

KPLAY Implementation Research Brief:

Supporting the
Transition to

Student-Centered Teaching in Kenya

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Introduction

Many Kenyan primary students struggle to acquire foundational literacy and numeracy skills. To improve learning outcomes, Kenya instituted a Competency-Based Curriculum (CBC). This transition reflects a broader global effort to improve education by shifting toward more student-centered approaches. However, several years into the reform, teachers face numerous challenges in enacting the CBC in their classrooms.

This brief presents findings from research on a pilot teacher professional development program designed to support the transition to student-centered teaching in Kenyan primary schools. Specifically, the research explored IREX's Kenya Play Project (KPLAY), part of the global LEGO Foundation-funded Tech & Play initiative. Education Design Unlimited (EDU) served as the local research partner for KPLAY, with support from the Tech & Play research lead, EDC. The study investigated how teachers implemented and adapted the KPLAY intervention in their classrooms, the supports they required to do so, and the contextual factors that influenced implementation. Insights gained from this research can inform future efforts to strengthen teacher training programs by identifying effective strategies, necessary supports, and potential challenges in scaling similar interventions to transition to student-centered pedagogies in low-resource contexts.

The Kenya Competency-Based Curriculum

and the Focus on Foundational Literacy and Numeracy

Kenya's transition to the Competency-Based Curriculum (CBC) represents a major shift from content delivery to competency development.⁽¹⁾ Research across multiple countries highlights that transitioning from a traditional, teacher-centered, lecture-based approach to a student-centered instructional model is a lengthy, challenging process.⁽²⁻⁴⁾ Teachers and Heads of Institute (HOIs) need substantial training not only in the new pedagogical approach but also in assessment strategies and classroom management strategies.

Improving children's foundational literacy and numeracy (FLN) skills and knowledge is a priority of the Government of Kenya. Research across Africa finds that only one in five children achieves the minimum level of proficiency by the end of primary school.⁽⁵⁾ In Kenya specifically, three out of five Grade 4 learners cannot read a Grade 3-level text and only 50% can solve a Grade 3-level math problem.⁽⁶⁾ Language adds another layer of complexity: English is the official language of instruction, yet many children speak other languages at home and in their communities and have minimal English proficiency. Particularly in rural Kenya, most students encounter English only in school.

Given the scale of the changes required, and the complexity of classroom contexts, teachers need more than isolated training sessions. They need ongoing support and opportunities for learning in schools and classrooms as they try out, reflect on, and improve their skills with new instructional practices and resources.^(7, 8)

>> The Kenya Play Model

The Kenya Play Project (KPLAY) was designed to help Kenyan teachers transition to new instructional practices aligned with the CBC and to increase their use of technology to support this transition. Specifically, KPLAY aimed to equip teachers with actionable, student-centered instructional strategies to enhance FLN and, secondarily, to improve teacher digital literacy. The program was implemented by IREX in partnership with Humans Who Play (HWP) and its technology partner, Edutab Africa, a small Kenyan start-up focused on educational technology.

The KPLAY model was implemented in Kwale and Kilifi counties, two of Kenya's most underserved regions. A cohort of 100 schools was selected each year and six to seven teachers from Grades 3 to 6 joined the initiative from each school. Additionally, each school received a laptop, a portable router, and one month of paid internet service. From its inception in 2020, KPLAY expanded to reach 403 schools.⁽⁹⁾

The technology components of KPLAY were designed to support teachers with diverse levels of digital skills. Teachers with prior ICT experience were introduced to Scratch and coding. For the larger share of teachers who were newer to technology, KPLAY prioritized improving teachers' basic digital literacy and using digital tools to support their own professional learning. KPLAY used tools such as Google Classroom and WhatsApp to share educational resources and create a virtual Community of Practice (COP). It also introduced educational websites that provided lesson ideas and video aids.



>> The Kenya Play Model

The program consisted of training sessions, school-based COPs that were connected to a larger virtual COP, and coaching visits. The KPLAY training cycle consisted of three weekend academies held about a month apart over the first half of the school year.

Academy 1

Academy 1 introduced student-centered, active learning, social-emotional learning, and digital literacy. This initial training also helped teachers to form school-based COPs and to connect via WhatsApp groups.

Academy 2

Academy 2 deepened these concepts by modeling student-centered methods, guiding teachers through hands-on lesson planning, and encouraging reflection through growth mindset activities.

Academy 3

Academy 3 built on this foundation by strengthening digital literacy and coding skills and by supporting teachers in using technology for professional learning and accessing educational resources.



Between the academies, teachers received **coaching visits** from the KPLAY team and the County Support Officers (CSOs). Additionally, **they continued learning and sharing** with peers and KPLAY facilitators through school-based KPLAY COPs via WhatsApp.



Focus of the Research



The study explored the following research questions.

- 1.** How do teachers implement and adapt the student-centered pedagogical approaches with their students, and how does implementation vary across teachers and schools?
- 2.** What factors facilitate and inhibit teachers' implementation of the student-centered pedagogical approaches with their students?



Research Design

Over the 2023–24 school year, EDU conducted a mixed-methods study drawing from a range of data sources, including surveys, observations, and focus groups. Data analysis explored changes in teachers’ attitudes and practices to transition to student-centered, active learning in support of the CBC.

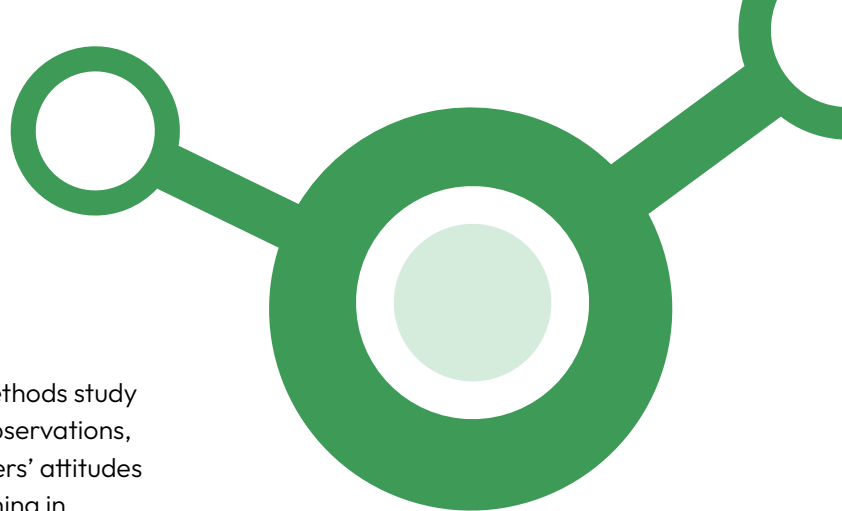


Table 1
Data Sources

Strategy	Sample
Teacher Surveys	190 KPLAY teachers/182 comparison teachers (post-only comparison)
Teacher Academy Observations	29 academy sessions
Teacher Focus Groups (during Training)	4 focus groups (36 KPLAY teachers)
School Leadership Interviews	34 interviews of HOIs and CSOs
Teacher Interviews	28 teachers
Teacher Focus Groups (at school)	6 focus groups (45 teachers)
Classroom Observations	75 lesson observations
Observations of Communities of Practice	4 COP sessions
Parent Focus Groups	6 focus groups at 6 schools (34 parents)



Teacher Use of Playful Learning Pedagogy and Technology

The research focused on key dimensions of playful learning instructional practices. Specifically, it drew on established research in two areas: (1) emphasizing effective teaching strategies that foster active, engaged learning,⁽¹⁰⁾ and (2) research on effective strategies for foundational literacy and numeracy.^(11–16) To assess these, EDU tracked the following categories of teacher support:

- **Student agency**
- **Exploration and problem-solving**
- **Connection to students’ life-experience**
- **Participation and collaboration**
- **Positive learning environment**

Additionally, EDU also explored how teachers used technology to support their teaching practice.



Moving from a few innovative activities that teachers implement on special occasions to making long-lasting, deep changes to their daily practice takes considerable time and requires consistent support. While no teachers had fully transitioned to student-centered instruction, many KPLAY teachers showed early shifts in practice, particularly in English literacy, but numeracy proved more challenging.

Teacher Implementation and Outcomes

KPLAY Teachers' practice shifted incrementally as they moved toward more student-centered instructional strategies.⁽¹⁷⁻¹⁹⁾ KPLAY teachers introduced a few new strategies at a time, which then created opportunities to make further changes and build on their progress. For example, as teachers introduced more group work, they began to give students greater autonomy and agency in those activities. The research on KPLAY suggests there may be a few common starting points for Kenyan teachers as they transition to more student-centered strategies. The following bullets explain some of those practices.

By the end of the year KPLAY teachers were more likely to report using student-centered instructional strategies, including:⁽¹⁹⁾

- **Supporting student agency.** KPLAY teachers reported allowing students more say in how and what they learned.
- **Making connections to students' lived experience.** KPLAY teachers reported that they connected new content to students' already existing knowledge or to real-life experiences.
- **Supporting exploration and problem-solving.** KPLAY teachers reported supporting children's learning through manipulation, investigation, and acting on the physical or conceptual world.
- **KPLAY teachers cultivated more positive learning environments to engage students.**^(17, 18, 20) In observations, KPLAY teachers offered support when children gave incorrect answers, encouraged personal connections with and among their students, and encouraged students to take risks and share their perspectives.
- **Many KPLAY teachers made their first steps toward student-centered instruction by incorporating more group work and more hands-on activities to foster peer learning and problem solving.**^(17, 18) Large class sizes often posed challenges, but teachers began to use grouping techniques to create smaller, more manageable groups with clearly defined roles for each student. "Hands on" most often meant students physically interacting with materials, though sometimes it included games without a physical component; in both cases, activities were usually chosen for engagement rather than for a clear connection to lesson concepts, which limited their impact on deepening understanding.
- **Teachers started creating their own no-cost/low-cost learning resources and manipulatives to foster student-centered and hands-on learning.**^(18, 20) Teachers painted found items such as sticks and stones to make math counters, created literacy posters with manila paper, and crafted more complex items like homemade abacuses and clock faces. Some also enlisted local carpenters to make wooden alphabet blocks.
- **Teachers were more effective at creating hands-on activities to reinforce learning goals in literacy than in numeracy.** In literacy lessons, KPLAY teachers created opportunities for students to speak, read, and write English independently and in small groups using their own words, which offers more opportunities for student agency. In contrast, teachers often struggled to design math activities that built students' conceptual understanding.



Technology Integration and Teachers' Digital Literacy

The research on KPLAY underscores the importance educators place on technology but indicates that teachers begin with varying levels of digital proficiency, from basic device navigation to confidently integrating technology into lessons, and that a lack of technology infrastructure poses substantial challenges.

- **Teachers increasingly leveraged technology for their personal learning and lesson preparation through KPLAY.**^(18, 21) Despite limited infrastructure and initially having low digital skills, teachers used their smartphones to access KPLAY's online resources for their classrooms as well as their professional growth, with some enrolling in advanced courses.
- **Because of limited infrastructure in schools, teacher use of digital tools for student learning was mostly restricted to videos and visual aids for whole-class instruction.**^(20, 22) Teachers most often integrated technology at a basic level by showing pictures to students using personal phones or school tablets during whole-class presentations. However, some teachers have begun giving learners greater agency to use technology to foster more meaningful learning opportunities. For example, some asked learners to search for the "word of the day" on the internet and share its meaning.
- **KPLAY boosted teachers' confidence and motivation to adopt technology, and peer support played a key role in building skills.**⁽²⁰⁾ Many teachers started with limited technical skills, and these teachers felt that KPLAY helped them gain confidence in using technology for lesson planning and to better understand how technology could support their teaching.

Factors that Supported and Hindered Implementation



Strong implementation of KPLAY was **supported by** active encouragement from school leadership, access to coaching and peer learning through COPs, and adequate materials for classroom use.

- **HOIs cultivated other instructional leaders at the school level.**^(18, 20) KPLAY encouraged HOIs to engage deputy HOIs, senior teachers, or KPLAY ambassadors to be instructional leaders for KPLAY. Research identified this as a clear difference between KPLAY and comparison schools, highlighting the essential role of instructional leaders who are not part of the supervisory system in the success of the KPLAY project. These leaders were better able to create a safe space for teachers to share problems of practice.
- **Administrative support and encouragement from school leadership supported stronger use of KPLAY approaches.**^(18, 20) In schools where HOIs actively encouraged the use of KPLAY approaches and made administrative decisions to ensure access to needed resources, teachers more consistently used student-centered practices.
- **Teachers found coaching and KPLAY COPs helpful for reinforcing training content and exchanging ideas.**^(18, 20, 23) Teachers reported that peer discussions in COPs and the coaching visits from the County Support Officers and KPLAY staff helped reinforce training content and provided space to exchange ideas about classroom challenges and strategies.
- **Adequate access to materials enabled implementation of KPLAY approaches.**⁽²⁰⁾ Teachers with sufficient access to manipulatives and other resources were better able to implement KPLAY activities. KPLAY supported teachers in creating their own resources, such as counting sticks, drawing paper, and abacuses.



Teachers' limited classroom management skills for student-centered learning, insufficient training on lesson design, lack of student-accessible technology, and time constraints posed **substantial challenges**.

- **Teachers' lack of familiarity with classroom management strategies for student-centered learning made group work challenging in large classes.**^(18, 20) When conducting group work in large classes, teachers often struggled to create meaningful roles for all students and ensure all students had opportunities to engage with learning materials. Teachers could have benefitted from more training on classroom management strategies for student-centered work.
- **Trainings lacked sufficient focus on lesson planning and instructional design of student-centered activities.** Observations found that teacher-made activities and lessons did not always support students' conceptual understanding. Teachers likely need more time to become familiar with lesson design principles and effective approaches to scaffolding conceptual development and assessment.
- **Time constraints affected both lesson planning and instructional depth.** Teachers reported insufficient time to prepare KPLAY lessons and they often moved quickly through activities, which limited depth of learning.
- **Limited access to technology resources limited student use of technology.**^(21, 22) Most schools lacked sufficient devices, such as laptops or tablets, for students to engage in technology-based activities.

Conclusions and Implications

CONCLUSIONS

As Kenya continues to transition its education system to the CBC, the KPLAY professional development model helped teachers begin the shift toward active, student-centered teaching methods.

Teachers saw value in these new practices and expressed excitement about using them in the classroom. Through the training sessions and ongoing support, teachers experimented with more active and playful methods and deepened their understanding of student-centered pedagogy.

KPLAY exposed teachers to a student-centered teaching model and provided a few sample activities, but did not provide full lesson plans for all of their content areas. Teachers are expected to integrate these approaches into their own lesson planning and classroom practice. KPLAY teachers began to design many hands-on activities; however, activities were sometimes disconnected from core FLN concepts and competencies they were intended to teach. Teachers need more time and support to strengthen their instructional design and lesson planning capabilities to fully integrate student-centered learning.

The path to fully transforming teaching practice seems to unfold through incremental steps. Although teachers can progress only so far along that path in a single year, the research suggests that the KPLAY model may be an effective way to initiate this process.



Conclusions and Implications

IMPLICATIONS

Findings suggest that the KPLAY model has begun to shift teachers toward more student-centered, active learning. However, the research also points to strategies that could improve the program and help move teachers further along the trajectory to the student-centered learning envisioned by the CBC.

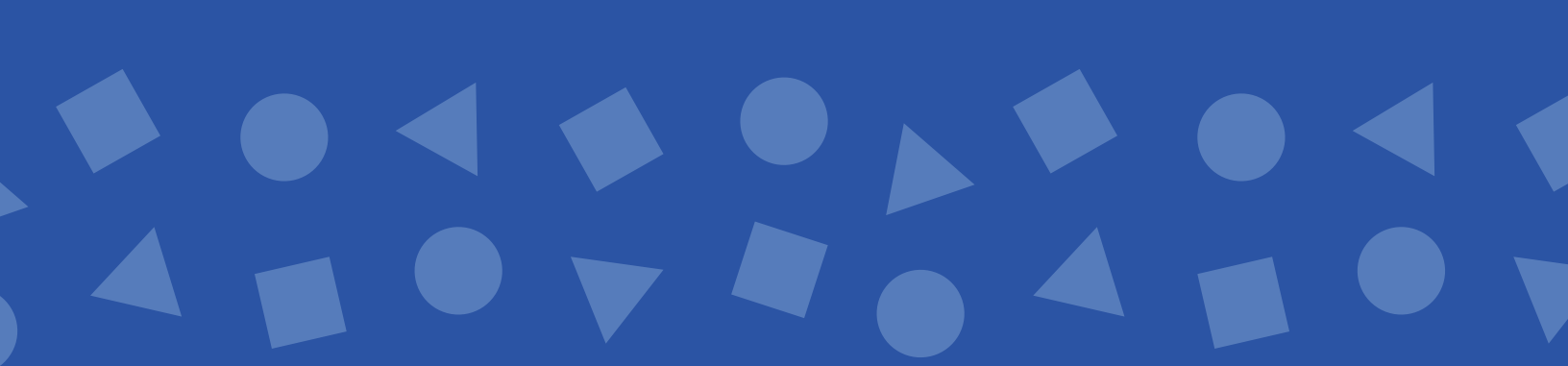
- **Plan for teacher professional development over the long term.** The full transition to CBC will take more than a single year, and professional development should be designed to support teachers at different stages along that transition. Design training and learning experiences that are adaptive to teachers' differing needs and levels of experience to reach the long-term goal.
- **Provide instructional materials, such as exemplary activities and lesson plans for multiple grades and content areas, that support teachers in applying new approaches after training.** Teachers need examples and models that align to the grades and content areas they teach. Ensure materials make clear the conceptual learning goals over time and include ways for teachers to assess student learning and provide feedback.
- **Connect student-centered, active learning to conceptual understanding.** Assess students' skills and knowledge for constructing and applying knowledge during hands-on activities, rather than focusing on the end product. Use hands-on activities for open-ended topics and direct instruction for well-structured and foundational knowledge. Provide teachers with strategies to engage all students during group work and classroom discussions.
- **Focus on teacher digital competence and confidence** before promoting student-focused technology interventions.
- **Ensure tech strategies and tools serve a clear instructional purpose and align with real classroom conditions.** Connect technology to curricular aims while considering basic infrastructure, such as electricity, as well as more complex issues such as access to devices.
- **Allocate time to pilot, learn, and adapt before scaling.** Strengthen innovative program design, such as new technology, through collaborative learning that leverages expertise in content, pedagogy, and the local context.
- **Build system-level capacity to support teachers' transition to new instructional models.** Ensure time and training for trainers and coaches so they have sufficient capacity to support teachers when implementing innovative programs.

Many of the lessons from this study align with broader findings from the Tech & Play initiative across Kenya, Rwanda, and Brazil. Implementing partners may wish to consult the complementary brief and reflective tool, **Lessons Learned from the Tech & Play Initiative: Insights to Inform Program Design and Implementation**, which synthesizes cross-country insights on supporting teacher learning, designing effective instructional materials, aligning technology use with classroom realities, and fostering continuous program improvement.

Together, these resources can inform efforts to design and implement education technology programs that lead to deeper learning outcomes for students.

End Notes

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