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From Conceptualization to Construction

A Model Playscape in Tanzania

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Evidence regarding the benefits of play to children's development and learning has led to a global focus on play-based learning. In Tanzania, the government has embraced play-based learning as a pedagogical strategy, requiring the use of play-based approaches at the preprimary level. Despite this emphasis, most Tanzanian teachers continue to use rote methods, with children spending much of their day sitting at their desks, copying from the blackboard into their exercise books.[1]

There are several reasons for this gap between policy and teachers' practice. First, many current teachers have had little, if any, exposure to play-based approaches. They are unlikely to have experienced playful pedagogies in their own schooling or teacher preparation program. Teacher preparation courses are often taught in lecture-style, and many teacher educators are themselves unfamiliar with how to enact play-based learning in the classroom. It is also unlikely that other teachers at a school are using play-based pedagogy, making it difficult to see this approach in action.[2] Teachers also have limited time and resources to implement play-based learning. In classrooms that may have over 100 students and very limited access to teaching and learning materials, teachers may struggle to adopt participatory approaches like playful learning.[3] Also, teachers who do employ play-based approaches may experience pushback from colleagues, administrators, and parents who hold different views about what teaching and learning should look like.[4] Finally, high-stakes exams and a constrained daily timetable, even at the pre-primary level, limit teachers' willingness to use playful approaches, which may be seen as unnecessarily time-consuming and unrelated to academic learning.

We sought to address this gap between policy and teachers' practice through an innovative approach — the construction of a playscape that will serve as a hub for innovation and learning at Dar es Salaam University College of Education (DUCE). This project, funded by a private donor, is part of the Tanzania Partnership Program (TPP), a longstanding partnership between faculty at DUCE in Dar es Salaam, Tanzania, and Michigan State University in Michigan, USA. The playscape is the centerpiece and the first step in a broader agenda to develop a feasible, sustainable, and contextually relevant approach to play-based learning that can support pedagogical change throughout Tanzania.[5]

The goal of the playscape is to serve as a site of play and learning for DUCE demonstration school students and professional development for teachers at the demonstration school and, eventually, from across Tanzania. Given what we know about the barriers to enacting playful pedagogies in Tanzania, we prioritized designing a playscape that was: simple, multifunctional, replicable, inspirational for children, culturally relevant, constructed with locally available materials, and aligned with the Tanzanian national curriculum. With the playscape as a focal point, our goal is to seed a larger movement that builds understanding and skill across constituent groups — teacher educators, pre-service teachers, and in-service teachers — to employ playful pedagogies that align with the national curriculum and support young children's learning and development.

The Team

Collectively, our team has expertise in early childhood education, play-based learning, teacher education, and education in low-resource settings (first, third, fourth, and sixth authors). The fourth and sixth authors are faculty members at DUCE and thus have long-standing relationships with teachers at the demonstration school. This experience and expertise

was complemented by the second author, an architect and former primary school teacher, who has experience developing educational play spaces in a range of settings through a participatory process, and the fifth author, an architect with expertise in construction and materials in the area where the playscape was to be built.

Our Approach

We adopted a design-based approach to creating the design for the playscape. Design-based research (DBR) seeks to "produce meaningful change in the context of practice" through the development of interventions that account for and respond to contextual realities.[6] A key element of DBR is its

photos courtesy of author

Role play at the sand kitchen

Balancing on tires with daladala in foreground

Alphabet pavers

Challenging play on the balance beam

iterative nature; in this project, we sought to ensure the efficacy and feasibility of the playscape through iterative cycles of design, enactment, analysis, and reflection. Throughout each phase of the design process, we engaged teachers and students from the demonstration school, additional DUCE faculty (beyond the two who are co-authors of this article), and community members to ensure the cultural and contextual relevance of the playscape.

Creating the Design

Phase 1

The first phase of design focused on understanding the needs and perspectives of DUCE demonstration school teachers and students (the school serves children from preprimary through grade 7), DUCE faculty and administrators, and teachers and community members from outside DUCE. Over the course of a week in January 2020, the first three authors facilitated activities with these stakeholders to understand their perspectives and experiences with play. We used data from these activities, which we discussed in greater detail elsewhere,[7] to develop a preliminary sketch of the playscape.

Pretend play at the market stall

Playing teacher at the wall

Climbing and balancing on the wall

Phase 2

In late 2021, after pausing in-person work due to COVID-19 restrictions, we conducted three additional activities with children at the DUCE demonstration school to generate more ideas and inspiration for the design. Drawing inspiration from Right to Play's *Design Your Own Playground* manual, activities were adapted for the local context and combined elements of art and discussion. The activities were facilitated by a local Tanzanian educator and facilitator, who was unaffiliated with the demonstration school. A group of 12 students from grades 3, 4, and 5,[8] comprising both genders, actively participated in these sessions, providing valuable insights into their preferences and needs for the playground design.

Role play on the daladala

Climbing on the amphitheater

Phase 3

With this data in hand, we onboarded two architects to make a design and ensure its feasibility. The second author led a process of translating the learning goals in the Tanzanian pre-primary curriculum into outdoor learning goals, and then into types of play and learning zones. Data from the design activities in Phases 1 and 2 were integrated into this process to ensure the design reflected the priorities of children, teachers, and key constituents. From this process, the architects identified eight zones for the playscape: 1) construction & creativity, 2) culture, 3) challenge, 4) games, 5) repetition, 6) fantasy, 7) rest, and 8) environment. As children engage with play structures and materials within each of these zones, they develop skills and competencies (e.g., socio-emotional, physical, language and communication, and life skills) that are part of the national curriculum. A final sketch design depicted eight different play zones to stimulate inclusive and diverse play.

In November 2023, the architects visited DUCE to review the design and conduct an analysis of the location, climate, availability of durable (pre-used) materials, and children's play behavior. The sketch design was based on intensive use of wood, planks, and tree trunks. However, through consultation with DUCE property management, the architects learned about the threat of termites in the region. Given that new steel, concrete, and stones would be too costly, the team sought cost-effective alternatives. They found discarded university desks and chairs made of steel frames and wood and revised the design to make use of the steel frames as the grounding structure of the

Sketches of playscape zones

elements. Wood was used only at the top of elements to avoid direct contact with termites.

The redesign included an elevated balance beam that made use of discarded chair frames, a pretend "daladala" (a public transportation minibus typical of Tanzanian towns and cities) made from used benches and desks, and a sand kitchen constructed with desk frames. All pre-used materials were found on-site at DUCE; they had been discarded from classrooms and were in storage. The remaining elements were constructed primarily from concrete and used tires, as well as some additional timber. Tanzanian architect Nancy Arbogast's technical knowledge of local materials, construction techniques, climate aspects, budgets, and play traditions among Tanzanian children were critical in development of the final design.

Constructing the Playscape

Constructing the playscape was more challenging than we had anticipated. Although the designs were simple, the concept was new for the Tanzanian context. Thus, identifying a contractor who was willing to take on the project was difficult. We worked with TPP management in Dar es Salaam to identify a skilled Tanzanian contractor, but they did not have previous experience constructing play elements, which requires a different approach from other types of construction projects. Additionally, incorporating used materials into play elements demands precision and attention to safety issues, which also presented a challenge for the contractor. Furthermore, our iterative process did not follow the norms of a conventional construction project and the necessary openness to revision and adaptation proved to be a challenge.

The project also faced budgetary challenges. As previously described, the initial design involved the use of wood, which is less costly than concrete and steel. Fortunately, when they learned of the need to incorporate steel and concrete, the architects were able to locate free used materials. However, locating the materials and incorporating them into the design took additional time. As a result of construction delays and communication challenges with the contractor, construction took much longer than anticipated. The contractor initially estimated construction would require 2-3 months, but the actual timeline was closer to 7 months. Nancy, the architect in Tanzania, also had to spend considerably more time at the site than expected due to challenges communicating with the contractor and the need for more continual input and oversight than we had anticipated.

Initial Observations and Teacher Feedback

In May 2024, we were able to observe preprimary children using the playscape and we also spoke informally with teachers to hear their initial observations and feedback. Across four days of observation, we found that children were actively engaging with all the elements. Given that the playscape had been in place for several months at the time of observation, we believe children's engagement was not simply a result of novelty.

One benefit of the playscape design is that it encourages children to spread out over a large space during outdoor play. Prior to the construction of the playscape, the students only had access to a

small playground with a few elements that encouraged repetitive play (slide, swings, monkey bars, seesaw). With nearly 100 children in the preprimary school, the small space easily became over-crowded. Now, because the playscape elements are spread over a large area, children have more room for outdoor play.

During our observations, children engaged in role play in the sand kitchen, where they worked together to pretend making various local foods; on the daladala, where they took on the roles of driver, conductor, and passengers; at the market stall, where they collected and sold various items; and at the wall, where they played "teacher." Children also engaged in challenging play — climbing on top of the wall, walking across tires, and testing their balance on the elevated balance beam. We observed them reciting letters on the pavers, resting and talking on the red benches, and watering plants on the playscape. We also observed them breaking leaves and branches of plants they had helped to plant during the construction phase, suggesting the need for further awareness about caring for the environment. Children engaged in construction play in the sand kitchen by molding cakes and maandazi (doughnuts) out of sand. They strengthened their gross motor skills by playing on the amphitheater, rolling loose tires, and climbing on the wall. They also demonstrated their artistic inclinations by drawing on the wall with chalk and using sand to draw on the red bench. We saw a lot of social interaction as children helped each other climb the wall and mount the balance beam, and as they engaged in role play. The children also continue to use the repetitive play area with the swings, slide, monkey bars, and seesaw.

In conversations with the preprimary teachers, we learned that they have a great deal of interest in the playscape, as well as questions and critiques. We chose to use muted colors and limit the decorations on the playscape elements, but the teachers desire the elements to be more colorful and engaging. Recognizing that the playscape is different from the small playground with repetitive elements, the teachers also asked for training to help them understand how to best use the playscape to support children's learning. They shared that they sometimes use the playscape to teach lessons, but not frequently.

Lessons Learned

To the best of our knowledge, this is the first example of a play-based learning initiative in Tanzania focused on connecting outdoor play elements to national curriculum goals. The lessons we learned throughout the design and construction process can benefit others interested in developing curriculum-aligned playscapes in low-resource settings. Taking an iterative approach, incorporating stakeholder input in all phases, and prioritizing local knowledge were all critical to the development of feasible and relevant designs for the playscape. Given our experience, we would expect that the playscape elements would have to be adapted to the context and environment if they were to be replicated in a different part of the country. We relied on stakeholder input and local knowledge to rethink the materials to be used in the playscape and to incorporate culturally relevant elements, such as the market stall, the daladala, and the tingatinga-style paintings on the amphitheater.

Our experience also points to the challenge of taking a novel approach to the design and construction of a playscape in Tanzania. It was initially challenging to find an architect in Tanzania willing to take on this project; we were fortunate that Nancy Arbogast joined our team because her leadership and insight were critical to the success of the design and construction phases. Nancy played a crucial role in communicating expectations to the contractor. We ultimately decided that if we were to construct another playscape like this one, we would work with individual craftsmen or builders ("fundis" in Swahili) to construct the elements, as working with a contractor proved to be challenging.

Next Steps

Now that the playscape is constructed and in use, we plan to work closely with the DUCE preprimary teachers to enhance their ability to recognize and facilitate children's learning as they engage in free play on the playscape. Through ongoing collaboration and coaching, we will introduce strategies they can use to support and expand children's learning on the playscape. In addition to the use of the playscape, this cohort of master teachers will eventually develop a suite of play materials and resources that can be used by preprimary teachers in Tanzania. Like the Tenda Teachers Program (https://projectzawadi.org/teachers/teachers-program-overview/), we will create videos of the DUCE preprimary teachers facilitating play-based activities in the classroom and outdoors. We will

also film children playing on the playscape and have DUCE preprimary teachers narrate the films to describe what children are learning as they play.

Through this ground-up approach, we seek to develop examples of play-based approaches that are feasible and appropriate in Tanzania and can be shared widely with teachers throughout Tanzania. We will work closely with the Tanzania Institute of Education throughout this process to ensure any training and materials can be included in national programming for preprimary teachers. Our long-term goal is to host in-service professional development programs on play-based learning at DUCE, which will be led by the DUCE demonstration school preprimary teachers.

In addition, we plan to develop and publish an open-access design book that includes architectural plans for the playscape elements so they can be replicated. Each design will include options for the use of different materials to facilitate adaptation to diverse contexts across Tanzania and beyond. The design book will also clearly articulate the connection between playscape elements and learning goals in the Tanzania national syllabus.

Notes:

[1] Kejo, S. M. (2017). *Exploring play in early years education: Beliefs and practices of pre-primary educators in Tanzania* (Doctoral dissertation). Mtahabwa, L., & Rao, N. (2010). Pre-primary education in Tanzania: Observations from urban and rural classrooms. *International Journal of Educational Development, 30*(3), 227-235.

[2] Mendenhall, M., Chopra, V., Falk, D., Henderson, C., & Cha, J. (2021). *Teacher professional development & play-based learning in East Africa: Strengthening research, policy, and practice in Ethiopia, Tanzania, and Uganda.* Teachers College Columbia University.

[3] Mligo, I., Mitchell, L., & Bell, B. (2016). Pedagogical practices in early childhood education and care in Tanzania: Policy and practices. *Journal of Education and Practice, 7*(33), 83-92.

[4] Kejo, S. M. (2017). *Exploring play in early years education: Beliefs and practices of pre-primary educators in Tanzania* (Doctoral dissertation).

[5] Wilinski, B., Machumu, M., & Sharma, A. (2021). Playing to learn: Playscapes as sites of pedagogical transformation in Tanzania. *Childhood Education, 97*(4), 16-23.

[6] Design-Based Research Collective. (2003). Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher, 32*(1), 5-8. p. 6.

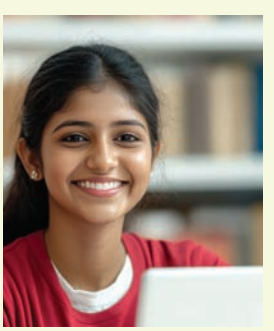
[7] Wilinski et al. (2021).

[8] We initially thought the playscape would be used by children in the primary school, as well as the preprimary children. The schools are next two each other, separated by a fence. This is why we included primary students in our data generation activities. We only learned after the playscape was constructed that it would only be used by preprimary students.

Disclosure Statement:
The authors report no conflict of interest.

"Tech Path" Digital Learning Agenda in Maldives

The "TechPath" initiative, launched by the Maldives Ministry of Education in partnership with UNICEF, Google for Education, and the UNICEF Global Learning Innovation Hub, is designed to enhance education through innovative digital solutions. The initiative focuses on using technology to improve learning outcomes, develop 21st-century skills, and help students address real-world challenges in their communities.



UNICEF, Google for Education, and the UNICEF Global Learning Innovation Hub are providing technical support to ensure the initiative's sustainability. This includes integrating digital tools like Chromebooks and Micro:bit devices into classrooms, which are essential for fostering creativity, innovation, and digital citizenship among students. The initiative emphasizes the importance of preparing students not just academically but also as responsible digital citizens who can navigate the complexities of modern life.

Currently being piloted with over 1,698 students across 15 schools in the Maldives, the initiative aims to achieve three specific outcomes: improving foundational learning in early grades, enhancing 21st-century skills among adolescents, and strengthening the "satellite school" model to expand remote learning options for higher education. The partnership also involves the National Institute of Education to create an enabling environment to meet these goals.

Through this collaboration, the TechPath initiative aspires to create a future where every child in the Maldives has access to quality education that prepares them for work and life. By providing the necessary digital tools and support, the initiative aims to ensure that all students, regardless of their background, have the opportunity to thrive in a digital world.

www.unicef.org/maldives/press-releases/digital-learning-every-child-pathway-brighter-future

School the World

By focusing on improving access to quality education, School the World aims to empower children, their families, and their communities to build a better future. With a mission to ensure that every child has access to a quality education, regardless of where they are born, the organization works to transform the lives of children in rural and marginalized communities in Central America. Their goal is to create environments where children can thrive academically, socially, and emotionally, thereby breaking the cycle of poverty.

School the World implements several key programs to fulfill its mission:

- **School Building and Classroom Resources:** School the World constructs and renovates schools in rural communities, providing safe and conducive learning environments for children. They also supply these schools with essential classroom resources, including books, educational materials, and furniture. The goal is to create a stimulating and supportive environment that fosters learning and development.
- **Teacher Training and Professional Development:** Recognizing that the quality of education depends significantly on the quality of teaching, School the World offers comprehensive training programs for teachers. These programs focus on improving teaching methods, classroom management, and the ability to engage students effectively. By empowering teachers with the skills they need, the organization helps ensure that children receive a higher standard of education.
- **Parental and Community Engagement:** School the World emphasizes the importance of involving parents and communities in the education process. The organization runs programs that educate parents on the value of education and trains them to support their children's learning at home. This community-driven approach ensures that education becomes a shared priority and that schools are supported by an engaged and informed community.
- **Student Scholarships and Support:** In addition to building schools and training teachers, School the World provides scholarships and other forms of support to help students stay in school. This includes covering costs related to uniforms, school supplies, and transportation, which are often barriers to education in impoverished areas.

In the communities it serves, School the World has:

- **Increased Access to Education:** Through the construction of schools and the provision of resources, the organization has greatly increased access to education in rural and underserved areas of Central America. Thousands of children who previously had limited or no access to education are now attending school regularly.
- **Improved Quality of Education:** The teacher training programs have led to noticeable improvements in the quality of education provided. Teachers are better equipped to deliver engaging and effective lessons, which has led to higher student achievement and retention rates.
- **Empowered Communities:** By involving parents and communities in the educational process, School the World has fostered a sense of ownership and responsibility among community members. This has not only improved educational outcomes but also strengthened community ties and resilience.
- **Achieved Long-term Educational Outcomes:** The organization's focus on sustainable development has resulted in long-term educational outcomes, with more students completing their primary education and progressing to higher levels of learning. This, in turn, has opened up new opportunities for these children, reducing the likelihood of them falling back into the cycle of poverty.

https://schooltheworld.org/