Getting started with learning through play in the classroom

Exploration 1
Kenya 2017/2018
These flashcards are the fruit of a one-year collaboration between a team of volunteers, all members of PlayFutures. PlayFutures is an international innovation community funded by the LEGO Foundation, a Danish corporate foundation promoting learning through play.

Our goal in this exploration was to initiate a learning through play approach at Blossoming Cherries Early Childhood (EC) learning center in Kenya. This preschool, directed by Rebecca Ngaywa, is based in a rural village called Embu, close to Nairobi. The school previously relied primarily on teacher-led instruction to teach 3-5-year-old children, and Rebecca sought support to increase learning through play as a pedagogical approach in the school.

During this investigation, our team visited Blossoming Cherries twice to collaborate with the teachers in trying new approaches to learning through play in their classrooms. We also communicated virtually via WhatsApp about classroom curriculum and activities.

These flashcards aim to share what we learned during this exploration. We hope that our learning may also be interesting to a more global audience, including teachers, teacher educators and school directors, who are interested in exploring learning through play in their own contexts.

Find all videos here: https://vimeo.com/album/5605856

Watch the video: 360 degree video
Summary

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1. Learn about learning through play

If you are new to thinking about learning through play, as the Blossoming Cherries teachers were, it can be helpful to learn some more about this approach.

The Pedagogy of Play team’s research in Denmark has found choice, wonder, and delight to be three elements of playful learning in schools. Learn more: You can learn more: www.pz.harvard.edu/projects/pedagogy-of-play

The LEGO Foundation has identified five learning through play characteristics to describe learning through play across contexts. Learn more: https://www.legofoundation.com/en/learn-how/knowledge-base/what-we-mean-by-learning-through-play/

Another way to think about learning through play is through lifelong kindergarten concept from the Mitch Resnick’s work from MIT, on Cultivating Creativity through Projects, Passion, Peers, and Play. Learn more: lifelongkindergarten.net/
A closer look at the characteristics of learning through play

We say learning through play happens when the activity:
• is experienced as joyful
• helps children find meaning in what they are doing or learning
• involves active, engaged, minds-on thinking
• supports iterative thinking (experimentation, hypothesis testing, etc.)
• promotes social interaction.

Learn more:

1. Learn about learning through play
What we tried

Inspired by the idea of “guided play” (see the graphic), we worked on letting children lead their own learning through more open-ended learning experiences. This meant taking many small steps towards big changes in how we thought about:

- **The way we used the curriculum:** We started with the Kenyan curriculum and asked ourselves – how could we meet these literacy, numeracy, arts standards through play instead of our usual approach?
- **Our role as teachers:** We had to think of shifting from always providing knowledge and leading activities, to stepping back and observing, listening, and documenting the children’s ideas. And then using these observations to think about what to plan next.
- **The learning environment:** We tried reorganizing the classroom in centers/stations, so the children could choose activities and materials rather than the teacher leading everything. We tried going outside more, and reorganizing the outdoor space to promote play.
- **The learning materials:** Learning through play does not need to be expensive, but children do need materials to play with and express their ideas. We tried using recycled and natural materials for play. Cardboard, containers, newspaper, buttons, leaves, stones, etc. were all engaging and flexible materials we could use for many purposes.

2. Small steps to big changes

Moving from a teacher-led way of teaching to a play-based approach will impact your role as a teacher. Sometimes the children will lead the play (e.g. during free play), and sometimes you will be involved in the play to facilitate or guide the learning experience.

Find all videos here: https://vimeo.com/album/5605856

Illustration on playful learning showing the different types of activities according to the level of lead of the child or the adult. (Pyles and Daniels, 2017), A Continuum of Play-Based Learning: The Role of the Teacher in Play-Based Pedagogy and the Fear of Hijacking Play

Watch the video: Emotions

Watch the video: Cooking class
What we learned
• There is no single way to do things. You need to test and learn from your experience
• Try starting with at least one activity per week involving learning through play, then you can add more sessions.

Examples of activities:
• Free play: reading corner, role play, play with a hoop, hide and seek, free play on the playground, play with paper planes
• Guided play: pretending to make magical soup, storytelling, story acting, the Bee-Bot, the tinkering activities, emotions...etc
• Game: the reflection where the children could use one of the three colors (green, red and orange) to express their feelings
• Thoughtful preparation of the facilitation and material is key, to be fully available for the children during the play session
• When we tried reorganizing the learning environment into stations/centers, it was a challenging shift. We learned that we might need to take smaller steps towards making such a big change to classroom environment
• It was easy to start writing down the children’s ideas during play. And they had so many ideas! We learned a lot about them by starting to listen more and talk less
• The key change for the teachers was to move from a teacher-led only approach, to a more child lead approach, placing the child at the center of the learning process through play
• Adapt what works best according to the children in your class and your own classroom environment.

2. Small steps to big changes
What we tried:

While children are learning through play with each other and materials, watch carefully and document in written notes, photographs, and/or short videos. This was very new for some of us, who were used to more teacher-led instruction. Here’s how we got started:

We set up the classroom with centers containing open-ended materials. We invited children to choose which center to work in, and how they want to use the materials to play and make. For example:

- a center with playdough
- a center with wooden blocks or beads for stringing
- a center with fabric or props for dressing up and pretending
- a center with natural materials (seeds, leaves, wood, etc) to explore and create

We also introduced some academic skills through more teacher-led play. We went on a “shape hunt” outside to learn about shapes in the environment. We played with “Beautiful Stuff” (found and recycled materials) to explore math and science concepts like sorting and classifying. While the children were playing, we asked open-ended questions like “How will you use that?” or “What ideas do you have?”

To document, we grabbed a pencil and paper, or a camera, or our mobile phones. We watched and listened to what children were doing as they were playing, and wrote notes about what they said and did. We took some photographs of the children as they played, and wrote down what they said while they worked. Our goal was to capture their ideas and interests. Later, we sat down and looked at the documentation we had collected with our colleagues and/or with the children, to reflect, learn and plan next. We thought about our learning goals. What goals were already met through the children’s free play? How could we use their interests and ideas and embed other learning goals?

For example, if children were pretending to be animals during their play, could we teach some literacy or math goals through an exploration of their favorite animals?

Watch the video: Documenting Learning through Play
Watch the video: Beautiful Stuff

Find all videos here: https://vimeo.com/album/5605856
3. Observe and document learning through play

What we learned
- When children chose their own materials and activities, they used more oral language to talk with each other about what they were doing.
- Children were engaged, smiling, and laughing as they explored. We could discover their true and amazing personalities.
- When we observed and supported the play, we learned about what children were interested in doing with the materials.
- They were leading their own learning and had many ideas to share.

Learn more
- The book Visible Learners (Krechevsky et al, 2013) has many tools to support documenting playful learning.
- Visit the Pedagogy of Play Playbook for more resources to get started documenting learning through play: https://www.isbillund.com/en-gb/pedagogy-of-play/pop-toolbox
4. Experiment with tinkering and making

Tinkering is about nurturing creativity and imagination through hands-on activities, combining and mixing materials.

What we tried:
Children were provided with opportunities to create by using materials found in our local context, such as recycled materials, cardboard, cardboard boxes, colored paper, sticks, brushes, pipe-cleaners, eggboxes, small wooden material etc.

Recommended duration: Two hours once a week is fine to get started with hands-on tinkering activities. You can always add more as you get more comfortable and do more projects.

Required material: CupBots are made from small motors, battery-boxes with wires, little batteries, small brushes, elephant tape, normal tape and recycling espresso-cups. Children can make their product-design of an espresso-cup (or coffee-cup). The basic material is low-cost and can be bought at hobby-shops with hardware/software.

Technology: Use a hands-on technology with direction input or TagTiles, to learn to navigate, direct and command a technology. In Kenya we have been using a Bee-Bot in combination with recycled material and bricks for building surroundings in a common storytelling project. The children learn about input, direction, control, command, cultural storytelling and imagination. They learn to understand the technology as something they can manipulate and control.

Find all videos here: https://vimeo.com/album/5605856

Watch the video: “Tinkering, designing and coding with Bee-Bot”

Watch the video: Sky flyers

Learning how to count and direction with the BeeBot
4. Experiment with tinkering and making

**How to do it in practice?**

Through iteration, the children will build, put together components and materials, rebuild and redesign, try out, fail, start over again, working like a “bricoleur”.

Collect a bunch of local material to start tinkering. Basic material can be egg-boxes, milk-cartoons, every kind of cardboard boxes, pipe-cleaners, wooden material, spare parts, etc. Organize the classroom so that there is one big table with materials where the children can go and collect what they need. Let the children sit by a common table, for instance, four children at each table. The teacher can have made some prototypes of mixed material for the children to get inspired and started with their figures and products. Once all the children have created something, they can present their imaginative figure.

Practicing storytelling with the Bee-Bot can be used to act out instructions for any familiar activity. In which order do the child do what in the morning? Putting on shoes (drive to the shoe), brushing teeth (drive to the toothbrush), feeding a pet (drive to the cat). Children can draw picture-cards (shoe, toothbrush, cat) to sequence the program of the Bee-Bot for this activity.

**What we learned:**

A culture of play can be implemented in curriculum-activities by practicing daily school-activities in playful and different ways. When children build and design their CupBot they get carried away in the process while concentrating on the CupBot to move, to dance or fly, nursing creativity and imagination.

The children are having fun and feeling excitement when practicing math or training letters with three words while learning to navigate the Bee-Bot, giving it commands. The children move around the classroom while tinkering and making, feeling joy when practicing both hands-on exercises, creating CupBots – and minds-on when doing storytelling while navigating the Bee-Bot.
5. Teach simple coding concepts with Bee-Bot

Designing for playful curriculum-oriented activities using technology in the classroom. It is possible to introduce some basic notion of programming by using a hands-on technology such as the Bee-Bot.

The children will learn how to control the robot’s behavior. At the age of 4 until 8 years old, teachers can work with the children’s basic understanding of coding, algorithms, sequencing and repeat loops. An algorithm is a set of instructions used to complete a task.

Required material:
Use a hands-on technology with direction input to learn to navigate, direct and command a technology such as Bee-Bot, and a poster or map to put on the floor, either with alphabet, numbers or pictures.

How to do in practice?
The Bee-Bot is a robot in form of a bee with 5 buttons: right, left, go straight, go back, and play the instructions (green button). According to the map you will put on the floor for the bee to move, you teach many things from alphabet, to numeracy and storytelling. The character (the Bee) travels to a clear sequence of locations. The teacher as a facilitator guide the children on how to get to the locations. Children learn that there is a consequence every time they type in a sequence for the Bee-Bot: if this, then that. The Bee moves in the order that they type in the steps. If it was the wrong type-in, then the Bee will do something else, it will travel in another direction. The children learn about input, direction, control, command, and as such they learn to understand the technology as something they can manipulate and control. Following curriculum, skills are considered: Language skills, mathematic skills, science (activities with relevant, adequate and appropriate materials to manipulate; discovery skills), social activities (cooperation and common storytelling), creative activities (using imagination, hands-on activities). Weekly activity. It can be once a week learning numeracy, counting steps and driving to numbers. Learning literacy with the Bee-Bot driving to one letter at a time until a three letter word appears (cat, hat, bee, leg, arm etc.). Use a whole day or more days from time to another, implementing technology in project-work and storytelling projects – like the example on this activity-card - when the children are familiar with navigating the technology.

Find all videos here: https://vimeo.com/album/9605856

Watch the video: "Code literacy with Bee-Bot"
On the picture example on the top right: A. The Bee travels to the flower by typing in three steps forward B. The Bee turns to the right and travels two steps, it turns again and takes one step ahead, reaching the honey-combs C. Then the Bee turns to the right one time, travels one step ahead and turns to the left, finishing by the end goal with three steps ahead – reaching the honey by the end goal.

The basic thinking is:
How do we get from A to B? How do we get to the flower from the starting point, and again from the flower to the honey-comb - and further to the honey?

Another example: How do we get from the tree to the waterhole on the savanna? The children work with solving the challenge – how do we get from A to B?
The children can later on ‘write’ their program for the characters movement. They can furthermore work with loops (repetitions of action) and bugs (obstacles). The youngest children can create picture cards.

Key learnings from doing it:
The Bee-Bot allows child initiative and control when the children have learned how to navigate the technology. It is a simple way for the children to learn basic algorithm and programming in a playful way. The children get a basic understanding of programming concepts, so that they can continue with more advanced computational thinking in the elder classes. It is a creative way of learning the basics of programming without having a screen or a computer for each child in the classroom.
6. Go play outdoors

We found that the children spent too much time sitting in the classroom, passively listening to the teachers. Bringing the children outside the classroom was a great opportunity to offer an alternative environment to learn and play.

What we tried:

- **Offering an area for free play with enough space for the children:** We observed that the school had a big playground but confined the children during the recess to a smaller part of it as it identified as safer. They were not free to run and jump. We decided to open the play area to the full playground. The children were very happy to enjoy the full space available.

- **Providing basic material to play outside:** We also provided some basic materials such as pots and pans, footballs, and hoops for the children to freely play and run with. We also brought some natural elements like little plants and trees.

- **Involving the children in the design and decoration of the playground:** We have involved the children in the re-decoration of the playground. We painted the playground wall in white and invited the children to add their handprints to make a multi-colored tree (to create a more child-friendly environment).

- **Extending the classroom with a shaded area:** We built a shaded area, to give the children opportunity to use the outdoor setting as a learning space for circle time, reading, or to extend the classroom to the outdoor space.
Playing outside either in the playground or in a natural space (park, lake, forest, beach...etc) has a lot of benefits on child development. They are usually actively engaged, are more relaxed and ready to explore natural resources.

What we learned

• The playground needs to be safe (with no holes, dangerous objects, etc) that could hurt the children of course. We carefully checked the area before opening it up to the children
• The shaded reading corner worked very well. We could observe that the children were quieter, relaxed and more open to learning than in the classroom
• The shaded area we built worked well one day (before a storm destroyed everything!). We needed to use more sustainable and professional materials, to be able to resist hard weather!
• The playground is very dusty during dry weather and muddy if it is raining. We will continue to imagine how to work on this, to allow being outside whatever the weather
• More information: you can watch the webinar of exploration 6 on Green Blue Spaces: Where play and learning are natural, as a source of inspiration to know how to apply learning through play outdoors in natural settings.

6. Go play outdoors

Find all videos here: https://vimeo.com/album/5605856

Watch the video: Webinar Green Blue Spaces: where play and learning are natural
7. Tell stories

We supported children’s creativity, imagination, and literacy, and oral language skills through storytelling.

What we tried:

1) Storytelling and Story Acting:
Inspired by a teacher named Vivian Gussin Paley, in this approach children tell their own stories about whatever they want, and teachers write them down. Later, the class can act out the story in a simple and spontaneous Story Acting session

Watch the video: “Storytelling and story acting”

You can read more about this approach here: https://www.bpsearlylearning.org/storytelling-and-story-acting/

2) Creating and telling stories with materials:
With a local and familiar story:
• Start with a familiar story – like one from community folklore or a favorite book (ex: the Hyena)
• Draw picture-cards for the children to spark their imagination when listening to a cultural narrative being told by the teacher. We printed the main characters of the story as a reminder to the children and to inspire them
• Invite the children to retell the story, or make up their own stories, in small groups, using the characters. You might even want to incorporate technology, as we tried with the BeeBot (see card 5).

With a simple paper cutout scene (like a mini-theater):
• We used a mini-theater built with a paper cutout scene, that children can use for pretend play or storytelling. We did that with a jungle and city theater. The children could choose where they wanted to play, as well as the character they wanted to color and play with (ex: a lion, a car, a bus..etc). We mixed free play with guided play, where the teacher asked questions, to encourage the children to express their ideas.

Watch the video: “City and Jungle Mini-Theater”

Bloom’s taxonomy is a framework for understanding higher orders of thinking processes. Through play we hope that children will learn not just to remember facts, but to move towards creating, evaluating, and analyzing – the more complex processes at the “top” of the model.
7. Tell stories

What we learned:

• There are many different ways to engage in storytelling and acting/playing out stories.
• The children were very engaged in these activities and had many ideas to share. Writing down their words was a motivating literacy learning activity.
• As teachers we were delighted at how the children used oral language, developed vocabulary, collaborated during story acting, and expressed themselves. We learned a lot about the children’s lives and interests by listening.

Learn more:
https://tidsskrift.dk/tcp/article/view/23630

More about Storytelling and Story Acting:
https://www.bpsearlylearning.org/storytelling-and-story-acting/
8. Organize a parent university

The parent university is a workshop for families, a way for the parents at the school to learn more about learning through play. It is also a great opportunity for discussion, for parents to share their questions, concerns, and ideas.

What we tried:
• We organized a workshop for families about how play benefits children’s development and how parents can play a key role in that process. Our workshop lasted 90 minutes.

What we did:
• Sent the invitation at least one month in advance to give the parents time to organize and book their agenda
• Set-up the classroom with adults chairs in a conference mode for parents to be comfortable
• Started with a hands-on fun ice breaker: we used a LEGO brick building activity to talk about what skills are developed when playing. (You can use any activity that will bring a positive and fun mindset.)
• Presented the pedagogy of the school, with the school director and some teachers involved.
• Showed documentation of what we do at school, with pictures or video captured a few days ago showing how learning through play looks and what children learn
• Invited some educators from other contexts to come and talk about a specific topic (case studies and real examples of quality learning through play, how to document and assess the skills
• Left 30 minutes for discussion, to give the opportunity for parents to raise questions, concerns, and ideas.
• Closed the workshop with tips on how to continue to do Learning through Play after school, and offered families some refreshments and a chance to get know each other better.

Parent University, October 11, 2017 at Blossoming Cherries Center, Embu, Kenya, with the teachers explaining how they do learning through play and parents being able to ask questions, discuss challenges, and share ideas to be more involved.
8. Organize a parent university

What we learned:

- Choosing a time when most of the parents were free from work was important. Ideally after their working hours.
- Offering childcare or an afterschool club could help to make sure both parents can come.
- Make sure to encourage fathers to join. When we organized this event, we only had one father attend and we are rethinking how to engage more fathers next time.
- To convince the parents of the benefits of learning through play, it is important to demonstrate that while playing, the children were learning many different skills and objectives required by the local curriculum. So it is not just about play, it is about active engagement of the children to learn through play. That’s one of the reasons why it is important to document the play activities, to then have evidence to show to parents what their children are learning through play.
- The parents really enjoyed this time, especially seeing the video of their children during school having fun and learning. They were looking forward to being more involved.
9. Find support from the community

To be able to develop a new practice, nothing is better than being surrounded by others who can inspire and support you. We recommend you to identify some possible partners, peers or colleagues who will be able to support you in your journey.

What we tried:

- In the context of this exploration, a team of 4 international educators have supported the team of teachers with a one-week field trip to observe and inspire them in Embu, followed by an online support through a WhatsApp group (see illustration).
- The WhatsApp group has been valuable for staying in touch. The teachers at Blossoming Cherries shared pictures and videos of what they did in the classroom, and shared documentation of what they tried, to receive feedback and get new ideas.
- Now we are forming a community of practice locally by reaching out to other teachers in the area around Embu. We held a workshop for 30 local teachers to share our work and these flashcards, try a learning through play activity, and organize to support each other in continuing our journey to support learning through play.

Phone screen shot, illustrating the online collaboration between the Embu’s teachers and the exploration 1 team.
9. Find support from the community

What we learned:

- It is easier to collaborate online with others if you get a chance to meet physically at least once, to understand the context and challenges.
- It takes some time to develop a new practice and usually more questions pop up when doing things. So it is key to have a "learning through play" partner you can relate to, to share your practice, ideas, questions and challenges.
- On a longer-term basis, it might be good to set-up a local community of practice, with other teachers from your city or village, to be able to meet regularly to share what you have done, what worked, what were the difficulties and see how to move forward. It is always encouraging and motivating to have someone to share with. This is what the teachers of Blossoming Cherries did with other teachers of Embu.

What is PlayFutures

PlayFutures is a global research and innovation online community launched in 2016 by the LEGO Foundation. It brings together 1500 play and education enthusiasts, to contribute to advancing and advocating for the knowledge and practice of learning through play. It is a community of pioneers, willing to reinvent traditional ways of teaching and parenting. For them, PlayFutures is providing unique networking opportunities to connect people, supporting online collaboration and knowledge sharing, and promoting hands-on knowledge of how to do learning through play in practice. The primary target audience is researchers, practitioners, and parents, interested in supporting child development through play for children aged from 0 to 12 years old. It concerns any settings where a child could evolve: from home to school and public spaces. You can get in touch with practitioners through PlayFutures (https://www.playfutures.net), to benefit from the expertise of an international community of play and education enthusiasts, willing to pioneer new practices about learning through play.
10. Watch a film for inspiration

During our last trip in Kenya, we did some learning through play activities in the classroom and were able to video-record them. To get inspiration, here are links to examples of learning through play activities you can watch.

- Emotions
- Cooking Class
- Documenting Learning through Play
- Beautiful Stuff
- Tinkering, Design and Coding with Bee-Bot
- Sky Flyers
- Code Literacy with Bee-Bot
- Storytelling – Story Acting
- City and Jungle Mini-Theater

Find all videos here: https://vimeo.com/album/5605856
About the authors

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