider working with partners in the development of innovative context-appropriate training content for LtP.

Create, publish and distribute the materials necessary to support ongoing teacher development in LtP methods. Recurrent across the study is the frustration of practitioners to the lack of sufficient materials to support PB training and classroom implementation. In some cases a careful redesign and rewriting of materials into an everyday language register could be beneficial. This would ease the reading by practitioners with limited literacy levels and would also simplify the task of trainers and practitioners who need to translate instructions into local languages and dialects.

Develop the PB curriculum with inclusion of children with disabilities, gender equality principles, and practices to consolidate LTP and the needs of different target groups in countries of emergencies.

4.2 Recommendations for the LEGO Foundation and Governments

4.2.1 Learning through Play Approaches

Pursue dialogues with government partners for future collaboration. Respondents expressed support of collaboration between LF and governments. Evaluate to what degree this partnership could widen the reach and impact of PB and LtP implementation alongside what sort of barriers or enablers could exist in this partnership.

4.2.2 Practitioner Development

Explore embedding Learning through Play instruction in ongoing teacher training programmes, such as those in teacher colleges, universities and offered by NGOs. Integrate LtP into formal courses. Learn from other settings (Ukraine, Mexico) and integrate LtP training modules into non-formal training courses.

4.3 Recommendations for the LEGO Foundation and NGO Partners

4.3.1 Capacity

Continue to build skills and knowledge of trainers at various levels. Cases indicate the high calibre of trainers and the quality of training that has been developed in different geographies is a key component of the PB. These human resources are critical to the growth and development of LtP methodologies in the long run.

Nurture and build partnerships and networks across communities where Play Box is rooted to both develop LtP and strengthen organisations on the ground. Understand at what stage partners are at in the use of LtP methods and PB. Identify and support measures. and develop systems to support local ECD forums and Communities of Practice.

4.3.2 Practice

Promote and expose good practice. Support the establishment and practice of Communities of Practice. Encourage the use social media networks through which ideas and training can be shared. Support the development of local content. Consider working with partners in the development of innovative context appropriate training content for LtP.

Support learning across PB partners world-wide through the establishment of communication channels. Consider devoting resources to construct and nurture of partnerships and networks across the communities and contexts where PB is implemented.

4.3.3 Incorporation of LtP Methodologies

Consider integrating PB and LtP training into teacher training programmes of partners. The incorporation of the PB training model into teacher training programmes will ensure that LtP approaches are mainstreamed.

4.3.4 Continued support

Consider supporting a variety of programmes with partners of continued support through appropriate training and support measures for “projects” to grow and be sustained.

Involve parents in workshops to increase the commitment to Learning through Play at home.

Annex A: PB Study Learning Questions (LQs)

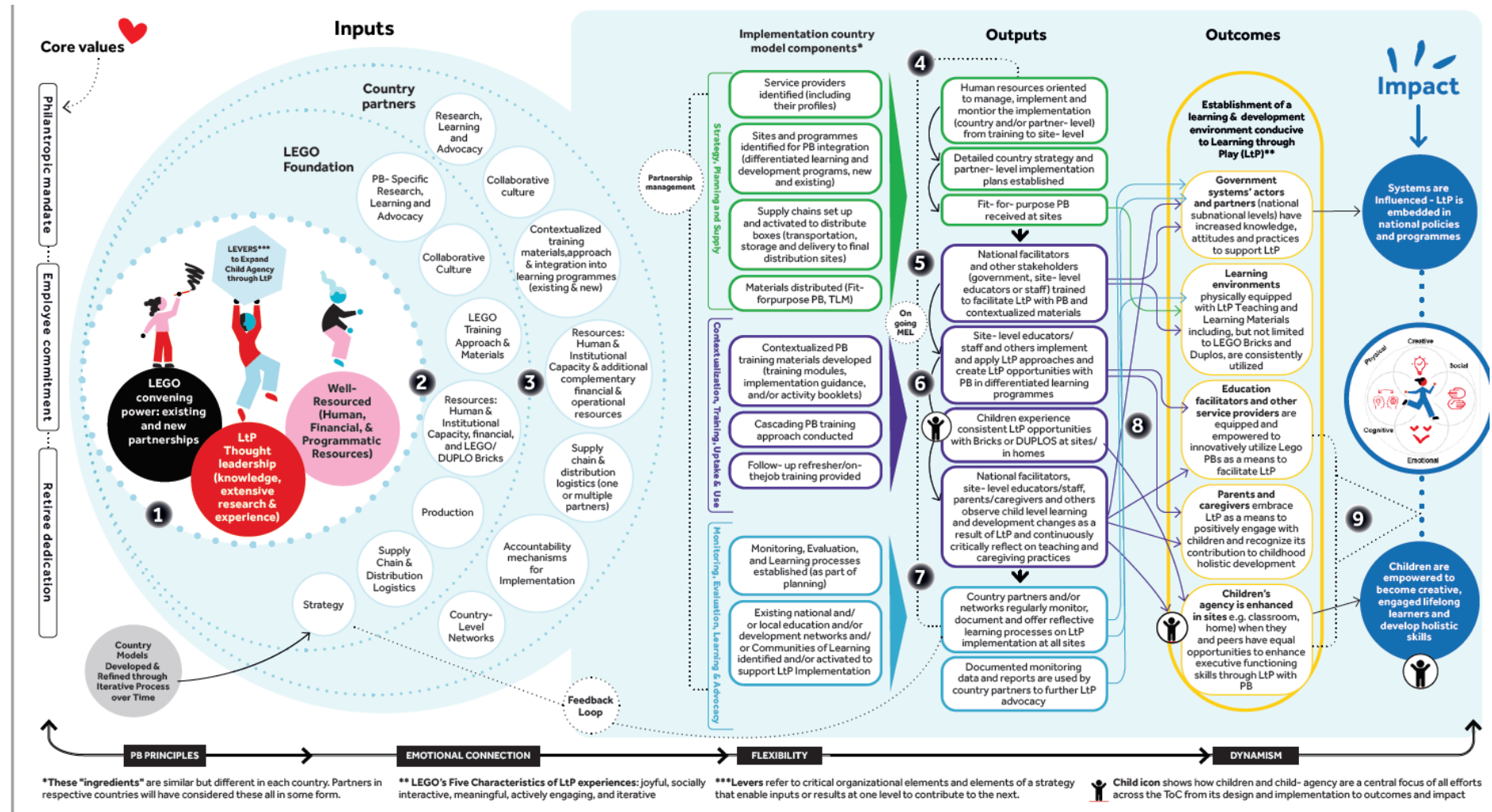
Category	Learning Questions
1. Play Box history	a. How, why, and by which entity(ies) was the Play Box created? b. What is the history of the volunteer and non-volunteer packaging models and why were they selected for different contexts? c. In what ways does Play Box content differ, if at all, in practice and quality by whether they are volunteer- or non-volunteer-managed? d. How have Play Boxes, in design, distribution, training, and implementation, changed over time?
2. Organisational expectations	a. What was the motivation for the LEGO Group owners for creating Play Boxes and what do they perceive as its unique value proposition for the brand and for the Foundation? b. Which components do they view as critical to its identity, and are there any geographies, contexts, and/or partners they believe are indispensable to the Play Box model?
3. Play Box perceptions and expectations	a. What are the perceptions and expectations of Play Boxes among various stakeholders, including LEGO entities and staff, volunteers, partner organisations, and recipients, and in what ways do they differ by stakeholder and why? b. What are the perceptions across stakeholders of the volunteer aspect of Play Boxes, and its level of importance to the Play Box identity, and why?
4. Play Box logistics	a. What are the logistical steps for a Play Box shipment, from ordering and packaging to receipt and training? b. How do logistics differ between Billund and Ukraine, where they produce their own version of the Play Box? c. What is the average length of time and cost for Play Box distribution from beginning to end, and how variable are these by geography and partner? d. How do partners manage Play Boxes logistically in centres and schools, and what are the key challenges for partners in managing Play Boxes from a logistical perspective? e. What potential logistical barriers exist and need to be overcome for long-term sustainability and/or scaling, and how do these differ by geography and/or partner type? f. How do you store the bricks that come with the Play Box? g. What do you do with the cardboard box?
5. Play Box distribution	a. How many Play Boxes have been distributed, to which partners, where and when, from 2014 to 2020?

	b. What were the decision criteria and selection process for distributing Play Boxes in the various geographies and to the different organisations, and how, if at all, have these changed over time?
6. Play Box training	a. What are the different past and current training approaches that have been deployed alongside Play Box distribution? How do they differ by type of Play Box (e.g. DUPLO, system, Six Bricks)? b. How were these training models conceptualised and designed, and with what level of quality have they been implemented across geographies and partners, and over time? By which entity(ies) and by whom have trainings been delivered? c. To what extent are trainings (provided by either The LEGO Foundation or partners) contextualised for the local context in terms of content, approach, and language? d. To what extent is the LEGO Foundation and/or partners using a cascading training model (i.e. training of trainers), why, and to what perceived effect on quality across geographies and partners? Training of Trainers? e. In what geographies and with which partners have there been follow-up trainings and/or observational visits to distribution sites (e.g. schools) to understand Play Box facilitation and usage, and how has this changed over time?
7. Play Box implementation and usage post training	a. What are the general practices for the routine implementation of Play Boxes in centres and schools, across geographies, partners, and time? b. What have been key implementation challenges for facilitators, and in what ways do various stakeholders believe implementation could improve? c. To what extent are the Play Boxes being used as learning materials, post-training? d. To what extent are the Play Boxes used as free play or during free time, post-training? e. To what extent are the Play Boxes not used post-training, and why? f. How long do Play Boxes generally remain in use? g. How many teachers, practitioners, facilitators, and caregivers reported using the Play Boxes, post-training? h. How many teachers, practitioners, facilitators, and caregivers reported implementing what they learned during the training, while using Play Boxes?
8. Reach of distributed Play Boxes	a. How many Play Boxes have been distributed, to which partners, where and when, from 2010 to 2020? (as per category 5a) – to be disaggregated by country, partner, child age range b. How many teachers, practitioners, facilitators were trained alongside the Play Box?

	c. How many caregivers were trained alongside Play Boxes? d. How many children engaged with the Play Boxes? (disaggregated by age, gender) e. How do these figures compare to the LEGO charity distribution figures?
9. Perceived impact of Play Boxes	a. Based on anecdotal evidence, are teachers and facilitators reporting any perceived impact in the classroom when using the Play Box? b. Based on anecdotal evidence, are caregivers, teachers, practitioners, and/or facilitators reporting any perceived impact on children when using the Play Box?

Annex B: PB Theory of Change (ToC) diagram and narrative

Annex Table 1 PB ToC



- The theory of change diagram (**Error! Reference source not found.**) represents a **hypothesis for a theory of change** for the Play Box. It depicts the **causal pathways** that underpin Play Box. While it represents a linear logic, it also seeks to indicate the influence that lessons learned in the respective geographies have on the Initiative and to show where change could be taking place.
- This diagrammatic hypothesis helps to **ensure a common and agreed understanding** of this change theory for the Playbox Initiative. In addition, it provides a framework for this study.
- A **set of core values** underpin the initiative. These values are evident across the initiative and provide strong common foundations.
- The ToC diagram seeks to demonstrate how the LEGO Foundation **combines its inputs with those of selected partners** in different geographies. Synergies are sought and strategies for the initiative emerge.
- The LEGO Foundation has **critical attributes** that can be used to lever collaboration and change. These levers are advantageous as country strategies are forged, implementation in various initiatives is supported, research is conducted and policies are formulated.
- **Country initiatives emerge** and grow and sometimes develop into models. They are strengthened by the networks and contextual insight that the local partners bring to the initiatives.
- There appear to be a **set of common implementation components** across all the initiatives. These include the identification of partner sites, distribution of Play boxes and appropriate teaching and learning materials, the delivery of contextualised training, on-going support, researching and learning about best practice. For each initiative, effective management of partnerships is crucial.
- The combination of these implementation components is **dependent on the model being used**. However, the different outputs are all designed to ensure that the outcome is achieved; that the components of a learning environment conducive for learning through play are developed.
- The ToC diagram depicts these outputs that **contribute to conducive conditions** as a combination of well-managed systems of distribution of Play boxes, of trained trainers, of educators who are developing enhanced skills and knowledge to use playful methods, of children who have access to LEGO or DUPLO bricks in the classroom and supportive schools and educational systems.
- The hypothesis being presented suggests that if government systems support learning through play, learning environments are sufficiently equipped, educators have developed the necessary skills and knowledge, parents and caregivers provide support and children have sufficient opportunities to play and learn with LEGO bricks there will be **an impact on the learning and development of these children**.
- The critical premise of this hypothesis is that **these conditions are sufficient** to ensure improvements in learning in all the developmental domains for children.

Annex C: Teacher development literature review - Gusky's framework

Annex Table 2 Summary of Gusky's teacher development framework

Critical Stages	Key Considerations
Level One: Participant Reactions - To what degree are participants satisfied with their initial experience? Do they feel their time was well spent? Will it be useful? - Positive reactions from participants at this initial level of engagement are generally a prerequisite to all higher-level results	- Interventions received positively are carefully targeted, of personal relevance, culturally appropriate and consider the demands of time and resources placed on trainees. - The proximity of training is an important factor in establishing the relevance of training. - Expertise on the part of the teacher trainer plays an important factor in the quality of an intervention. - Teachers need to be active in the learning process and to learn through the same methods they will be using with their students, specifically teacher educators using rote methods were perceived to be a major stumbling block. - Components considered relevant by trainees include specific strategies, structures and assessment requirements for integrated pedagogies as well as key classroom management techniques
Level Two: Participant Learning - Specific criteria and indicators need to be outlined prior to the development experience - Unintended learnings whether positive or negative should be considered	- Interventions deemed most effective have clear goals and outcomes, are aligned to specific contextual needs and include a combination of strategies. - Sustainable changes occur slowly; professional development must be seen as a process and not as an event. - Interventions need to consist of frequent/regular engagement. - Peer learning opportunities offer a cost-effective way for teachers to participate in collaborative reflection and embed learning into practice. - While cascade training is recognised for its cost effectiveness, these need to be carefully designed and include active participation of recipients to be built into processes alongside quality assurance and formative evaluation at all phases of the application.
Level Three: Organisational Support and Change The organisational climate is key to consider, as gains made at Stages 1 & 2 can	- Institutional wide commitment is vital to the success of educational reform measures. - The involvement of leadership is key in allowing teachers to benefit from the experience and as a means to ensure larger administrative support in facilitating

Critical Stages	Key Considerations
be cancelled due to issues faced here.	the time and resources needed for training as well as the implementation of new pedagogic practice. • Structural issues underpinning interventions alongside wider community concerns need to be carefully considered.
Level Four: Participant Use of New Knowledge and Skills • How are participants using what they learned? • What challenges are the participants encountering?	• Evidence indicates that engrained constructions of the teacher as an authoritative figure alongside the perceived burden of an increase in time and work, often leads to a transfer problem between training and classroom implementation of more learner-centred methods. • Practical restraints, including lack of resources and large class sizes, provide significant challenges to implementing learner-centred and play-based pedagogies. • When implementing new pedagogic practices, there is often a clash between imported theories and local culture, practice and beliefs.
Level Five: Student Learning Outcomes • Student learning outcomes are typically considered to be the bottom line in assessing education reforms. • As unintended outcomes represent an important component, multiple measures of student progress are essential.	• The relationship between professional development and impact on pupil performance is difficult to assess in real world settings influenced by intervening variables. • The impact of integrated and play-based practices on student achievement is well documented. • A growing number of researchers are calling for children's perceptions of play to be more thoroughly investigated.

Full literature review

Introduction: A Mandate for Change

The Sustainable Development Framework has set an agenda for the International Community focused on realizing a socially just future grounded in equality, inclusion and empowerment. Specifically, target 4.7 within the SDG framework sets forth a progressive education agenda that reaches beyond basic access, to where education systems are measured by the degree to which inequalities have been overcome and sustainable values are actively promoted in the aim of supporting the development of socially aware and critically engaged global citizens. This sentiment is echoed across global policy mandates which consider a participatory and rights-based education to be not only a fundamental building block of a rights respecting society but also a crucial component within emergency education contexts (UNESCO, 2007; UNICEF, 2007). Likewise, research attests to the fact that basic schooling is insufficient in situations of crisis where instead there is a need for programs which support education for peace, human rights, democracy and the incorporation of a participatory pedagogy (UNESCO, 2000).

The unique educational challenges facing marginalized groups require targeted actions by governments and their partners (Sayed, 2018). Davies (2004) articulates this need by calling for a system of education that can support children in out-growing crisis by focusing on “an agenda of participation that positions children as creative and capable social actors, rather than passive victims of social violence” (Davies, 2004:32). Davies builds upon years of education theory which asserts participation is instrumental in supporting students to become critically engaged citizens while education models dependent on rote learning inhibit both civic and emotional development (Dewey, 1969; Giroux, 1989, among others). Drawing on this sentiment, play-based learning and other integrated learning approaches such as inquiry-based learning, active and experiential learning offer students the opportunity to grow into resilient, socially aware and critically engaged global citizens.

Across education programming, the classroom pedagogy implemented by teachers is consistently viewed as, “the crucial variable for improving learning outcomes” and is critical to any reform intended to improve quality (UNESCO, 2005). Even as reforms that encourage a shift from rote teaching methods toward a learner-centered and participatory approach have been favorably received their implementation has not always been as successful as hoped (Chisholm and Leyendecker, 2008; Dembele and Lefoka, 2007; World Bank, 2008). The reality is that teachers are faced with an ever more demanding role to play while those in the most fragile contexts are often new to the profession, untrained in emergency response and lack the confidence, skills and resources to tackle the complicated terrain in which they reside (Darling-Hammond, 2006; Winthrop and Kirk, 2011). These findings highlight the need for contextually based training and reform programs grounded in a thorough understanding of the needs and complexities facing teachers, parents and students.

A Framework for Analyzing Progress

As discussed above, there exists a gap between the expected goals of education reform and actual progress achieved within classrooms. Guskey’s model for evaluating professional development represents a useful tool to analyze the associated parameters of the professional development offered to teachers. As an adaptation of the evaluation model developed by Kirkpatrick (1959), Guskey’s model is specifically designed to address questions of both “what” and “why” that may arise within the education context (Alliger and Janak, 1989; Holton, 1996). Forming the backbone of this model are five critical stages or levels of information to consider, each hierarchically arranged from simple to more complex. When considering the model, it is important to note that each level builds on the ones that come before. That is, success at one level is necessary for success at the levels that follow (Guskey, 2000). Briefly, these levels include: participant reactions, participant learning, organizational support and change, use of knowledge and skills, and student learning outcomes. Participant reactions focus on the participant perceptions on the content of the program with reference to factors of relevance, utility of content, timeliness as well issues connected to perceived overall quality. Participant learning focuses on newly gained knowledge, attitudes and skills. Organizational support and change considers organizational factors that can either impede or foster the eventual success of the program. Use of knowledge and skills refers to the actual implementation of newly gained skill into daily teaching which finally leads to student outcomes (ibid). An outline of the critical components to each of these levels is presented in Annex Table 3.

As a means to present the literature found to be relevant to the PB, these parameters will be utilized as a framework in which to explore the findings guiding this study.

Evaluation Level	What is addressed?	What is measured?	How will information be used?
1. Participant Reactions	• Did they like it? • Was their time well spent? • Did the materials make sense? • Will it be useful? • Were the trainers knowledgeable and helpful?	Initial satisfaction with the experience	• To improve program design and delivery
2. Participant Learning	• Did participants acquire the intended knowledge and skills?	New knowledge and skills of participants	• To improve program content, format and organization
3. Organization Support and Change	• What was the impact on the organization? • Did it affect the organizational climate and procedures? • Was the implementation advocated, facilitated and supported? • Was support public and overt? • Were problems addressed quickly and efficiently? • Were successes recognized and shared?	The organization's advocacy, support, accommodation, facilitation, and recognition	• To document and improve organizational support • To inform future change efforts
4. Participant Use of New Knowledge and Skills	• Did participants effectively apply the new knowledge and skills? • How are participants using what they learned? • What challenges are participants encountering?	Degree and quality of implementation	• To document and improve the implementation of program content

Student Learning Outcomes	• What was the impact on the students? • Did it affect their performance or achievement? • Did it influence their physical or emotional well-being? • Are students more confident as learners? • How does new learning affect other aspects of the organization?	Student learning outcomes: • Cognitive • Affective • Psychomotor	• To focus and improve all aspects of program design, implementation, and follow-up • To demonstrate the overall impact of professional development
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Source: Adopted from: Guskey, 2000 An Evaluation of Professional Development

Level One: Participant Reactions

Participant reactions to their experience represent the most common form of professional development evaluation and are perhaps the simplest to gather. Information on reactions is generally gathered immediately after a session or activity and most often through the use of a questionnaire. Critical to note, positive reactions from participants at this level are generally a prerequisite to all higher-level results (Guskey, 2000).

Interventions received positively are carefully targeted, of personal relevance to participants and culturally appropriate. Studies show that the success of interventions is dependent on a large set of factors located within the school, the education system and society, indicating that it is important to carefully target school clusters, individual schools and individual teachers as a means to eliminate the effects of some of these variables (Orr et al, 2013). Similarly, it is critical to take into account all associated demands on time and resources that the participant may carry as a result of his or her participation. The associated costs of participation, such as materials, travel and missed earnings could negatively impact their view on the experience while an overburden of time and resources can potentially lead to both demotivation and drop-out (Akyeampong et al. 2010). To ensure the content of training is perceived as relevant to the participants, it is important that training draws on existing knowledge and experience and is aligned to both curriculum and classroom realities (Westbrook et al, 2013; Akyeampong et al. 2010). Pre-course classroom observations can be utilized as a way of understanding local issues confronting teachers as can the active involvement of experienced teachers and mentors in the design of the intervention (O’Sullivan, 2001; Orr et al, 2013). Additionally, research highlights the importance of taking on a culturally-sensitive awareness of local issues, including gender, that many need to be taken into account when designing intervention logistics, activities and learning materials (Elliot, 1996; Anzar 1999; Hossain, 2000; UNESCO, 2000).

The proximity of training is an important factor in establishing relevance of training. A close proximity between the site of training in relation to the participant’s classroom allows for higher levels of engagement and direct application of learning (Orr et al, 2013; Guzman et al, 200). Moreover, training that is embedded within the school is likely to be most relevant to participants as concrete issues faced in the local environment can be addressed as theory is integrated into practice (Popova et al, 2006).

Critical factors that determine perceived quality include expertise on the part of the teacher trainer alongside the utilization of participatory training methods focused on a balance of both theoretical and practical issues. Studies show that in cases where tutors were untrained or visits were too short or poorly managed, the impact on the participant could be negative (Stuart and Kunje, 1999; Akyeampong et al, 2010). Additionally, modules that were not overly factual but instead included a balance of subject knowledge and pedagogy or learner centered methods were seen to be the best received and most effective (Kruijef, 2010). However, perhaps most important factor is the manner in which the trainings were delivered. Specifically, teacher educators using rote methods were perceived to be a major stumbling block while those with expertise in modeling the promoted strategy made a considerable difference to the quality and outcome of the experience (Clarke, 2003). Important to note here is Blume's (1971) assertion that, "teachers teach as they are taught and not as they are taught to teach." (Blume, 1971: 86). In other words, it is necessary to teach participatory methods through participation. Darling-Hammond and McLaughlin (2011) build upon this assertion by noting that teachers need to be active in the learning process, to learn through the same methods that they will be using with their students, and to engage in reflection and collaborative inquiry. Further important components of training are seen to be specific strategies, structures and assessment requirements for integrated pedagogies as well as key classroom management techniques (Cefai et al, 2014; Goldstein, 2016; Barron and Darling-Hammond, 2010).

Level 2: Participant Learning

Measuring the knowledge, skills, and perhaps, attitudes participants gained can involve anything from pencil and paper assessment to a simulation or skill demonstration, personal reflections or an examination of participant portfolios. Notably, these can sometimes be gathered at the completion of a session but can seldom be accomplished with a standardized form. Rather, specific criteria and indicators need to be outlined prior to the development experience. Additionally, openness to possible unintended learnings, whether positive or negative, should also be considered. Analysis at this level provides a basis for improving the content, format and organization of the program or activities (Guskey, 2000).

Interventions deemed to be the most effective include a combination of strategies aligned to specific contextual needs. In their large-scale literature review Orr and colleagues (2013) find that initiatives garnering the best outcomes have employed a mix of strategies, highlighting that both pinpointing precise formulas for outcomes are difficult and that there does not seem to be a silver bullet for reaching positive learning results. Of these strategies, the three most frequently found within the review included training workshops, independent study and in-class support (ibid). One key factor that arises within the literature is the need for interventions to be contextually grounded within specific aims set to enable participants the opportunity to acquire the needed knowledge and skills (Guskey, 2000). Importantly, what works best in one context among a particular community of educators might not be successful within another context (ibid). Guskey (2000) warns against first working to develop what approaches will be taken and instead asserts the first step needs to be the establishment of clear aims for what will be achieved in terms of learning. Further findings indicate that frequent, regular engagement provide participants the best opportunities to internalize learning while the social nature of face-to-face tutorials, peer learning, workshops and in-class support appeared to also create a significant impact (Orr et. al, 2013).

While cascade training is recognized for its cost effectiveness and ability to reach many teachers within a short period of time, critics fault this model's "trickle-down effect" in which content can be watered down and misinterpreted as it is passed on to trainees. The

cascade model of professional training is a top-down model in which there is a flow of information from expert trainers down to secondary trainers or multipliers at different levels (Abeyseena, Philips and Poppit, 2016). The main benefit of this method is the ability to reach a large number of teachers in a short amount of time using less resources than other methods (Bett, 2016; Karalis, 2016). However, these benefits have been met with the acknowledgement of faults inherent within this model. Robinson (2002) outlines these problems as, “the dilution or misinterpretation of the information, lack of confidence, knowledge and understanding on the part of the trainers and the often further disconnection between those providing the initial training and the realities of the classroom for the eventual recipients who received the training at the second, third or fourth hand.” (Robinson, 2002:53). Other researchers point to the inconsistency in using cascade models to teach participatory approaches when the model itself represents a one-way transmission of knowledge in which content is passed on to multiple levels of target audience without discussion or feedback between them (Ngeze, 2018). As a means to counter the intrinsic top-down and hierarchic nature of this model, Karalis (2016) highlights the need for active participation of the recipients to be built into processes alongside quality assurance and formative evaluation at all phases of the application. Crucial factors in implementing a cascade model of intervention therefore include: design based on final recipient needs, careful selection of the experts and first phase trainers, continuous monitoring of the program as it unfolds, and well-prepared and comprehensive educational material (ibid). Hayes (2000) provides further guidance in their outline of the five criteria that should be present if the cascade approach is to be successful. These are:

- The method of conducting the training must be experiential and reflective rather than transmissive.
- The training must be open to reinterpretation; rigid adherence to prescribed ways of working should not be expected.
- Expertise must be diffused through the system as widely as possible, not concentrated at the top.
- A cross-section of stakeholders must be involved in the preparation of training materials.
- Decentralization of responsibilities within the cascade structure is desirable.

Source: Hayes, 2000:138

There is a need to recognize that sustainable changes occur slowly and that professional development must be seen as a process, not an event. For learning to be internalized and transferred into practice individuals need to receive regular feedback on the effects of their efforts alongside opportunities to collaboratively reflect on their experiences (Guskey, 2000; Westbrook et al, 2013). O’Sullivan (2003) points to the importance of following up initial workshop learning as a means to embed learning. While in-class support was the most frequently described follow up, also discussed were other strategies that did not include external tutors, such as diaries, self-evaluation forms and peer coaching (ibid). Other studies found that school cluster support in the form of group activities or peering learning amounted to a greater contribution to overall learning than support coming from tutors or head-teachers (Westbrook et al, 2013). Additionally, peer support through informal groups offers a cost-effective means for teachers to participate in joint observation, sharing of resources, lesson plans and assessment practices. Notably, Shulman and Shulman (2004) argue that collaborative reflection is not only beneficial, but essential if teacher learning is to translate into practice.

Level 3: Organizational Support and Change

In considering organizational characteristics and attributes necessary for success it is necessary to acknowledge that while these variables can be key to the success of any professional development effort, they can also serve to prevent success even when other aspects are unrolled without fault (Sparks, 1996). That is to say, gains made at levels 1 and 2 can be essentially canceled by issues faced at this level (ibid).

Institutional wide commitment is vital to the success of educational reform measures.

Findings indicate that institutional commitment to ongoing professional development is inherently linked to better classroom performance by teachers (Guzman et al, 2000; Duthilleul, 2006; Akiba et al, 2007; Mulkeen, 2010). Specifically, the involvement of school leadership allows teachers to both benefit from their experience and leads to the larger administrative support in facilitating the necessary time and resources for training and ongoing support (Earnest 2004; Stuart and Kunje 1999; Edwards 2005; Courtney 2007; Baba and Nakai 2009). Further, in the case of implementing learner-centered and integrated pedagogies, school administrators need to provide the physical space to conduct these activities as well as ensure resources are available internal and external to classrooms (Hegde and Cassidy, 2008; Rogers and Evens, 2007).

Structural issues underpinning interventions alongside wider community concerns need to be carefully considered. As noted above, the success of interventions is dependent on a large set of factors located within the school, the education system and society. Highlighting the need for intervention design to be carefully considered, findings indicate interventions are reported to be weakened by a lack of involvement of stakeholders, including teachers themselves, when being planned (Edwards, 2005; Moon et al, 2006; MacNeil, 2004). Further, a lack of ownership across the project by relevant parties may present significant obstacles to its efficacy (Holmes et al, 1991; Effective World Bank Schools and Teachers Thematic Group, 2000; Bof 2004, 12; Courtney, 2007). Also important to consider are the beliefs and values held by parents, caregivers and the community toward the implementation of a new pedagogy. Specifically, recognition of play as a valuable means of learning may be unfamiliar in many contexts (Bent et al., 2012, among others). In these cases, active engagement can be a useful means to garner support. Smith (2015) found that though most parents initially held negative views connecting play and learning, parents' views were transformed through engagement

Annex Box 1: Key Enabling Factors for Successful Interventions

(Orr et al., 2013)

1. Interventions need to have clear goals and outcomes.
2. School clusters, individual schools and individual teachers need to be thoughtfully targeted.
3. Interventions need to be based on a needs analysis of teacher knowledge, experience and specific contextual considerations.
4. Interventions need to consist of frequent, regular engagement.
5. Proximity of training is a factor.
6. Initial large workshops are key to introductions while smaller ones allow for critical engagement.
7. Learning materials need to be culturally appropriate and well-planned
8. Quality of trainers is important.
9. Demands on time and resources for trainees needs to be considered.
10. Recognition that sustainable change to professional practice occurs slowly.

with the program and were able to eventually articulate the skills learners gained through the program.

Level 4: Participant Use of New Knowledge and Skills

Key to gathering relevant information at this level is the clear specification of indicators as a means to gauge both the degree and quality of implementation. While the most accurate information for making these assessments is likely to come from direct observations, a sufficient amount of time needs to be accounted for so that participants have the opportunity to adapt new ideas into practice. Implementation can often be a gradual and uneven process, as such, measures may be necessary at several time intervals (Guskey, 2000). Relevant to the Lego Play-box study under consideration here, the issues outlined here represent an overview of the challenges faced by teachers in the implementation of a play-based learning pedagogy.

Evidence indicates the existence of a transfer problem between theory and classroom practice. In many cases, making the transition from a rote learning system into a new role as an active facilitator of knowledge within a participatory pedagogy requires a steep learning curve for teachers as well as students (Dole et al, 2016). Like practitioners in many fields, teachers are hesitant to adopt new procedures and practices unless they feel sure they can make them work, often facing difficulties in ‘letting go’ in order for students to learn independently (Lortie, 1975; Dai et al, 2011). In other cases, culturally engrained constructions of the teacher as an authoritative figure can render the implementation of more student-centered approaches difficult as teachers fear a loss of authority (Rahman et al, 2006; Lall, 2011). For some already over-stretched teachers, the perceived burden of active-learning or student-centered methods represent an increase in time and work, especially in the case of large class sizes (Mizrachi et al., 2010, Stoffels, 2005).

In assessing this gap between training and practice, Gusky’s (2002) conceptualizations on teacher development and teacher change offer support in understanding how best to overcome these challenges and implement successful teacher development. At the heart of his theory is the notion that teachers form and alter their beliefs not as a direct result of training, but rather based on visible learning outcomes. In other words, teachers must see something before they are to believe it. This concept is especially relevant within post-conflict situations where individuals tend to, “cling to collective identity, nationality, citizenship, family, community, in order to reduce fear” (Davies, 2001: 20). In situations such as these it is therefore an extremely delicate objective to introduce a change in pedagogical style that positions children as having the right to oppose adults and engage with their elders on equal terms (Johannessen, 2002). Fundamentally altering the hierarchal structure of teacher and student relationships proves to be extremely culturally sensitive (Sommers, 2002). In situations such as these, ensuring opportunities for teachers to participate and experience changed learning patterns among students is crucial (ibid).

Though many teachers are eager to implement learner-centered approaches, there is often a gap between belief and practice. Research indicates that many teachers endorse learner-centered concepts such as learning through play, despite engaging in low levels of play and high levels of didactic instructions (Pyle et al, 2017). In the case of the implementation of play-based learning, teachers must often navigate what they see as competing priorities as they struggle to implement content presented within training alongside pressure to achieve prescribed academic outcomes (Qi and Melhuish, 2017; Baker, 2014; Leggett and Ford, 2013). In other cases a diluted or shallow implementation was attributed to teachers’ wider lack of pedagogic content knowledge. Important to note here is that implementation of these integrated approaches requires high levels of both pedagogic knowledge and skill alongside the ability to use evidence from observation to inform planning, assessment and evaluation. In

many cases the outward mechanics of a practice were enacted absent the underlying principles. For example, the practice of putting students into groups but allowing interaction between only the teacher and the student (Barton and Sakwa, 2012, Conway et al., 2012; Barrow et al., 2007, Mtika and Gates, 2010). In other cases, where teachers have demonstrated an understanding of the underlying principles advocated by an intervention or reform, they were less able or willing to implement them in the classroom under often challenging conditions (Buckler, 2011, Dembélé and Lefoka, 2007, Levinson, 2004, Mhlauli, 2010, Pomuti et al., 2005).

Studies indicate that contextual practical restraints, such as lack of resources and large class sizes within cramped settings, provided significant challenges in the implementation of learner-centered and play-based pedagogies. Specifically, where teachers might be aware of learner-centered or play-based approaches, they were unable to implement these methods due to a lack of material resources and large class sizes often working with immovable desks and unworkable levels of noise (Westbrook et al., 2013). Other studies noted that where resources existed, in some cases teachers were not using them, and not using them as intended in others (Khamis, 2011; Khan, 2012; Sriprakash, 2010). Reasons for this lack of use ranged from teachers having no time to fear of resources being damaged, lost or taken home (Brehance et al., 2007; Sherman and Muehlhoff, 2007). Notably, in cases where resources were available, teachers were in need of specific training on how to make full use of them (Westbrooke et al, 2013). Studies also point to the disconnect between training programs which emphasize the concept of a learner-centered or play-based education in countries such as India where a preschool classroom with 40 children is considered small (Gupta, 2004). Critics argue that these training centers advocating for a pedagogy derived from Western standards are divorced from reality, giving little attention to how these methods can be feasibly practiced in a group size that is regularly between 60-70 children (Kaul, 1998).

In the implementation of new pedagogical practices, there is often a clash between imported theories and local culture, practice and beliefs. Alongside practical issues such as feasibility, the social norms of any given context shape both the opportunities and barriers for implementing learner-centered and play-based practices. In many contexts, implementation of a participatory pedagogy that positions children in a place to question adults is viewed as disrespectful (Westbrook et al, 2013). Other challenges exist in the benefits of play not being universally recognized across teachers, the community and parents (Wood, 2008). Studies indicate that often parents are one of the largest obstacles in the implementation of a play-based approach as they apply pressure on teachers to employ more didactic instruction (Fung and Cheng, 2012; Hegde & Cassidy, 2009). In the case of play-based practices, one major criticism lies in the fact that play theories have been largely developed from a Western research perspective, leaving them culturally limited (Bishop, 2017; Fleer, Tonyan, Mantilla, and Rivalland, 2009; Kirova, 2010; Sutton-Smith, 1980). Research points to the existence of cultural differences in various features of play, presenting a potential challenge when considering the integration of children from different backgrounds within an educational system that involves play (Bishop, 2017).

Annex Box 2: Key Constraints of Play Implementation*(Hegde and Cassidy, 2009))*

1. **Parents are Barriers:** Teachers identified parents as difficult or unwilling to cooperate with school philosophy.
2. **Group Size:** Classroom sizes impede the activities available to teachers and students
3. **No Toys, No Play:** A lack of age-level appropriate materials or equipment.
4. **Need for Assistance:** Teacher's view that more adults needed in the classroom to effectively implement play

Level 5: Student Learning Outcomes

Student learning outcomes are typically considered to be the bottom line in assessing the success of education reforms. As unintended outcomes represent an important component of these considerations, multiple measures of student learning are essential at this level (Joyce, 1993). Typically, these evaluations include indicators of student performance and achievement, such as portfolio evaluations, assessment results, grades or scores from standardized examinations. In addition to cognitive indicators, attitudes and dispositions alongside skills and behaviors also warrant investigation (Guskey, 2000).

The relationship between professional development and impact on pupil performance is difficult to assess in real world settings where intervening variables impede the application of causal inferences. In their large-scale literature review Orr and colleagues (2013) note that evidence of achievements in student learning is sparse, and in fact seldom thoroughly examined within the studies reviewed. Guskey (2000) examines this issue by noting the inherent difficulty in isolating the effects of a single program under conditions where many schools are engaged in systemic reform initiatives involving simultaneous implementation of multiple interventions. In the absence of proof, Guskey (2000) advocates for the collection of sound evidence in the form of anecdotes or testimonials attesting to the contributions professional development activities have made.

While isolating the impact of single interventions on student performance remains difficult, the impact of integrated pedagogies and play-based practices on student achievement and well-being is well documented. A grown body of research has firmly established the benefits of learning through play in fostering positive child development and learning (Danniels and Pyle, 2018). Specifically, the case for implementation of learning through play approaches for children between the ages of zero to eight is concretely supported, with strong evidence pointing to its key role in healthy, positive development and holistic skills development (Zosh et al, 2017). While there is compelling evidence to suggest play has an important role to play in the development of language and literacy during early years (Roskos and Christie, 2013), other research indicates that the larger body of participatory integrated pedagogies can positively impact student learning across social, emotional, physical, creative and cognitive domains (LEGO, 2017). Notable to this study, therapeutic benefits of play for migrant children have also been identified and highlight the role play holds in supporting children's ability to communicate and develop an understanding of experiences they are not able to effectively work through verbally (Axline, 1947; Bratton, Ray, Rhine & Jones, 2005; Landreth, 2002). Likewise, research suggest that play therapy, even when undertaken outside parental involvement, can contribute positively on child-parent relationships (Ray, 2008; Ray &

Edwards, 2010). Significant to both the acculturation and resilience of immigrant children, studies also point to the positive effect on child-teacher relationships play-therapy has been seen to yield (Muro, Ray, Schottelkorb, Smith & Blanco, 2006; Ray, 2007; Ray, Henson, Schottelkorb, Brown & Muro, 2008).

A growing number of researchers are calling children's perceptions of play to be more thoroughly investigated. Perhaps counter-intuitive to a pedagogy centered on the active participation of students, children's perceptions on play are often absent from research on this topic. Noting the limitation of inferences that can be made from adult discussions on play, a number of researchers have called for an investigation into what children themselves feel about their play activities (Göncü & Gaskins, 2007; Howard, 2002; Takhvar, 1988).



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[@ItadLtd](https://twitter.com/ItadLtd)

mail@itad.com

Itad Ltd

Preece House
Davigdor Road Hove,
East Sussex UK
BN3 1RE

+44 (0) 1273 765250

Itad Inc

c/o Open Gov Hub
1100 13th St NW, Suite 800
Washington, DC, 20005
United States

+1 (301) 814 1492