Portfolio
ETILAB serves as

- a makerspace for rapid prototyping of education tools & processes
- an adult sandpit to learn through fun and play
- a catalyst to transformative change
- an inspiration for social innovation
- a hub to inspire innovation, creativity and learning
- a builder of human capacity development
- a bridge maker of key role players in industry, education, government and practitioners
- a collaborations matchmaker in and outside higher education

www.etilab.org
info@etilab.org
The ETILAB Nexus

The Emerging Technologies Inquiry Lab (ETILAB) is a Sandpit for adults. It inspires home-grown innovations in response to unique sets of challenges or opportunities, such as those in education or training settings.

The ETILAB operations are sandwiched between collaborative inquiry, investigation, incubation, innovation and information sharing.

Participants at the ETILAB learn through an adult play process. The adult play process uncovers the affordances of emerging technologies, generates ideas to solve specific challenges and builds prototypes of possible solutions. The environment within the ETILAB recreates the playful conditions of a sandpit, being safe, secure and inviting, where one has great fun interacting with peers, engaging with ideas while building innovative prototypes or designing imaginative structures and processes that are responsive to challenges/opportunities identified.

The ETILAB is a multidimensional facility. Through its various activities and events it further aims to build bridges between thought leaders in higher education, industry, government and non-governmental institutions and practitioners / teachers, to creatively and innovatively develop solutions to topical and pressing problems in education. It focuses outward to equip and empower those wishing to integrate technologies into their daily activities, such as educators, entrepreneurs or employees from all phases. The ETILAB also focuses inward and works with educators and students at UCT to empower them to integrate technologies into their pedagogic practices.

ETILAB is positioned at a unique and privileged research and practice nexus, creating a highly engaging yet a fun environment forming critical connections between significant role players, and producing highly original research from this engagement.

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ETILAB Launch

The ETILAB was officially launched on the 26 June 2014. The event was sponsored by one of the collaborating partners, INTEL Education, and took place in the Neville Alexander Building Quad.

In October 2014, the ETILAB website was launched with a new logo and a tag line: the sandpit for inspiring home-grown solutions.

Early in 2015 the new lecture hall construction commenced right next to the ETILAB. The noise of jackhammers breaking concrete was disruptive. However, true to the ETILAB’s solution orientation, we quickly realized the wonderful opportunity this offered for a photo shoot to match our tag line. The photos on the website are the result of this photo shoot showing students and staff from various UCT faculties ‘playing’ with technologies in the sand to create their own home-grown solutions.
Teachers hit ‘sandpits’ to help pupils

July 8 2014 by ET Times

Rebecca Walton

He calls them ‘sandpits’ for adults. But what Dick Ng’ambi, a UCT academic says to see is teachers learning from technology, to help them in the classroom.

And his Educational Technologies sandpit Lab or ETilab enables them to do that.

The ETiLab has been in existence since last year and is a project which enables educators to ‘play’ with the latest teaching technologies.

The ETilab hosts and facilitates sessions in which teachers are given an opportunity to experiment with educational technology.

“The difference between adults and children is that children are given the opportunity to play and create without consequences, while adults are not,” says Ng’ambi.

“Teaching innovation requires educators to push the boundaries, but this requires them to have time to explore and ask interesting questions.”

Ng’ambi was inspired to develop the lab when he identified a disparity between the use of educational technology used by teachers and pupils, with pupils often being quicker on the uptake with new technology, and teachers not fully utilising the possibilities of learning technology.

He believes pupils are often more technologically-savvy than their teachers because of the time they spend “playing” with the technological devices.

Teachers experiment with technologies such as SoundCloud, Edmodo and VocerHead at the ETilab sessions last for two hours, or for a full meeting or afternoon.

Feedback from the teachers shows that the sandpit approach is more effective than traditional training.

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The ETILAB has grown exponentially in reach, research output, bridge-building and stature since its official launch on the 26 June 2014. Much has been achieved in this short time.

- September 2014: The ETILAB logo, website: www.etilab.org, Facebook page and Twitter account was created.
- October 2014: The first Think Tank was held at the V & A Waterfront Hotel
- Dick delivers a TEDx Talk in Cape Town
- Technology Integration Evaluation conducted at Bergvliet Primary commissioned by INTEL Education
- October 2014: PG Diploma Course concludes - students with no prior coding knowledge develop mobile applications working through the ETILAB design process.
- Dick co-authors the book: Activity Theory, Authentic Learning and Emerging Technologies
- March 2015: PG Dip Course runs in ETILAB with 21 students from across Africa attending
- March 2015: Think Tank 2 is held at the Two Oceans Aquarium. All presentations are video recorded and made available online. One of the guest speakers, Clinton Walker, shares the WCED e-Vision and Kobus van Wyk relays lessons he learnt over the course of three decades concerning Technology Integration in Schools in South Africa
- A dedicated ETILAB Vimeo Channel is launched where videos and podcasts from all Think Tanks and other ETILAB events are made available.
- Report completed for Commonwealth of Learning (COL), Canada, on the evaluation of MOOCs in Kenya, India and Malaysia.
- Dick Guest Edits two special issues for the British Journal of Educational Technology (BJET).
- Dick continues his work as Africa's corresponding editor for a prestigious ISI journal, the British Journal of Educational Technology (BJET).
- Isabel is interviewed on Power FM regarding the integration of emerging technologies in schools.
- Dick's opinion piece on Cyber Safety is published in the Cape Argus.
- Puleng's piece on Design Thinking in the ETILAB is published in the Mail and Guardian
- Dick accepts various invitations to deliver keynote addresses at conferences locally and internationally.
ETILAB: The 2nd Year

• Think Tank focusing on Cyber Safety is held.
• CONFERENCE: Emerging Technologies and Authentic Learning in Higher Vocational Education Conference, 31 August - 3 September 2015 is successfully hosted.
• Commissioned research:
  o Baseline assessment of 12 rural schools including 2022 Gr 7–9 learners and 119 teachers
  o Baseline assessment of a private school group’s BYOT year of discovery for Gr 7–9 learners
  o Systems analysis for a private service provider reaching 40 000 learners across Western & Northern Cape
  o WCED collaboration with CTLI to develop Foundation Phase workshop for technology integration
  o WCED collaboration to scale & spread the Adult Play Process in schools across the province
  o Zambia ministry of education to evaluate integration across the system
• Dick presents the keynote address at the SMART CITIES CONFERENCE at Arabella Hotel
• New Master’s Degree Course in Educational Technologies starting in 2016 with two modules delivered ’in the cloud’ online and two face-to-face modules including a minor dissertation.
• The ETILAB Adult Play process across vastly different contexts and on a national scale starts, visiting schools as far as Beaufort West
• Outreaches that include work-based adult play sandpit sessions starts.
• Manuscript for: ETILAB PLAY WITH EMERGING TECHNOLOGIES in press.
• Upcoming Think Tanks: Game-Based Learning & Mobile Learning in South African contexts

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ETILAB Think Tanks

The ETILAB Think Tanks take place four times a year as a whole-day event. ETILAB Think Tanks are collaborative spaces where thought leaders from Industry, Government and Education Institutions inquire and engage in creative and innovative thinking aimed at tackling an educational challenge. The themes of the Think Tanks are established through an empathy process with both practitioners and researchers. In this, the ETILAB sees itself as facilitating bridge-building between key players involved in education: curriculum designers, instructional designers, educational technologists, policy makers and providers of technologies.

Thought leaders from Industry, Government and Educational Institutions participate in the ETILAB Think Tanks. Past Think Tanks have seen principals and teachers share ideas with product developers, software designers and industry specialists, leaders in the Western Cape Department of Education and academics from the various universities in the Western Cape. For example, the first Think Tank focused on exploring the landscape and identifying general problems particularly facing education in the Western Cape. The second Think Tank focused on the challenges and constraints schools and teachers experience when adopting and integrating technologies into their teaching and learning. The third Think Tank focused was on Cyber Safety and how educational institutions may prepare learners to engage safely online and importantly manage Cyber Bullying.

To participate or sponsor an ETILAB Think Tank contact the ETILAB team at info@etilab.org or call 021 650 1906.
Think Tank Feedback

Submitted by Fiona Be.

Recently I attended the ETILAB Think Tank on Emerging Technologies in Education... the Etlab concept was something new to me so I looked forward to finding out more about that as well.

These are a few of my takeaways from the day.

1. It is always interesting to meet and network with the educators attending a conference. We each introduced ourselves with a mention of our day-to-day work. This gave a great context to the day.

2. The first part of the day centred around Global Trends within Educational Technologies. The session was opened by Professor Dick Ng’ambi who manages the Etlab at UCT. The Prof (as everyone called him) introduced the work of the Intel and Lenovo Etlab at UCT. I must say he aroused my interest to visit the lab when he described it as a sandbox for teachers to play with and experience new technologies. In his presentation it was interesting to hear about Garther’s Cycle of emerging technologies showing how new technologies become popular and then interest wanes before they become a regular part of our lives. (Garther’s Cycle Research Report is an annual maturity assessment of technologies and IT trends). Garther maintains that identifying and emloving the right technologies at the right time is critical.
The Emerging Technologies and Authentic Learning in Higher Vocational Education Conference 2015 (etinedconf2015.com) took place from 31 August – 3 September 2015 at the UCT Graduate School of Business.

The conference chairs, Dick Ng’ambi (UCT, ETILAB) and Jill Jameson (University of Greenwich) and Vivienne Bozalek (University of the Western Cape) envisaged a conference that would not only draw on existing knowledge around emerging technologies in education but would extend the debate by celebrating the emergent knowledges from higher vocational education settings.

The conference was made possible through the collaboration and financial support garnered from the ETILAB as main organisational driver, UCT’s Centre for Innovation in Learning and Teaching (CILT), the University of Greenwich, The British Educational Research Association (BERA) and the British Journal of Educational Technology (BJET); as well as the University of the Western Cape (UWC), the Cape Peninsula University of Technology (CPUT) and the Stellenbosch University.

A glittering array of most celebrated keynote speakers adorned the stage. Prof Gilly Salmon (University of Western Australia) and Prof Jan Herrington (Murdoch University, Perth) flew in from the far South, while Prof Victor Mbarika (The ICT University & Southern Universities) and Prof George Veletsianos (Royal Roads University) flew from Northern America. Our own Prof Laura Czerniewicz presented the fifth keynote address.
The conference drew together many voices on educational technologies in education, discussions around authentic learning and learner-driven experiences, and specifically focused on higher vocational education contexts.

Dynamic presentations of keynotes and presenters, interspersed with interactive group discussions and sandpit sessions on design thinking, and dinner at the Two Oceans Aquarium and Richards’ Supper Club, ensured a lively mix of fun, networking and informal collegial engagements to be fostered.

Selected papers from the conference will be published in a special issue of the British Journal of Educational Technology (BJET) in May 2016. For a detailed conference report including contributions from keynotes, sketchnoters and presenters, please contact the ETILAB or visit the conference website: etinedconf2015.com

George Veletsianos

www.etilab.org
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The unique and colourful work of the group of sketchnoters, the first use of group sketchnoting at a conference in South Africa, captured the essence of each presentation which was shared on the conference Twitter hashtags #etinedconf #etilab. This overwhelming support and collaborative discussions that ensued on Twitter, ensured the conference trended at number 8 in South Africa!
Sandpit Sessions

Friday afternoons from 2 - 5pm teachers from different schools in and around Cape Town attend the ETILAB Sandpit Sessions. These sessions provide a fun-filled, safe environment in which teachers discover the uses of technologies through play.

The Sandpit Sessions start with a process of developing deep empathy for teachers’ problems and priorities. Empathy for the plight of teachers is a hallmark of the ETILAB process.

Once teachers have clearly identified one immediate problem that they would want to solve, through a scaffolded process, the facilitator suggests different tools that educators may find useful in order to address their immediate problem. They are encouraged to play with these tools and to discover and explore different affordances for these.

In this process the emerging technologies are deliberately ‘made invisible’ while teachers play with different tools in order to find solutions that may immediately address their identified problem.

At the end of this play session, teachers reflect on their learning. Where the emerging technology was initially invisible, through critical reflection it is made visible. In this way teachers are able to appropriate the affordances they had discovered through play to activities that may facilitate learning with the use of emerging technologies.

This adult play process is used with pre-service PGCE and in-service teachers from various Cape Town based schools. The various iterations continuously refine the process producing promising results and feedback from teachers and students have been very positive.

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ETILAB Research

The ETILAB’s international full-service research function has fulfilled both an evaluative and monitoring function for various clients in the past two years. These clients have needed research to inform their different processes:

• Massive Open Online Course (MOOCs) providers wanted to monitor and measure how effective delivery platforms of MOOCs were in three different contexts: Kenya, India and Malaysia. What can be learned to improve future offerings?

• Multinational service providers with a commitment of large sums of money to provide devices and connectivity to schools needed an independent analysis of the possible impact (risk assessment) and weighing against impact on teaching and learning in these schools.

• Schools development teams planning large-scale strategies wanted to know cost-effective approaches to provide devices and connectivity that would have the greatest impact on learning.

• Leadership teams wanted to know what/how uses of devices in classrooms are likely to impact learning outcomes more effectively.

• Software developers needed to know if their systems were being optimally used. If not, what needed to change to ensure optional use, and if yes how could use be scaled up.

The ETILAB works closely with research clients, using the ETILAB process, to clearly identify the problem they wish to research, develop research questions and a proposal to address this. As the ETILAB process is driven by empathy, methods such as interviews and focus group discussions with role players are commonly used alongside large data collection methods using surveys and questionnaires. Critical discourse analysis is used to analyse power relationships, dominance and inequality, and how these are reproduced or resisted in multimodal texts and processes within defined socio-cultural contexts.
A fundamental principal of the ETILAB is to add value in a socially responsible way to all research participants. This may take the form of a celebrity DJ accompanying the ETILAB team to schools to motivate learners to stay in school and fuel their aspirations and goals in life. Another may be the sandpits presented to teachers who struggle to integrate technology into their classroom practices or presenting a workshop on the relevance of emerging technologies to learners.

Having visited some schools where the need for basics such as clothes, shoes or books was particularly high, the ETILAB team collected such items through social media networks, to add value where it was needed.

The ETILAB strategy is to never leave the participant, having collected data from them, without adding value to their lived experiences.
Research Capacity

Completed Projects
- Review of MOOCs implementation in India, Kenya & Malaysia [Requesting Organisation/Institution: Commonwealth of Learning (COL), Canada]
- Review of Tablet Use for teaching and Learning at Bergvliet Primary School [Commissioned by INTEL Education, South Africa]

Current Projects
- Eden & Central Karoo Baseline Study of 12 schools, 2022 learners & 119 teachers, & the school management teams
- Herzlia Middle School Evaluative Study of their Year of Discovery with Bring-Your-Own-Tablet (BYOT) to school

Edited Books
- Activity Theory, Authentic Learning & Emerging Technologies, eds. V Bozalek, D. Ng’ambi, J Hardman, J Herrington, A Amory. 2015
- Special Journal Issues 2 x British Journal of Educational Technology (BJET) published [i] Emerging Technologies and changing practices, i) MOOCs – a ‘disruptive’ practice in higher education
- 2 BJET Issues scheduled for publication in 2016

Research recognition
- Africa’s Corresponding Editor: British Journal of Educational Technologies

Reaching Students
- Convening the PGDip in Educational Technology with four block modules
- Convening the new Masters’ in Educational Technologies with two modules offered ’in the cloud’
- Teaching on a PGCE programme - Authentic Learning with Emerging Technologies
- Convening & supervision of PhD and Masters students
- Input sessions at PhD events

Reaching Educators
- Sandpit Sessions taken to schools - ETILAB team visits schools & presents 'Sandpit Sessions' as a catalyst for transformative change
- Teachers attend ETILAB Sandpit Sessions and learn through play how to solve everyday education problems they experience such as integrating technology into classroom practice

Building Bridges

- Collaborating with CTLI – Cape Teaching and Leadership Institute
- Engaged with WCED on their e-Vision
- Working with Nomadic Verve (i.e Smart Cities) and Social Innovation Centre (GSB)
- UCT: Schools Development Unit (SDU), Centre for Innovation in Learning and Teaching (CILT) & Emerge Network, Library & Information Science, Information Systems, Research Office
- Collaborating with Institutions: SU, CPUT & UWC
- Collaborating with BERTHA Centre at UCT Graduate Business School
- Various schools and educators

Reaching Out

- Present 4 X Think Tanks per year bringing together the corporate sector, education institutions, government, researchers and practitioners focusing on a specific education theme e.g. Cyber Safety in Education; Mobile Learning etc)
- Written opinion pieces for: Cape Argus & Mail & Guardian
- Radio interviews with Cape Talk, Voice of the Cape, Power FM
- Delivered a TEDx Talk in 2014; EduTec Talk at Bertha Centre (GSB) in 2015; Metro Advance Forum in Nov 2015
- Active on Social Media (both Facebook & Twitter), Blogposts & Website (www.etilab.org)
- Delivered keynote and invited public addresses – at conferences, and institutions. For example: a keynote delivered at a WCED Conference 31 August - 3 September 2015
- Hosted the first international conference on Emerging Technologies & Authentic Learning in Higher Vocational Education 2015
The visionary responsible for the conceptualisation and birth of the ETILAB is Prof Dick Ng’ambi. He dreamt of a change in education in a fresh new way, allowing teachers' own perspectives to address pressing problems they experience, rather than have these imposed by others. This dream of transforming education sparked the passion in many others to participate, inspiring them to be part of the transformation process. Prof Ng’ambi is amongst the few experts that effectively operates at the intersection of social sciences, education, technology and innovation. He qualified as a mathematician and as a computer science / information scientist and has many years' experience as an educator, developer of educational tools and as an instructional designer. In 2007 Prof Ng’ambi pioneered the postgraduate programme in Information and Communication Technologies (ICTs) in Education at UCT, currently known as Educational Technology programmes, which to-date is one of the fastest growing programmes in the School of Education. As a researcher, Prof Ng’ambi has published widely in journals, peer-reviewed conferences and delivered many keynote addresses. He is a leading researcher in emerging technologies and mobile learning, a passionate change agent and thought leader, and an inspiration to those who work and learn with him.

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How do we move from our lived taken-for-granted ways of being and doing into new ways and paradigms? For instance, how do teachers change from deeply ingrained practices of chalk and talk, to embrace transformative pedagogies? This is the main focus of Isabel's research and incorporated into the ETILAB processes. She has 10 years' first hand teaching experience, having taught almost all age groups up to Gr 10, and authored Gr 4 – 9 CAPS aligned textbooks for Science and Technology, Technology and English home language. This diverse background allows her to walk in the shoes of teachers while donning the researcher hat; to understand deeply and meaningfully innovative, transformative approaches and how change may be affected to unthought-of practices and taken-for-granted structures to spread rather than scale transformation across vastly different landscapes.

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