

Sandbox Research Compendium 2020



Emerging insights from the Sandbox Schools Project

The Sandbox Schools Project is a multi-year research project that seeks to explore what “education for a fast-changing world” can look like in South African public schools



Executive Summary

Key insights from the Sandbox Schools Project 2020



The world we live in is in constant flux and has often been described as “VUCA”: Volatile, Uncertain, Complex, and Ambiguous. In light of this, there is growing recognition that education systems need to evolve to better equip young people with a range of social, emotional, and cognitive competencies to enable them to succeed in an uncertain future.

With this imperative in mind, the NECT’s EdHub was formed to assist the basic education sector in responding to the demands of the fast-changing world through research and advocacy. This work happens primarily through the Sandbox Schools Project, a multi-year research project that prototypes, trials, researches, and iterates interventions in 11 quintile 1-3 schools to learn about their potential for developing a range of competencies in learners and teachers. The Sandbox Project seeks to explore how we can deliberately, systematically, and demonstrably embed these “competencies for a changing world” (also called “21st Century competencies”) into teaching and learning so that all South African learners are equipped for life in the 21st Century and beyond.

As the Sandbox commenced its first year of research in 2020, the COVID-19 pandemic highlighted the volatility and unpredictability of the fast-changing world and foregrounded the urgent need for education systems to better prepare learners and teachers for this reality. The events of 2020 also highlighted the importance of all components of the education ecosystem – including curriculum, the broader learning environment, the home environment, initial teacher education, and in-service professional development – coming together in support of a shared vision.

The Sandbox Schools Project was designed with these imperatives in mind and, despite disruptions experienced in 2020, the team implemented and conducted initial research on several interventions in the Sandbox Schools. Key insights from the research are presented below, with more detailed articles accompanying this summary.

Sandbox Schools Project Team

Key insights from Sandbox Research 2020



Teacher Perceptions

Baseline survey and interviews with a sample of teachers to gauge perceptions about teaching and learning in a fast-changing world

Timeframe: Jan-Feb 2020

Knowledge, Teaching, and Learning:

There is a lack of clarity among many teachers regarding definitions of knowledge, teaching, learning. Teachers have different understandings of how learning happens.

Common challenges:

Many teachers highlighted overcrowded classrooms, behavioural issues, caregiver engagement, and learners' varying abilities as common challenges they faced in the classroom.

Joy and satisfaction linked to learner outcomes and relationships:

Teachers reported feeling satisfaction when their learners grasped concepts, were actively engaged in class, and when they were happy and showed respect.

Variety of perceptions about teaching and learning in a changing world:

Teachers have many different ideas of how teaching and learning should change for today and the future. Some of these ideas include a greater emphasis on technology, the incorporation of 21st century skills, greater curriculum flexibility, fewer curriculum changes, a less managerial style of education, and a greater focus on practical skills in the curriculum.



Competency-based Learning Programme (CLP)

21st Century competency-infused structured learning programme in Grade 1 Home Language, consisting of daily lesson plans, classroom resources, quarterly training, and ongoing support

Timeframe: Jan 2020 Onwards

The programme is well-designed, practical, and relevant:

Teachers described the materials as easy to use and understand, and the training as practical and relevant to their classroom experiences.

Improvements in knowledge; challenges in implementation:

The programme appears to have improved pedagogical content knowledge related to literacy. However, teachers reported challenges implementing the programme in the classroom, despite these short-term gains.

More clarity, emphasis, and support needed relating to 21st century competencies:

Despite an increased awareness of competencies for a changing world, teachers still lack a common understanding of the importance of the competencies and how they are deliberately infused into the programme through its routines and methodologies.



School Culture

Series of participatory workshops with school leaders to co-create an environment conducive to learning in a fast-changing world

Timeframe: March 2020 Onwards

Leading a culture of learning in schools for the future requires relationship-building and community:

The pandemic highlighted the need for all school stakeholders to come together in support of a common vision for education. Principals strengthened partnerships within their schools and with external organisations in 2020 to make learning possible despite constraints.

Leaders must be lifelong learners:

Principals highlighted the need for ongoing professional development and demonstrated this practically in their commitment to learning online, co-authoring articles, and participating in research with the Sandbox team.

“Maslow before Bloom”:

The pandemic highlighted the need for school leaders to view learners holistically and address multiple needs – including physical and emotional needs – beyond a narrow focus on academics.

Every voice counts:

Principals were encouraged to listen to feedback from teachers and learners in creating a culture of learning for the future at their schools. Principals also shared ideas for distributed leadership models and co-authored articles on the Sandbox blog.



Mindful Schools

COVID-response mini-intervention consisting of daily 5-10 minute mindfulness activities for teachers to facilitate with learners, in response to heightened anxiety and stress during the pandemic.

Timeframe: Aug-Nov 2020

It is possible:

Educators demonstrated and reported that they can plan and implement daily mindfulness activities with learners.

Appetite and impact:

Learners enjoyed the activities and wanted to see more activities included in their routines. Slight positive changes were reported in emotional well-being for educators and learners.

Teacher training and support needed:

Teachers have varying understandings of what mindfulness is and expressed a desire for more in-depth workshops and support materials – particularly as it is a relatively unfamiliar concept for most.

Increased variety and tailoring of mindfulness activities:

Mindfulness activities should be tailored according to the age of learners (e.g. different activities for Foundation, Intermediate, and Senior phase) and could include a broader variety of exercises than those in the original mini-intervention.

Mixed methods research design:

While feedback from the mini-intervention is promising, richer insights could be gained through a mixed methods research design in 2021.



Sandbox@Home

COVID-response mini-intervention consisting of a resource pack of home-based learning activities for families of Grade 1 learners, designed to facilitate learning during school closures through stories and play.

Timeframe: Aug-Nov 2020

Complexities of the home environment:

Home environments can vary widely even within a single school – including linguistic, cultural, socioeconomic variations – which all influence the type of learning that takes place in the home.

Multiple challenges for project team and caregivers:

The project team encountered challenges in establishing contact with caregivers and ensuring their understanding of the programme. Caregivers were juggling competing commitments and many struggled to grasp the fundamentals of the programme.

Learning through play:

Feedback suggests that many caregivers do not understand that learning can happen through play and, therefore, did not prioritise the playful learning aspects of the programme.

Simplicity:

Caregivers indicated difficulty understanding the programme's structure and intentions. This points to a need to simplify both the programme and communication strategies so that the key messages are clear, accessible, and easy to understand.

Appetite for home learning:

Most families interviewed indicated that they enjoyed the experience and would like to continue to support learning at home.



Initial Teacher Education in a fast-changing world

Sandbox-aligned studies conducted by postgraduate students at the University of Johannesburg, focussed on teacher preparation in the 21st century.

Timeframe: Jan 2020

Deliberate lesson design:

Lesson design for student teachers should explicitly articulate principles about how people learn and should outline how to deliberately infuse competencies into the teaching of content. This helps student teachers understand the learning principles underpinning their practice and helps them develop competencies in themselves and their learners. Collaborative lesson design builds competencies among student teachers.

Practice what you preach:

The design of ITE courses should also be based on principles of how people learn to enable deeper learning for transfer, and to bridge the "theory-practice divide". E.g. courses on playful learning should be based on a pedagogy of play.

Potential for coding to foster competencies in teachers and learners:

An experiment with coding classes for student teachers indicates the development of competencies like creativity, critical thinking, collaboration, and curiosity, among others.

Thank you

The Sandbox Schools project would not be possible without the collaboration of many individuals and organisations who share a vision for the future of education in South Africa. Thank you for your time, effort, enthusiasm, and active engagement in this project. We appreciate your continued partnership and applaud the role you are playing in pioneering the future of South African basic education.

We would especially like to thank:

- The Sandbox Schools, including principals, SMTs, SGBs, teachers, support staff, caregivers, and learners
- Waterberg District Education Department
- Limpopo Provincial Department of Education
- Department of Basic Education
- The University of Johannesburg Faculty of Education, including academic staff and postgraduate students focusing their studies on the Sandbox
- Colleagues from the University of South Africa (UNISA)
- The Center for Curriculum Redesign
- The Lifelong Kindergarten research group, MIT Media Lab
- Class Act Educational Services
- CRSP dsgn
- Care for Education
- EdHub Advisory Team
- NECT colleagues, who contribute to the EdHub's thinking and provide continuous support