

It's playing that makes classroom teaching add up

Our brains are wired for leaves and stones, says education researcher

SHEREE BEGA

ELIZABETH Henning grins as she notices her colleague, science teacher extraordinaire Francois Naudé, using his fingers to count. This is what the professor likes to see.

"I love it when people use their fingers to count. Because all humans do, by the way. It's part of the neuroscience thing we're interested in. We must never take away our fingers when we talk about numbers."

Henning, the founding director of the University of Johannesburg's Centre for Education Practice Research, on the Soweto campus, and her team are also curious about how young children dabble with calculations using natural objects compared with man-made objects like blocks and Lego.

"Stones are better for counting. That is what our brains are meant to see," she explains.

"Our brains are old. They are not wired for letters and digits, but for leaves, stones and water."

Consider a tweet from the educational linguist this week: #Naturedeficitdisorder Play therapists. Maybe leave all the blocks and puppets and take the kid to a tree or a stream."

That's exactly what her centre's work is about: "Disrupting the status quo" by "shaking up" the childhood education system.

"We want to show how you can become a good teacher who can teach children to develop a scientific world view."

Don't describe the straight-talking Henning, affectionately called "Gogo" on campus – to which she responds with a wry

laugh – as "passionate" about education.

That's too "fuddy duddy", says the bespectacled academic, her greying hair cut in a neat bob. "Rather say I'm motivated. Directed. Obsessed."

Henning is not a VIP academic, and describes her unit as low-key and high-risk.

"We are free because we storm ahead, whichever way we think may work. We're big risk-takers. We do new things, if we want to, and I don't want to be pretentious and say we do cutting-edge things, because we don't publish that much, we're not famous, but we just keep on doing these risky things."

Like the establishment, with the university, of the neighbouring Funda UJabule foundation phase school, complete with one-way mirrors for teaching students. "I mean, where in the world? It's quite crazy, expensive and high-risk. You have to make everyone happy, including the Gauteng Department of Education, because it's their school, but it's our school too."

And it's working. The school, or "lab", is filled with 400 eager young minds, and now runs up to Grade 5, dispensing practical experience to aspirant teachers.

Today, Henning smiles as she watches the school's best teacher, Nikiwe Molaba, leading her Grade 4 class in rhythmic song. "She gets it. She notes problems and uses music to teach maths to kids."

Molaba says: "For me, teaching is the most fulfilling career. It's not about money, it's about making a difference."

That's how Naudé feels. UJ's childhood education flagship



INNOVATIVE APPROACH: Nikiwe Molaba leads her class in rhythmic song, teaching maths through music, at the Funda UJabule foundation phase school.



INSTINCT FOR BASICS: Professor Elizabeth Henning is director of the University of Johannesburg's Centre for Education Practice Research, on the Soweto campus.

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programme poached him a year ago, after he had won the national award for excellence in high school teaching.

"That's why we grabbed him, not to come work in Grade 12 teacher education, but in Grade 1 teacher education," Henning says.

"We say Grade 12 starts in Grade 1," explains Naudé, the centre's lecturer in primary school science education.

"The problem is that society does not see it that way because

the prestige, the glory, is in Grade 12.

"No one thinks, 'Listen, what is our entry rate in Grade 1, and do we keep all those kids all the way to Grade 12?'"

For inspiration, Henning and her team look to Finland, whose school system is regarded as the best. Children go to school for only 180 days a year, start classes late and end early, and there are short breaks after every lesson.

"When people hear the word

play, they think it's relaxation, that it's messing about. But we see with Finland that play is crucial as a partner in learning," she says.

"They have a traditional, quite old-fashioned way of teaching, with some technology. There's nothing that blows your mind. But they let the kids go to school only when they're seven and they have no formal learning before the time. And the younger you are, the less homework you have to do at home.

"They have a lot of play at school and expeditions. It's in play that you learn to communicate and identify problems. You don't identify problems in a maths test. You identify when you play with your buddies, with your siblings, or alone. We take that away when we put them in cars. Then they drive in terrible traffic with a lot of stress. Then we put them in classrooms for a long time."

Becoming a primary school teacher is so prestigious in Finland that only 8 percent of more than 3 000 applicants are accepted. It's easier to get into medical school.

Henning's unit, along with others and the Department of Higher Education and Training, is trying hard to lift the status of foundation-phase teachers.

"It's a hot job," enthuses Henning. "You're working with little kids. You're laying the foundation for where they're going to be one day. Here comes a child who cannot read. The child leaves your class reading. It's the time when a child's mind grows so fast. As a teacher, you're working with a young mind. It's incredible."

But teachers here have a tough job, Henning says.

"Children don't come to school to be calm or to learn. Whether you live in Hyde Park or Soweto, children are extremely busy and hyped. They eat too much sugar. And they are extremely competitive. It's really so sad."

The maths curriculum is "ridiculously fast".

"It's been shown in so many labs that it takes months for a

five-year-old to understand the concept of the number six.

"If I had Fifa's World Cup budget, I would take 80 percent of the corps of Grade 1 teachers in all schools and for three months at a time give them a complete and utter retraining in maths teaching. Not just procedures, but the conceptual development of children's maths, (and) remedial work – people don't like that word – to identify what teachers are struggling with and (to help them) to help children with what they're struggling with."

Children are saddled with too much homework, which is the "most unfair system imaginable", Henning says.

"Children in elite schools go home to an au pair, with apps, iPads and a mother and father checking them at all times.

"What about the kid who goes home and then there's absolutely no one they can even talk to? (There's a) disparity between kids who can't do the homework because they don't get attention and those who do."

Still, Henning rarely gets gloomy. "I'm not worried about middle-class children, somehow they find their way, but about the 80 percent of children who are not properly educated. What will happen to our country when so many people will be half-educated?"

"If you have a good teacher who understands what young children's learning is about and knows their subjects reasonably well, then you've gone a long way. It's not about the facilities and curriculum, although we need a roof and clean toilets – 'It's about the teacher, idiot'."