The Luminos Fund:
Learning Through Play

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This article is an expansion on research from a broader program evaluation conducted by the University of Sussex Centre for International Education.

Introduction

Kkalama helps the other children in her group draw the hop-scotch spaces using only multiples of three as the teacher instructed. She hums the counting song she learned yesterday as she tosses her rock which lands on the number 12. As she hops, the whole group excitedly shouts 3, 6, 9, 12! Firew, the student recorder, asks how many spaces it took to get to 12. Together they count 4, and Firew scratches 3x4=12 in the dirt. Simhal is next, it lands on 21, and they start the process over. Kkalama's hears her brother Abush count 5, 10, 15, 20 as he jumps rope with another group across the yard. He practiced at home last night with Kkalama, can he make it to 100?

Kkalama and her classmates spend a good portion of each Second Chance[1] day moving through the curriculum independent of the teacher, playing games designed to encourage collaboration and stimulate learning through both the mind and the body. The Second Chance program, an initiative of the Luminos Fund, is an accelerated learning program for out-of-school children between the ages of eight and fourteen living in rural or remote areas of Ethiopia and Liberia who have never attended or who have dropped out of school. Through a play-based pedagogy that places the child at the center of learning, students cover the first three years of the national curriculum in just ten months and prepare to rejoin government schools at the third or fourth grade level. The academic module of the Second Chance program is supplemented by parent and community engagement groups that catalyze long term support for their children's education. The program also includes exposure training for local primary school teachers on the student-centered pedagogy.

THE LUMINOS FUND

The Luminos Fund is dedicated to creating education innovations to unlock the light within every child. By developing and scaling innovative approaches to learning for the most vulnerable children, we're able to work at the margins of the education system, in a space where we can create real change. As we scale new approaches to bringing quality education to children in the greatest need, we work together with local governments to drive systems-level change.

The Second Chance program is one such innovation, helping children get a second chance at education. Since 2011, we have brought 100,000 children back to school in Ethiopia and Liberia through this model. 90% of Second Chance graduates transition into government schools. Four years after program completion, 75% of the children educated through Second Chance have remained in school.

A pedagogy of play is central to the Second Chance curriculum, evolving in sophistication as children move through grade levels in months rather than years. For example, in a grade one lesson on numeracy, children learn how to follow directions and work with others while playing counting and sorting games with natural objects. By grade two, children engage in discourse and argumentation through ball-tossing games that teach multi-digit operations and probability. In grade three, students might construct tools and toys that illustrate fractions, multiples, or relative events over time. In the process of designing and building these objects, students learn to analyze, reflect, and revise. Play is essential to the success of the Second Chance model at all levels, providing a framework for cohesive learning experiences and inspiring creativity, risk-taking, and initiative. With a focus on small group play, students not only catch up on their basic skills, they become proficient learners (University of Sussex, 2016a; Mardell, et al. 2016).

This note attempts to reinforce the importance of play in helping children learn and highlight how the Second Chance model incorporates various principles of learning through play in its pedagogic approach.

1 The Second Chance program previously went by the name Speed School. This document was updated in November 2020 to reflect the current program name. No other edits were made.

Second Chance Success

"The whole experience over the ten months appears to create learners who are not only reflexive but autonomous and resilient, having learnt how to learn over the ten months of their immersion in Second Chance. In knowing how to process and make creative and intellectual use of new concepts learnt, and how to problem-solve and work collaboratively in groups, graduates are well set up to succeed in the contrasting classrooms and social environment of the Link School when they integrate." (University of Sussex, 2016a)

90% of Second Chance graduates transition into government schools. Four years after program completion, 75% of the children educated through Second Chance have remained in school, and in some cases, skipped grades (University of Sussex, 2016b).

According to studies of sub-Saharan Africa and South Asia, large class sizes, teacher absenteeism, and "chalk and talk" pedagogy lead to many children dropping out of school. Those who do manage to stay in school fail to progress. Second Chance children come from impoverished, often illiterate families, and their education may have been disrupted or absent due to family needs and values. Because of the persistent, pernicious belief that without basics early on in life, the rest of the curriculum is inaccessible, Second Chance children are considered among the least educable by local teachers and school administrators (Pritchett and Beatty, 2012; Sumra, 2010).

Second Chance has re-conceptualized who can learn and why. Second Chance facilitators believe that all children can learn. They are trained to support all students and utilize current pedagogies that encourage students to interact in small groups and learn from not only the teacher but local experts and peers as well. Rather than focusing on memorization and recitation, Second Chance children are taught to think and how to acquire new knowledge and skills. (University of Sussex, 2016a).

"It is because of what I learned in Second Chance that I can read better and know how to study. It helps me to have confidence in my academic performance, which I did not have previously." – *male Second Chance student* (University of Sussex, 2016b)

The Second Chance curriculum uses the Ethiopian government textbooks and Minimum Learning Competencies (MLC's) for grades 1-3 in literacy skills, Amharic, English, environmental science, and mathematics. Second Chance graduates' comprehension and aptitude levels are much higher than peers in government schools, and graduates exceed their government school peers on placement exams. Ethiopia woreda and kebele officials, school principals, and even the students themselves recognize this, highlighting greater motivation, better attendance, classroom participation, and good behavior as contributing to their success.

Play in Education

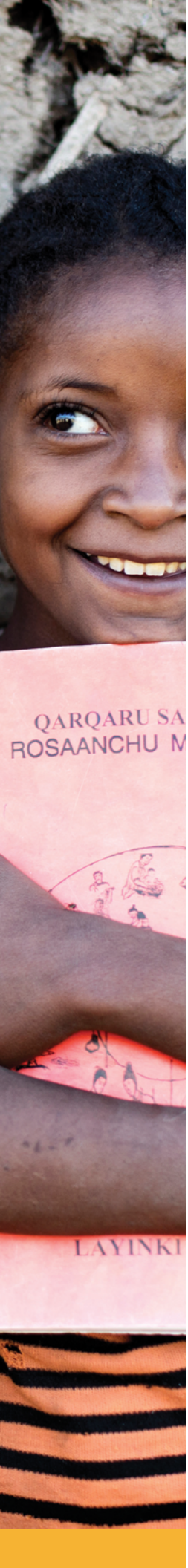
Play conjures up images of children using toys to create and tell stories, running, laughing, negotiating rules, etc. We see it as tactile and kinesthetic, and synonymous with exuberance and creativity. Play is usually associated with free time rather than school, however research shows that play paves the way for learning, leading to cognitive and social maturity. When there are other children to play with and adults who can encourage and guide children to play effectively with each other, play inspires and even drives learning (Bodrova and Leong, 2010; Smith, 2009).

Play in Second Chance

"We were learning like playing and the things we learned as play have remained inside us like heritage." – *female Second Chance student* (University of Sussex, 2016b).

In Second Chance, play is a platform for communication between teachers and students where teachers actively draw upon students' life experiences and promote an environment where students feel safe and supported, ultimately leading to positive student outcomes. Play provides a pedagogical framework (Baker, et al., 2016) that shapes both the social structure and content delivery within the Second Chance classroom. Classrooms are interactive, and learning is a process rather than an outcome (Krug, 2011).

In Second Chance classrooms, the student/teacher paradigm shifts from authoritative to collaborative, from teacher-centered to student-focused. Second Chance facilitators emphasize how learning happens and are shaped by their own experiences and understanding of the teaching and learning process.



Communication with students is the priority, and play is at the center of that communication (University of Sussex, 2016a).

The following section identifies and describes the various stages of the Second Chance model which incorporate the above principles of learning through play.

Facilitator Training

Research strongly suggests that a combination of intensive and principled teacher training and pedagogic structure enables Second Chance students to access the curriculum and achieve high levels of attainment by the end of the ten months (University of Sussex, 2016a). Second Chance facilitators are not government-certified teachers. They are tenth grade completers, recruited from each local community to attend an intensive, 21-day training equivalent to three college-level teaching courses. The content of the facilitator training focuses on language and literacy development and mathematics, critical elements of early learning (Ball and Bass, 2000; Foorman & Torgesen, 2001). Inquiry, discussion, practice, and collaboration are emphasized as well. Facilitators review teaching strategies and curricula, ask questions, practice teach, and build content knowledge and skills (Pang & Ling, 2010) through activities and lessons that include flash cards, movement, singing, small group discussions, hands-on investigations, activity-based learning, community engagement, authentic materials, and indoor/outdoor play.

In small groups, facilitators learn how to help students become active, independent learners and problem solvers, mirroring the pedagogical frameworks they are expected to apply in their classrooms (Dinsmore and Wenger, 2006). Independent work and small group instruction rich in play and discourse sit in stark contrast to the current Ethiopian government classrooms where 60-100 children learn through lecture and drills. Second Chance facilitators serve as the primary teacher for small classes of 25 students, allowing for individual attention and follow up (University of Sussex, 2016b). Facilitators receive professional development, ongoing supervision, and evaluation (Beare, et al., 2012), which translate directly to the success of students in their classrooms (University of Sussex, 2015).

> The difference between Second Chance classes and here [Link School]... is in Second Chance we learn and re-learn the points until all of us understand... the teacher explains but here there are teachers who simply write notes and do not explain. – *female Second Chance student* (University of Sussex, 2016b)

Westbrook, et al. (2013) found that when teachers formed more positive attitudes towards their pupils and the pedagogy promoted in their training, they were more likely to use three important communicative strategies:

(a) paying inclusive attention and giving feedback;
(b) creating a safe learning environment;
(c) drawing on pupils' backgrounds.

In turn, these communicative strategies led to teachers using interactive pedagogic practices such as group work, questioning, teaching resources, using a local language as medium of instruction, lesson planning, and sound explanations. In this way, even in the hands of less experienced teachers, pupils engage with the content through a variety of activities that include social interactions, and learning is far more likely to take place.

Analysis of Second Chance classroom observations revealed that facilitators emphasize learning through group activities and processing skills. They develop lessons that use a wide range of learning resources and activities within and outside the classroom, keeping lessons lively and engaging. Classroom observations and interviews provide evidence that facilitators support students' sense of belonging to a learning community both in school and at home. Facilitators meet students where they are, relying upon social interactions and local resources that are both contextual and relevant. (University of Sussex, 2015, 2016a).

In the Second Chance classroom

Play takes many forms, and elements of play are most commonly integrated within and across an activity, stimulating physical, social, emotional, and intellectual learning. Facilitators present the same concept through many different forms and activities, using a variety of real objects, body movement, and analogies. Students

process compelling questions through activities that employ flash cards, pictures, natural objects, toys, and music to illustrate concepts. Through this process, students create multiple associations with familiar materials in their communities and the use of their own body. Play allows students to personalize content understandings (Bodrova & Leong, 2010; NAEYC, 2012; Smith, 2009; Thomas, Warren, & DeVries, 2011).

The University of Sussex (2016a) cites a Second Chance lesson on 'Sources of Power' that illustrates the many forms of play in the classroom. The facilitator gave out group discussion questions, and allocated different content to each group by asking the 'music group' to focus on natural sources of power, the 'card group' on electricity, the 'game group' on liquid fuels, and the 'handcraft group' on solar power. Observations showed that students were very engaged with the group activity. The level of noise varied with the task in hand, and the facilitator understood that the boisterous talk, inspired by the manipulation of materials and social interactions, was productive and supported learning. While enhanced student cognition is key, changes in confidence, participation, values, and social indicators such as teacher-student interaction, inclusion, higher student attendance, and stakeholder satisfaction are also outcomes associated with play pedagogy. (Westbrook, et al., 2013).

Play as a medium for learning promotes foundational skills, making it possible for children to achieve higher levels of mastery of specific academic content (Bodroba, E., Leong, D., 2010). Collaborative play builds cross-curricular knowledge and skills by making the most of students' backgrounds, promoting a safe learning environment and encouraging inclusiveness and constructive feedback.

> We work in a group … when there are points not clear for me I learn from my friends too … We show and compare what we do and these helped me to understand what we learn. – *male Second Chance student* (University of Sussex, 2016b)

Below are examples of how Second Chance incorporates elements of play into the classroom:

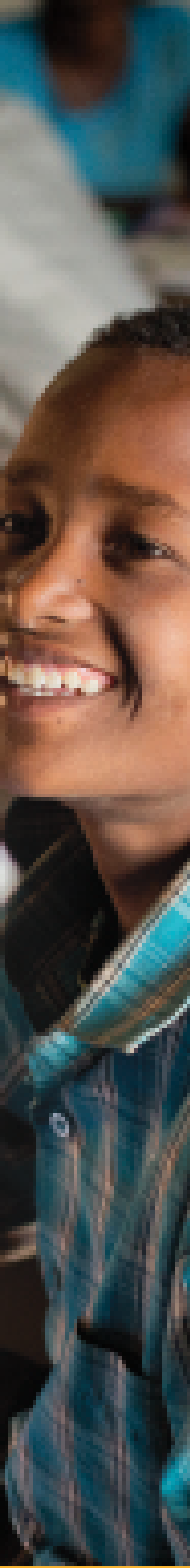
Talk

In Second Chance, using the learner's first language and familiar context provide cultural relevance and encourage questions and critical dialogue with peers and teachers. Talk is rich and deep when play is at the center of a balanced curriculum. Speaking or presenting in front of a group builds self-esteem and confidence (Heckman & Rubinstein, 2001). Structuring lessons around games and activities in small and large groups generates social interactions and helps students build communication skills. In the process of developing a skit, song, dance, or story, students learn to think, explain, and reflect. As differences of opinion arise, they negotiate, building interpersonal skills, and learn how to substantiate their claims with evidence. Sharing reflections, discussing ideas, asking questions, brainstorming, presenting, and responding are all ways in which facilitators generate student talk through play scenarios. Second Chance teachers allow freedom of expression and tolerate levels of noise and movement, encouraging active participation of students in the teaching and learning process (University of Sussex, 2016a).

Movement

Physical play stimulates learning through multiple modalities which, in turn, helps to deepen and codify understanding (Cutter-Mackenzie & Edwards, 2013; Thomas, Warren & deVries, 2011). The Second Chance program encourages students to interact with and learn from people and the environment around their school. Working with tools or artifacts such as soil samples or stalks of corn; exploring a local farm, blacksmith, potter, or market; playing with toys they construct from found materials; and dancing and singing as they recite numbers or phrases are some of the ways Second Chance incorporates movement.

Even a simple activity such as flash cards require students to engage different cognitive pathways to express and process knowledge. Working with peers, community members, or text to verify the information that goes on each card; the physical act of writing and drawing on the card; learning to read



the card and respond to the prompt; singing or acting out what is on the card; and taking turns to respond all stimulate physical and cognitive processes that use and generate memory in the mind and body (NAEYC, 2012).

Materials

While the government textbook is the sole reference point for the Second Chance curriculum, facilitators adapt the content for play pedagogy; local materials—such as clay, stones, and trees—as well as chalk and paper are used regularly to augment learning and make it meaningful (Westbrook, et al., 2013). One Second Chance facilitator links learning to many concrete real life examples in the local environment, taking students outside to use the open space and maize stems, and presenting the material in an alternative form for students with special educational needs (University of Sussex, 2016a). Children learn naturally from interacting with materials, and exploring and playing with everyday objects leads to flexible and sophisticated thinkers (Gopnick, 2012). Tactile and kinesthetic learning increases student understanding, and playing with these materials—whether through manipulation, interaction, or construction—increases learning opportunities (Klebanoff, 2009).

Social Engagement

The University of Sussex (2016a) reports that "even in the hands of less experienced and responsive teachers, the condensed curriculum, government textbook, and flexible structure of each lesson mean that pupils engage with content through a variety of activities that always includes social interaction so that learning is far more likely to take place." Individual and group play focused on problem solving and project work stimulate more complex thinking and processing than listening to a lecture or reciting text (WISE Channel, 2015). As children interact—whether in agreement, discussion, or argumentation—children engage in social interactions that traditional approaches and settings rarely achieve (Westbrook, et al., 2013). Many forms of play require social interactions which, in turn, provide students both the opportunity and the time to engage, think, and rethink. Play enables children to make connections to units of study, encourages social nature of learning, and invites transfer of knowledge from life to classroom and vice versa (Project Zero, 2016).

Conclusion

Children are experts at play. Starting in infancy, they naturally interact with the world and others through play (Smith, 2009). Second Chance takes advantage of this innate skill, helping students become active, independent learners and problem solvers through hands-on, interactive activities, games, and toys. Rather than passively sitting and receiving information, students develop games, toys, and activities that serve as both assessments for student understanding and as a resource for further learning. In the process, students transfer new knowledge into a different medium, enabling visualisation, and relate meaningfully and creatively to abstract concepts through active participation. By incorporating play, Second Chance facilitators help learners to engage in complex thinking and manipulate concepts on multiple levels. Play encourages students to construct knowledge rather than memorize facts (University of Sussex, 2016a).

Practices described by the University of Sussex as the key strengths of the Second Chance pedagogy—group work, questioning, hands-on materials, demonstration and explanation, use of native tongue, and flexible planning—are not only evidence of play, they support social constructivism (University of Sussex, 2016a). Through play, facilitators can construct a student-centered learning environment where students feel that they have the right to contribute to their peers' learning, and teachers share their students' language and culture while accepting a more democratic and less authoritative role. Constructivist play pedagogy encourages students to test out ideas and build skills that form and maintain quality relationships, resulting in a commitment to social engagement and learning (Burriss and Burriss, 2011).

In Second Chance classrooms, play serves as a foundation for learning. One government school teacher trained in the Second Chance pedagogy told evaluators, "teaching methods in Second Chance better equip students with knowledge and skill," identifying learning with teaching aids and learning through practice as particularly effective components of the pedagogy (University of Sussex, 2016b). Under the guidance of teachers, community members, and peers, students become life-long learners.

About the Author

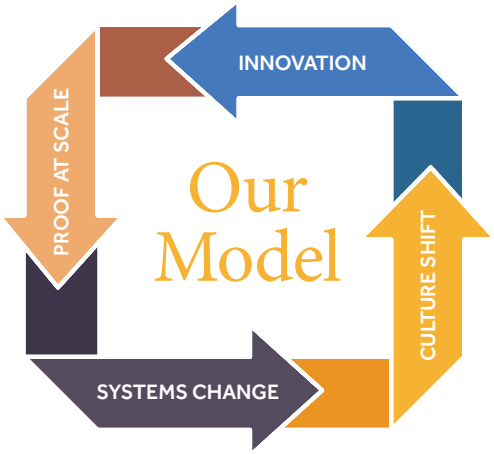
Dr. Susan Rauchwerk is an Associate Professor at Lesley University in Cambridge, Massachusetts where she is the co-director of the Elementary Education Program and EcoNet Lab. Dr. Rauchwerk received her undergraduate Ecology degree and teaching certificate from Rutgers and her Masters and Doctoral degrees in Teaching and Learning from Harvard University. She worked in both formal and informal education settings for more than 30 years, and has extensive experience and research in hands-on, interactive learning models.

In 2015—drawing from discussions with the Second Chance staff and preliminary research conducted by the University of Sussex Centre for International Education and the University of Hawassa in Ethiopia—Susan authored a pedagogic review of the Second Chance program, a review of training materials and program evaluations, and a thorough literature review of education in Ethiopia and accelerated learning programs in Africa.

Prior to her current positions, she served as an Adjunct Professor at Brandeis University in Waltham, Massachusetts. In 2001, she was the Director of Education at Earthwatch Institute in Maynard, Massachusetts. In 1990, she worked for the Massachusetts Audubon Society

About the Luminos Fund

Around the world, there are 250 million children who never learn how to read and write – 120 million of them don't even get the chance to try as they are denied the opportunity to go to school. Beginning in the Sahel in Africa, through the refugee crises in the Middle East, and into South Asia, the Luminos Fund works to ensure children denied the chance to learn by poverty, conflict, or discrimination get access to the quality education they deserve. Through the Second Chance program, the Luminos Fund has enabled over 100,000 children in Ethiopia and Liberia to get a second chance at an education.



We strive to change how education systems work so that all children can succeed and thrive. Our theory of change has four stages:

Innovation: Develop dynamic solutions to help children learn and partner with communities to pilot them

Proof at scale: Demonstrate replicable effectiveness of approaches by serving thousands of children

Systems change: Engage education systems to bring the benefit of the innovation to all children

Culture shift: Help society think very differently about how to prepare children for life

The Luminos Fund was incubated by the Legatum Foundation, creator of the End Fund and Freedom Fund. Legatum's early investment in international education innovations enabled the refinement and scaling of the Second Chance program. The Luminos Fund is founded on the core belief in the power of private philanthropy to drive real innovation in global education. The transformational power of giving is our touchstone, and we are inspired by the authentic, human connection which can come from the best forms of philanthropy.

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