

Boffins plot Bok success

Scientists analyse goalkicking in bid to improve rugby performance

ARON HYMAN

THE Springboks are turning to laboratories to crush their opponents. No, it is not steroids they're after, it's science. The South African Rugby Union has funded a long-term study to unravel the secrets of the perfect goalkicker.

National kicking coach Louis Koen initiated the project, which might have already improved flyhalf Pat Lambie's success rate. The Springbok and Sharks player was among 15 of the country's best goalkickers who had electrodes attached to their bodies so that researchers could monitor their kicking action.

The project started in 2014 at the Stellenbosch University's Unit for Human Movement Analysis.

John Cockcroft and Dawie van den Heever of the university's department of mechanical and mechatronics engineering were entrusted with the task.

Much is riding on their work — the Springboks lost to lowly Japan at the Rugby World Cup last year and struggled last month to beat Ireland. Even if they can't score tries, a better penalty-kicking performance could spare them some blushes.

"What I want to find out is if you find a guy who's never kicked a ball in his life before, can we use the data to give him a starting point?" said Koen.

"I'm very keen to develop something for primary school kids. Maybe when a dad takes his son ...

to the field, he's got a little bit of a model that's properly researched that he can use to guide his son into becoming a better kicker."

Cockcroft said they scrutinised everything about the 15 players' kicking action, including how fast their toe was moving when it hit the ball.

They have concluded that a player's body type has nothing to do with his ability to perform.

The players' techniques varied considerably, but their run-up angles, foot speed and where they

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planted their foot next to the kicking tee were very consistent.

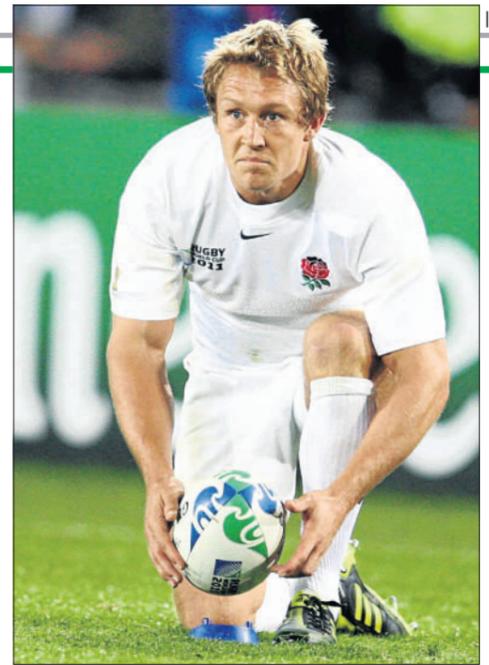
"We found that the variability decreases as the player nears the tee — this is telling us that the brain is compensating in the movement to ensure consistency in the final outcome," said Van den Heever.

Koen said Saru had pumped "a lot of money" into the project but the main beneficiaries would be future generations of rugby players.

But Cockcroft noted that during a match just a few weeks after Lambie took part in the research, he kicked from the halfway line to seal victory



STARING MATCH: Pat Lambie lines up the ball during a Sharks match; right, former England flyhalf Jonny Wilkinson had an impressive kicking record



Pictures: GETTY IMAGES

THE MOMENT OF REFLECTION



Lambie assesses angle and distance

THE POINT OF NO RETURN



Lambie takes the plunge

THE INSTANT DECISION



Wilkinson drops for goal

for his team. Cockcroft messaged Van den Heever with excitement. "We kind of joked that we helped in getting it over," he said.

Finer details of their studies will remain top secret so that rival teams do not benefit. The next chapter involves testing amateur kickers.

"It is great that [Saru] used all the resources available to them to ensure that South Africa remains a powerhouse in world rugby. "This is also why we can't go into

too much detail with our findings — we don't want the Aussies to get hold of our secrets," said Van den Heever. hymana@timesmedia.co.za

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SIMPLICITY: Three-year-old Zoe Grové learns how to play with a Rubik's Cube with dad Leon. Picture: JACKIE CLAUSEN

SUTHENTIRA GOVENDER

WANT to bond with your technology-obsessed kids?

Dust off your Rubik's Cube, Smurfs, Meccano set, hula hoop or View-Master to encourage some imaginative playtime.

As parents look for innovative ways to reconnect with their children, toy stores are capitalising by introducing updated versions of yesteryear hits.

Old-fashioned playthings are making a comeback.

Parents are happily turning their noses up at technologically advanced toys and opting for icons from bygone eras such as the Teenage Mutant Ninja Turtles, My Little Pony, troll dolls and pull-along puppies to enjoy a little face time with their kids.

Science teacher Tracey Doyle encourages her 11-year-old son, Christopher, to play with retro

Rubik's Cube shows kids it's hip to be square

toys like the Ninja Turtles and Smurfs.

"I love the idea of bringing back the old, when things were simple.

"Tech has taken over and our kids are focused on their gadgets instead of interacting with their peers and family."

Doyle and Pietermaritzburg father of three Leon Grové are among a growing number of parents who use Rubik's Cube and wooden blocks to play with their children.

Doyle said: "These old-fashioned toys are great because they encourage creative thinking and some bonding."

Hamleys South Africa, a division of the UK-headquartered toy store, has found that popular

toys such as yo-yos, Rubik's Cubes and marbles are making a comeback. As are hula hoops, Lego, stacking rings and board games such as checkers.

"These toys have remained popular through generations as they have inherent play patterns that children relate to regardless of the era," said Michelle Bleazard Fedder of Hamleys.

"Children need to play — it is part of their development and technology cannot replace the value of tactile play and should not replace it.

"Also, parents who were children in the '90s are now becoming parents and have a nostalgic affiliation to these toys and want to buy them for their

children," she said.

Toys R Us says its customers are keen to escape technology and recreate their simple childhood experiences for their kids.

Construction toys, according to Euromonitor International, accounted for 30% of global toy and games sales last year, which stood at \$179.7-billion.

Lego showed the biggest growth globally, recording a 16% increase, while virtual reality gaming sold two million headsets worldwide.

Toy trend commentator Nikki Bush said old-fashioned toys were being used by parents to "build bridges" between themselves and their children who rarely interacted with them. "Marketers are hitting the

nostalgia button and parents are very happy to pay. They are invested in the DNA of retro toy brands and buying these toys is a way of sharing themselves with their children.

"It's a relationship builder — parents and children have a meeting point of mutual understanding and enjoyment.

"With technology, sometimes parents feel distant from their children. By using brands that are already known to parents there is accessibility.

"Construction toys like Lego are also a very important part of a child's development. It's a Rolls-Royce classic, a cornerstone of childhood. It's not cheap, but it's very beneficial," said Bush.

Toys R Us marketing manager Nicole Annells said parents "definitely seem keen to escape from current technology-dominated times to where they feel a personal connection with their favourite childhood toys".

Favourites like the original Monopoly board game, troll dolls and yo-yos are making a comeback at Toys R Us stores.

"Toys that remind parents of their own formative years are popular because of the memories they stir," said Annells.

University of Pretoria education psychologist Professor Kobus Maree said he was all for parents trying to restore relationships using retro toys. "I think it's a bit of nostalgia too for the parents."

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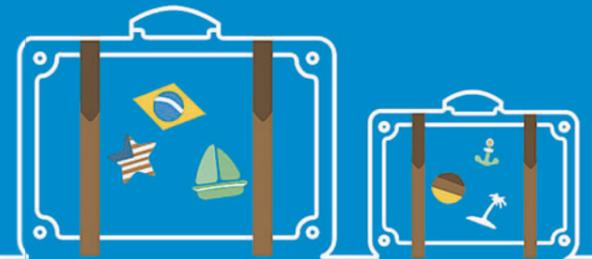
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