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Make today matter

LITTUP NEWS

A Collaboratorium newsletter, Faculty of Education, University of Pretoria

Photo
LLITUP is being rebranded for its 10 year milestone. This is a sneak peak of the rebranding

LLITUP IS IN FULL SWING, MOVING TOWARDS OUR 10 YEAR MILESTONE

LLITUP is currently in its tenth year since its conceptualisation. We hosted a Living Lab event in November that was the first of a series of events to celebrate this milestone. We look forward to more Living Lab events during 2024.

In this bumper newsletter issue, we share news about national and international conference presentations. We also discuss our presentation of various workshops on Coding and Robotics, Generative AI and Living Labs. We celebrate our participation in the Postgraduate Research Indaba, and share inspiring postgraduate experiences. We also showcase our involvement in 2023's ChooseUP Day.

All in all, 2023's second semester has been exciting and jam-packed, filled with many adventures and innovative learning and teaching moments. May the igniting of creativity and dreams continue!

LLITUP NEWSLETTER

TABLE OF CONTENTS

NEWSLETTER TEAM

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DETA CONFERENCE 2023: A PHOTO STORY

Education colleagues and LLITUP experience Uganda

With insights shared by Jody, Farihah and Gontse

Photo
LEFT: Some of the individuals that made up the Faculty of Education delegation to the DETA conference - Look how happy they all are :)

The Uganda streets experience

On 23 July 2023, five colleagues from SMTE flew from Johannesburg International Airport to Entebbe, Uganda. We were joined by many colleagues from the Faculty of Education and other departments in the University. The photos included on the following pages – with at least 13 Bodas – depict our experience of an amazing DETA2023.

Once we arrived at Entebbe International Airport (picture 2), the race was on to reach Kampala before sunset (picture 1). This was made easy by going with the Entebbe/Kampala express way – apparently the most expensive road in the world (picture 3). We reached our accommodation at the Kampala Boulevard suites (picture 6) (ironically on Kampala drive, in Kampala - picture 4). Kampala Boulevard is indeed a busy road with a beautiful noise... Then it was time to explore our surroundings to get some much-needed supplies for our shared self-catering apartments.

Exploring Kampala, from the first day to the last, was an interesting affair involving dealing with the African heat and traversing busy sidewalks that surround the most interesting roads, each with vendors of all kinds of fresh produce. The roads bustle with high volumes of vehicles, minibuses and the most iconic Boda Bodas (picture 5). Boda Bodas (a shorter way to describe the mode of transport that is used to take passengers from border to border) are an interesting bunch. They bundle together and move all the time. The drivers of these motorcycles use any opportunity to move swiftly and promise their passengers the quickest way to reach their destination. Other drivers and pedestrians using the roads need to be assertive or a Boda Boda will use the opportunity to cut in. Faster, of course, does not mean safer as you will see passengers (in ones, twos, and even threes) cling to the driver sometimes carrying big items like boxes or complete sheets of plywood.

Back to the exploration: Of course, we came across a familiar sight in the city (picture 7). And as it was getting dark, our trusted guide (the hotel receptionist) told us that we needed to get a move on. We reached a store with familiar, unfamiliar, and even completely foreign goods spanning three floors of a massive building. It is here that we found our first real interaction with the local currency. Uganda uses the Ugandan shilling, a currency that trades far lower than the Rand. Needless to say, this meant big numbers that had divided (rather than multiplied) to try and make sense of things. Quite often, we found ourselves thinking that the goods were very expensive, just to realise that it was perfectly reasonable and well within our planning. Hurrying back through the unknown streets to our Kampala haven, we decided to make our way to a restaurant on the ground level of our hotel building for dinner rather than to cook a meal. We ended up doing this far more often than expected as the food was delicious, well-priced and absolutely convenient. Most noticeable was the contrast from the streets and the lavishness of the restaurant. Due to not being used to our new setting in the middle of a noisy city and excitement for the impending conference, sleep was difficult for some on the first night.

DETA CONFERENCE 2023

Education colleagues and LLITUP experience Uganda

With insights shared by Jody, Farihah and Gontse

The DETA conference

The DETA conference was simply amazing. It spanned four days, filled with thought-provoking workshops, presentations, keynotes, and discussions. These were accompanied by fruitful networking sessions – with both UP staff and other delegates. We enjoyed wonderful, local food, and obviously, the SMTE folk felt right at home. During the conference, there were four presentations based on research by five SMTE colleagues. This included presentations by Dr Climant Khoza and Dr Fru Akuma. Farihah entered the conference scene with a case on module transformation for teacher digital competence through an ICT module. Gontse provided an overview of an education module's flexible design that allowed the module to remain successful in a pre-pandemic, disrupted, post-pandemic, and future context. Pictures 7 and 8 feature Froggy who was determined to make his appearance too. He not only enjoyed deep conversations, but was welcomed as always.

Some more exploration

Of course, some down-time allowed for further exploration of our surroundings. Bravely setting off on foot from our Kampala base, we shopped for local Ugandan clothing, snacks and gifts. We all learned to haggle and some perfected the skill. Some quick maths was needed at all times and Jody stood at the ready to shout out Rand values with confidence (not always accurate), but helpful nonetheless. Many more trips were made down-town with various permutations of the team members. Every excursion was eventful and we could not wait to discuss it when we got home.

Our last day in Kampala was spent answering stacked up emails, packing, and some even had their performance management meeting virtually. This was a fitting way to show that distance interactions are effective, meaningful, and possible when we find ourselves geographically dispersed. We enjoyed some last-minute shopping and a quick lunch before we were off again. Fru stepped in and organised a fantastic transfer back to Entebbe: this time, in one vehicle rather than two, with ample room for everyone and our overfilled baggage (picture 11). Some of our beautiful sightings include a stunning mural outside the Makerere University's rapidly developing Innovation Hub (picture 10) and the Victoria Lake.

Words of appreciation

We would like to appreciate the efforts of the DETA Conference planning committee for a wonderful conference. Also, we are very thankful for the sponsor from the UDE that made our trip and attendance to the conference possible. We are proud to have been part of a truly noticeable experience in Kampala. Flying back, with awe-inspiring views of the African sunset, we know that we took UP to Uganda and that we bring a little bit of the spirit of this great African nation with us.

Photos from left to right
Farihah presenting; Gontse presenting; LLITUPians; Ready for the gala dinner

DETA CONFERENCE 2023

Education colleagues and LLITUP experience Uganda

With insights shared by Jody, Farihah and Gontse

1. One of our taxis, filled to the brim

2. Sighting of a rare Antanov-124 in Entebbe

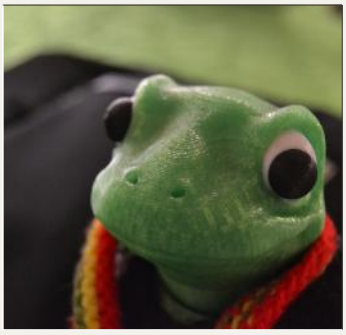
3: The Entebbe/Kampala express way

4. Kampala Boulevard: Busy road

5. A quiet road scene (at least in Kampala terms)

6. The road behind our Kampala residence

7. A soldier carrying an AK47



8. Froggy made his appearance

9. Jody and Froggy in a lively discussion

10. A mural outside the Makerere University

11. Taking the express way - on our way home

12. A view from the car: Victoria lake

VISITING OTHER PLACES TO SHARE KNOWLEDGE

Jody travelled to Bloemfontein and Peru to build collaborative relationships
With insights shared by Jody

A visit to Bloemfontein to discuss Generative Artificial Intelligence (AI)

Jody was invited by Mr Xolani Khohliso of the Central University of Technology (CUT), Bloemfontein, to present a talk on the use of Generative AI. In partnership with Mr Neil Kramm from Rhodes University, they made attendees ponder the questions of *How do we embrace it?* and *How do we step into AI and ChatGPT (Generative AI)?*

Jody guided the attendees in an understanding of what Generative AI is, while Neil focused on what it is not. Neil highlighted the facts that Generative AI cannot understand; has no intentions; can be biased; is generic; has no limit to how much you can ask, but can start hallucinating.

The focus areas of the presentation included the following:

1. Getting comfortable with what generative AI is and what you can do with it
2. Join ChatGPT
3. Join in an activity to draw yourself using AI tool Craiyon
4. Play AI games (Example: **QuickDraw** https://quickdraw.withgoogle.com/)

Two key themes that required further consideration included the restrictions of AI-use, as well as a focus on assessment integrity. Jody developed a model that illustrates a continuum of AI-use ranging from prohibition on the one extreme to compulsory AI-use, with a grey area in the middle. The **prohibition** of AI-use would typically entail the use of firewalls against AI software. Use is intensely monitored, and humans work very hard to avoid the use of AI. **Compelling** the use of AI entails requirements like 100% AI-generated products, or the provision of very clear guidelines on what is required. The **middle ground** entails less guidance to students on how to use AI, and the AI detection software becomes less reliable. There also exists a **conflict zone** where the use is uncertain, and requires clear and transparent communication between the lecturer and students to avoid conflict. In terms of assessment integrity, Neil explored whether we can still rely on assessment, and if so, how?



Photos
LEFT: Jody while presenting at CUT about Generative AI
MIDDLE: Roleplayers (from left to right): Dr X Khohliso (Deputy Director: CASD), Prof D Ngidi (DVC: Teaching and Learning), Mr Jody Joubert, Prof N Malebo (Senior Director: CILT), Mrs A Edem (Curriculum Developer), Prof B Kotze (FEBIT - Assistant Dean) and Mr Neil Kramm
RIGHT: Attendees of the event

VISITING OTHER PLACES TO SHARE KNOWLEDGE

Jody travelled to Bloemfontein and Peru to build collaborative relationships
With insights shared by Jody

Jody and others visit Peru to understand technology integration in the Global South

From 17 September to 8 October, a group of UP delegates travelled to Peru, South America. This visit came after two years of collaboration and communication with the Pontificia Universidad Católica del Perú (PUCP). The focus of the visit was to gain mutual understanding of Peruvian and South African universities and schools in terms of differences and similarities.

The research-focus of the visit was centered on understanding how less-resourced countries (as part of the Global South) actually approach and implement technology integration. The research has an Appreciative Inquiry nature, focusing on what works and how. This visit further kickstarted the collaborative focus on providing guidelines on technology integration in the Global South.

Presentation at Seminario de Investigación Educativa PUCP (19 September 2023)
Jody, with his Peruvian research counterpart Dr Carol Reveiro, spoke on the topic of *Exploring guidelines for technology integration in the Global South.* It is a brand new research project. Its foundations started off with TPACK, and then ventured into 10 basic guidelines from the literature. The work that lies ahead entails a bigger collaborative project between partners to refine their research, and hopefully to develop a definitive theory on the topic.

Conference presentation on *Purposeful integration of Generative AI in education* at the Integración intencionada de la IA generativa en la educación
In this presentation, Jody focused on the consideration of the three AIs, namely Artificial Intelligence, Appreciative Inquiry, and Academic Integrity. He spoke on their purposeful integration. This presentation was technically well-advanced as it was simulcast in English and Spanish in six countries via the Zoom platform.
The presentation can be accessed here:
https://drive.google.com/file/d/1_5TlEX9d6XW3bhaijkOxyI8fr261ZX1O/view?usp=sharing

A visit to the Innovation Hub in Education
The visitors, under the guidance of Jaime Aranda , went to see the hub that is starting out now. With LLITUP in its tenth year, Jody could associate well with this ideation phase.

A Peruvian experience
While Spanish was entirely foreign to Jody upon arrival in São Paulo, he and Dr Joyce West quickly learnt the linguistic basics with an app called *Spanish*. Soon, he could understand basic questions such as "Where are you going?" "What is the time?" and "What does it cost?" He also realised that correct pronunciation is particularly important.

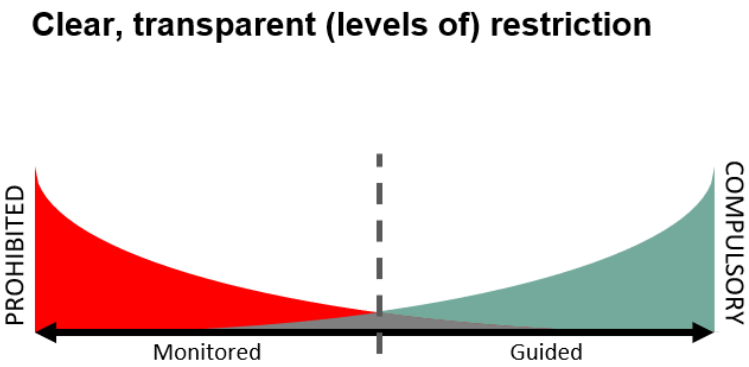
Experiencing the surroundings
The visitors went from an altitude of 80 meters above sea level, to 4900 meters at Rainbow Mountain.

VISITING OTHER PLACES TO SHARE KNOWLEDGE

Jody travelled to Bloemfontein and Peru to build collaborative relationships

With insights shared by Jody

Photos
TOP LEFT: Jody presenting at Integración intencionada de la IA generativa en la educación
TOP MIDDLE: Jody, Peruvian research counterpart Dr Carol Reveiro and UP colleague Dr Joyce West
TOP RIGHT: Froggy and the PUCP squirrel busy building international relationships
BOTTOM LEFT: Jody wearing warm traditional on top of Rainbow Mountain
BOTTOM MIDDLE: A visit to the Ministry of Education by Dr Joyce West, Mathias Burga, Jody Joubert and Carmen Sandoval
·**BOTTOM RIGHT:** Jody and Prof Wasserman on a stroll

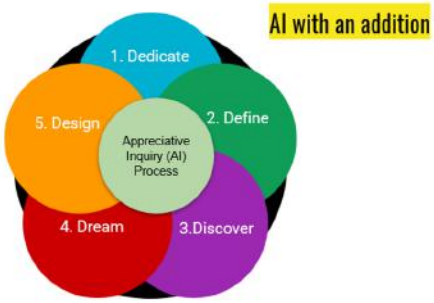


Photos
LEFT: Jody's presentation slides for Integración intencionada de la IA generativa en la educación
RIGHT: The levels of restriction model, developed by Jody

FLEXIBLE FUTURES 2023

Sharing the design process for the module Teaching and Learning of Coding and Robotics for ECE

With insights shared by Annèl and Dr Nadia Swanepoel

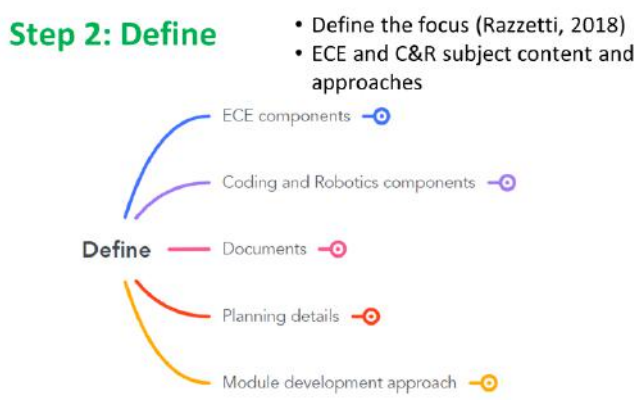


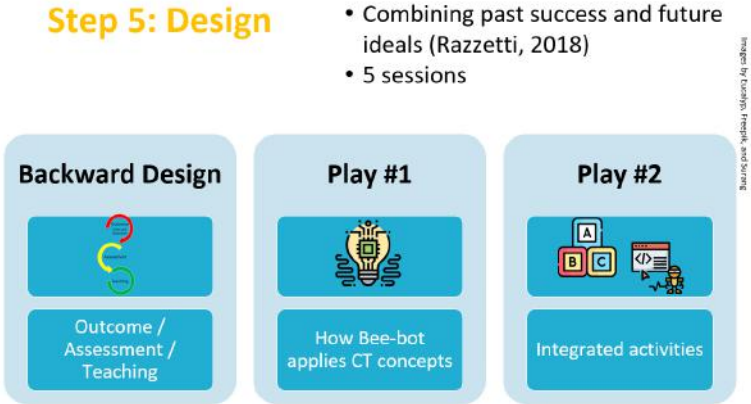
Photos
LEFT: Module planners: Prof Ronel Callaghan, Annèl van Rooyen and Dr Nadia Swanepoel
RIGHT: Appreciative Inquiry process followed for the module design process
BOTTOM: Steps from the AI process

While 2023's Flexible Futures conference discussions were centered around Artificial Intelligence, there was room to share innovative work done in Higher Education too. Under the subtopic of *Developing curricula that align with the Digital Age in higher education,* Dr Nadia Swanepoel and Annèl van Rooyen shared the module design process for the Early Childhood Education (ECE) module aimed at the Teaching and Learning of Coding and Robotics. The work of Prof Callaghan, Nadia and Annèl to develop the proposed module following the Appreciative Inquiry model's design process was shared.

On 23 August 2023, we had a full room of highly interested attendees. Nadia shared our understanding of Coding as a language, as mathematics, as a playground and as a value. We then shared how we approached the Appreciative Inquiry (AI) process. AI consists of five phases, being *Define*, *Discover*, *Dream*, *Design* and *Destiny*. We added *Dedicate* as a first phase to determine the motivation behind our work. The module development team aimed to improve their subject field knowledge of both Early Childhood Education as well as Coding and Robotics. This knowledge building process that guided the module development process, supported the intended outcome to achieve a module that is "integrated, playful, activity-based and accessible to SA learners from different households and backgrounds," according to Nadia.

Nadia shared how we approached the Appreciative Inquiry (AI) process with *Dedicate*, *Define*, *Discover*, *Dream*, and *Design*. *Dedicate* expressed our motivation to be part of the module development process. Annèl explained that ECE and Coding and Robotics components, as well as other documents, informed our *Define* stage. *Discover* celebrated existing module design approaches and our ideal learning activities. *Dream* expressed the many wonderful insights that we gained from the 2022 Coding and Robotics symposium hosted by LLITUP. The *Design* phase consisted of an active application of Backward Design to layout the module, and three play sessions. The play sessions were focused on the application of Computational Thinking, designing integrated activities, and the combination of children's stories with Coding and Robotics.





DREAM2TEACH

JST320 and LLITUP take hands for the 5th year in a row

With insights shared by Dr Nadia Swanepoel and Annèl

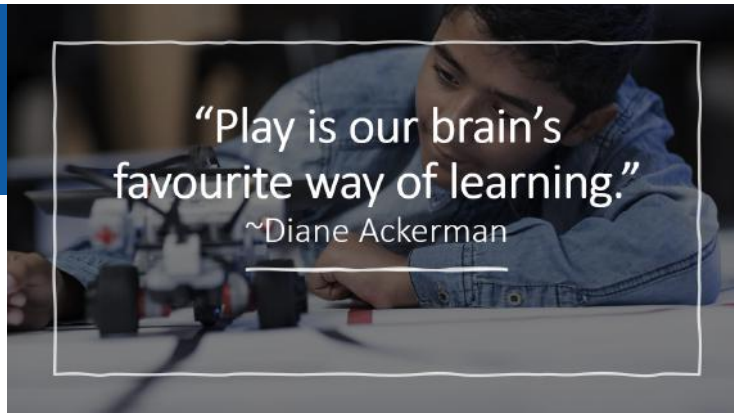


Photo
LEFT: JST320 session 1 in progress on 28 September 2023 in the F-lab of SMTE

In September 2019, the Early Childhood Education (ECE) Department took hands with LLITUP to introduce a fruitful synergy: the possibility of integrating Coding and Robotics in ECE. This year, the tradition followed suit with two sessions that students could join. Under the guidance of Prof Ronel Callaghan and Annèl van Rooyen, the Natural Science and Technology in the Foundation Phase (JST 320) students made their way to the F-lab in the SMTE department where Annèl introduced them to a new world filled with wonderful possibilities.

The first session took place on 28 September 2023. During this session, the students focused on Coding and Robotics tool exploration. In the words of Albert Einstein "Play is the highest form of research." Therefore, students experienced different approaches to tool exploration. The task was simple: "Play and figure it out!", while also keeping track of their play processes.

The tool exploration activities consisted of three play dates. The first play date focused on finding unplugged coding activity ideas for the ECE classroom. Students found many typical ECE activities that teach the underlying computational thinking skills. These include Sudoku puzzles, origami without instructions and making patterns with objects, to name but a few.

Play date 2 focused on Coding and Robotics apps for ECE. Students enjoyed the Tanks coding game the most by far. In fact, most of the groups played Tanks in the end. They realised how teamwork, critical thinking and problem-solving are natural ingredients of Coding and Robotics activities. Other apps that left an impression on students included Scratch, CodeMonkey and Spark Academy.

Play date 3 involved members of LLITUP's robotics family like the Blue-bot, the Coding Critter and the Boats teachers' kit. Students enjoyed the Coding Critter's play scene that comes with the box. Blue-bot's bluetooth functionality excited students, as they could control the robot from their smartphones.

As the session progressed, students became all the more talkative and exploratory. With tools in their hands, students easily engaged with the activities, learning many things. While some students pondered on where Coding and Robotics can fit into already busy classroom schedules, they soon realised that the integration of Coding and Robotics with other subjects has lasting value.

DREAM2TEACH

JST320 and LLITUP take hands for the 5th year in a row

With insights shared by Dr Nadia Swanepoel and Annèl

The second Coding and Robotics session took place on 2 October 2023. LLITUP welcomed students from Session 1, as well as many new faces. From the start, this Bee-bot session was engaging and creative. During this session, groups of students designed activities for their Science and Technology teaching with the use of Bee-bots. 10 student groups were positioned at 10 different stations. Every station provided one Bee-bot, koki's and paper. with variations like some A0 grid mats or wooden blocks to use alongside the Bee-bot. A Bee-bot paper jacket that could be decorated according to a theme and a children's story were provided at some of the stations. The Bee-bots also partnered with the Blue-bot and Coding Critter at two stations.

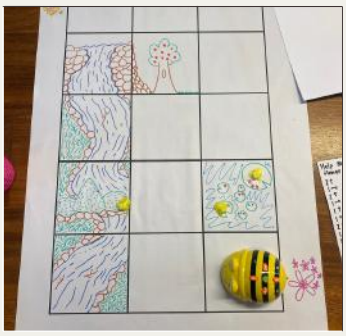
It was fascinating to witness how 10 completely different ideas took shape under the student's skillful hands. This included stories about bees; a journey to the moon; an exploration of structures and children's songs; and a board game based on the story of The Little Red Hen.

When students were asked to reflect on their experience of these sessions, they used words such as "fun-filled", "hands-on", "engaging", "challenging", "informative" and "playful". It is always a joyful experience to host these students and to learn with them.

Photos
LEFT: JST320 students busy designing their Science and Technology activities using Bee-bots
RIGHT: Dr Nadia Swanepoel facilitating students' understanding of the activity design

DREAM2TEACH

Photos of the 2nd Coding and Robotics session for JST320 students

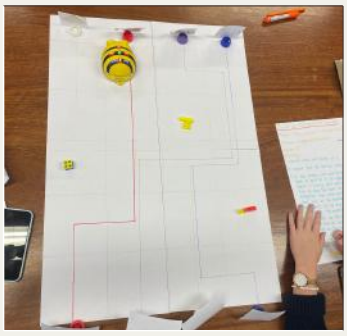


1. Help Blossom, the bee to get to the hive

2. Navigate to different structures

3: Find your way through the maze, Bee-bot!

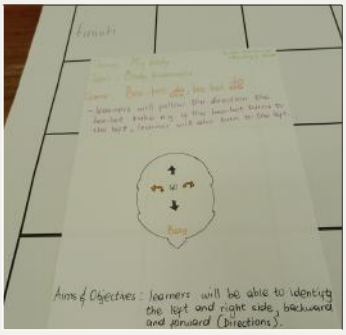
4. Bee-bot, the astronaut, visits the moon



5. Build an indigenous house

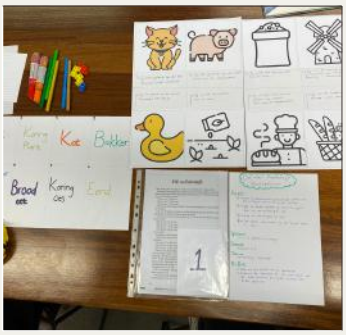
6. Explore sea creatures and letters with Bee-bot

7. Collect facts while going through the maze



8. Get to know Bee-bot's directional movements

9. Dice and command cards move Bee-bot



10. A board game with *Die Rooi Hennetjie*

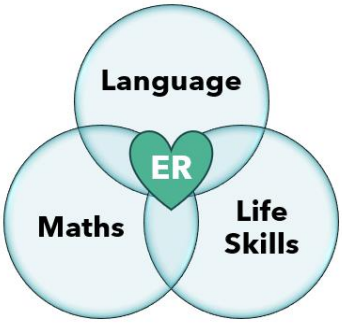
11. Station 7's setup with Coding Critter and Bee-bot

12.Station 2's setup with a blank paper, ruler, koki's and washing pegs

DREAM2TEACH

Training primary school teachers in Coding and Robotics

With insights shared by Annèl



Photos
LEFT: Overview of the sessions' foci
RIGHT: Aiming towards integrated activities
BOTTOM: Some of the activity ideas shared during the sessions

In September 2023, Annèl van Rooyen from LLITUP, in collaboration with the South African Teachers' Union (SAOU), presented a four-part webinar series on starting out with Coding and Robotics. Teachers from grades R to 7, representing all provinces in South Africa, attended the webinar series. It aimed to equip attendees with insights to design their personal Educational Robotics road maps.

Session 1 focused on *The WHO of Coding and Robotics* and attracted 94 attendees. This session helped attendees to position themselves within the world of Educational Robotics. They thought about their own backgrounds, and also received new insights from Coding and Robotics field experts.

Session 2 focused on *The WHY and WHAT of Coding and Robotics.* The 74 attendees were encouraged to define their own motivation for getting involved with Coding and Robotics. We shared why Coding and Robotics is being prioritised, and what can be taught. A Coding Critter example where the rabbit dances the Hokey Pokey was showcased to the online attendees.

Session 3 attracted a large audience of 116 attendees. The focus was on *The WHERE, WHEN and WITH WHAT of Coding and Robotics.* Annèl encouraged attendees to decide to start where they are and with what they have. This approach focuses on the utilisation of resources that teachers have at their disposal already. She also introduced attendees to a wide range of Coding and Robotics tools that are used in both the literature, and in South African Coding and Robotics settings.

Session 4 provided the 39 attendees with an opportunity to actively participate in the design of activities using Bee-bots. While the online interactions were limited to the Zoom platform's chat function, the attendees enjoyed sharing their ideas and seeing them happen on-screen. The activity was focused on a children's story and how attendees would utilise the story's content and the Bee-bot to create an interactive activity.

DREAM2RESEARCH

The journey from a CTLI course to a BEd Honours in CIE

With insights shared by Genevieve Carruthers-Smith and Carrol Möller (CIE BEd Hons graduates Spring 2023)

The LLITUP research unit is situated within the Computer Integrated Education (CIE) knowledge area in the SMTE Department. One of the qualifications presented in this knowledge area, is the Honors in CIE. It is presented in hybrid mode in the department, as well as through the Unit for Distance Education. Two of the elective modules in the qualification are Instructional Tools and e-Learning; and Computers as Cognitive Tools. These two modules are also presented in hybrid format as an Advanced Short Course in CIE to teachers in the Western Cape province for the Department of Education, through Enterprises at UP. It is organized through the Cape Teaching and Leadership Institute (CTLI) in collaboration with the ETDP SETA. The two modules are accredited for the CIE Honors to allow participants to continue with the full Honors if they should wish to do so. This initiative commenced in 2018 with the first cohort and was presented to 40 to 100 participants each year.

A handful of students from the Advanced Course continue to the full Honors in Distance Education each year. In 2023, a group of students that completed the Advanced Course and continued to the full Honors in CIE graduated during the September graduation ceremony. This group did the Advanced Course in 2020, during the lockdown period. They worked fully online throughout the Advanced Course, as well as the remainder of their Honors qualification. This resulted in an exceptionally tightly-knit online community of inquiry. A number of these students attended the graduation ceremony this year in person. For the majority of students and lecturers the graduation ceremony was the first time to meet each other in person. It was a truly joyous occasion! Some of them shared their thoughts on their journeys.

Genevieve Carruthers-Smith said: "I had a very narrow view of how technology could be used in teaching and learning, mainly using it as a means of transferring knowledge and just replacing traditional modes of teaching. I am now acutely aware of how technology can serve as a cognitive tool to promote active learning and allow students to discover concepts through their interaction with technology.

I work at a previously disadvantaged school where technology resources are not readily available. These courses showed that there are many ways to utilize technology for teaching and learning, and that the school's technology resources didn't have to be a limiting factor in one's integration of technology. We explored innovative ways of utilising technology effectively and adapting our teaching to a more 21st-century approach. I was completely pushed out of my comfort zone and then realized, through the reflective practices taught, that the way in which we were being taught was, in fact, what we were learning. This gave us the confidence to take on a more facilitator role in our classrooms and allow the students to take on a more active role in their learning through the use of available ICTs."

Photo
LEFT: Dr Maryke Mihai, Gontse Mthelebofu, Farihah Jaffer, Carrol, Möller, Prof Ronel Callaghan, Jody Joubert, Genevieve Carruthers-Smith, Marico Mouton, Faadiyah, Daylon and , Lyndon

DREAM2RESEARCH

The journey from a CTLI course to a BEd Honours in CIE

With insights shared by Prof Callaghan, and three CIE BEd Hons students

Carrol Möller, another student from this group, shared her reflection. She highlighted how the group supported each other on WhatsApp. "It was after the first online session that the Western Cape group, under the initiative of Marico Mouton, created the WhatsApp group. We just clicked. We tackled the CIE courses as a team and aced it. We collaborated on everything related to CIE. We shared sources and information. We became a proper information network. If you thought your idea was not working you bounced it off the group and sure, you would get another perspective that got you rolling. We had language experts, mathematics experts, computer experts. There wasn't a problem we could not solve.

Many times, we would read each other's assignments and offer advice on how an artefact could be improved. The whole experience has brought together a diverse group of people who have shared a unique journey where it seems the journey is endless.

This collaborative group on WhatsApp completely changed my perspective of group work. I have learned to listen to others, respect their perspectives, and find value in their perspectives. I acknowledged their experiences and the world of knowledge they brought to the collective, something not available on the internet. It became invaluable. I could not have done this a different way."

Carrol also shared about their in-person meeting at the graduation. "We met in person for the first time at the graduation ceremony at the University of Pretoria. Unfortunately, not everybody on the group could make the journey, but that does not mean that we view each other differently. The support remains."

Daylon Fredericks experienced his BEd Honours journey as a journey of transformation. He said: "The support we received was instrumental, particularly during the challenging times brought about by the COVID-19 pandemic. The pillars of support include the CIE Distance Honors Group, and several lecturers. As we embarked on this educational journey specializing in Computer-Integrated Education, we found strength and solidarity within our tight-knit WhatsApp support group. The bond we shared transcended the digital realm, transforming our group into a source of inspiration and resilience. In the face of the unprecedented challenges posed by the COVID-19 pandemic, our WhatsApp group became a sanctuary of shared experiences, collective problem-solving, and unwavering encouragement. It was in this group that we found solace during moments of uncertainty and celebrated each other's milestones, no matter how small. We swapped study tips, offered motivation, and shared the triumphs and tribulations of our academic endeavors."

Daylon commended Prof Callaghan for her unwavering commitment to this cohort of students. He is also very thankful for research guidance and support from Dr Maryke Mihai and PhD student Soene Botha (his supervisor). Daylin concludes: "In retrospect, this journey into Computer-Integrated Education has been an extraordinary blessing. It has not only broadened my horizons, but also nurtured my passion for leveraging technology as a transformative tool in education. I am grateful for the opportunities and the incredible individuals who have enriched my educational experience. This narrative stands as a testament to the transformative power of education and the people who make such journeys possible."

POSTGRADUATE RESEARCH INDABA 2023

LLITUP ians share their CIE-research foci with the Faculty of Education

With insights shared by Annèl

In August 2023, the annual opportunity for postgraduate students to share their research activities with the wider Faculty of Education arose. Three LLITUPians decided to heed the call. Annèl, Farihah, and Kabelo submitted abstracts for the 2023 Faculty of Education Research Indaba.

On the day, six Computer Integrated Education (CIE) students ascended the stage to summarise their research journeys to the audience in just 10 minutes each. We saw well-prepared slides and interesting research stories. Farihah presented her ongoing Masters-level research on the addressing of the digital divide in a CIE module. Kabelo spoke on the topic of teacher engagement in Intermediate Phase online classroom learning experiences to showcase her Masters-level research. Annèl presented her PhD study as a children's story, fitting to the theme of Early Childhood Education teacher training for Educational Robotics.

Farihah was awarded the prize for the best MEd *Research in progress* abstract. Annèl received the prize for best abstract for PhD *research post-proposal level*. Joining us for the photo was Kabelo with her excellent presentation, Mrs Jenette Webb who won the prize for most innovative methodology and Ms Andrea Kruger, another excellent CIE student.

Photos
ABOVE from left to right: Farihah, Kabelo and Annèl presenting their research
BELOW from left to right: Participants in the 2023 Faculty of Education Research Indaba. Kabelo Mahlase, Annèl van Rooyen, Jenette Webb, Andrea Kruger and Farihah Jaffer

E-VENTS

Showcasing our research unit at the 2023 ChooseUP Day

With inputs shared by the LLLITUP team

Bee-bots
Mbots and Probot
Gizmos and Gadgets
Augmented Reality / Virtual Reality
3D printer (Gepetto)

On a bright and early Saturday morning, five LLITUP representatives showcased LLITUP to parents and family members who joined the prospective students in visiting the Groenkloof campus. We had about 70 visitors in and out of the F-lab, in groups of 20/30 people.

We prepared five interaction spaces., with team members taking responsibility for each of these.

- Annèl and Ayanda Zulu planned for Bee-bot's cat and mouse activities. There were some unplugged coding activities as well.
- Farihah was responsible for some creative play with Mbots and the Probot. She designed an entire track for the car - great fun!
- Kabelo handled Gizmos and Gadgets. She had Scottie Go!, Tanks, Turing Tumble and the Swivel camera ready for action. Tanks and the Turing Tumble were quite popular.
- Gontse and Prof Callaghan handled AR and VR adventures:
  - The VR experience entailed a roller coaster ride via YouTube
  - The AR experience utilised the Quiver app where you can print and colour your picture and then see it come to life when scanned
- Jody's Gepetto 3D printer station was actively printing moveable fish fossils - a nice find indeed.

It was exciting to showcase the variety of edtech that the lab interacts with on a regular basis.

Photos
LEFT: Bee-bots playing cat-and-mouse
MIDDLE: The Probot's track built by Farihah
RIGHT: Visitors interacting with the Turing Tumble

E-VENTS

LLITUP Living Lab event 8 November 2023

With inputs shared by Prof Callaghan

LLITUP presented a hybrid Living Lab Community of Inquiry event on 8 November 2023. The aim of the event was to allow participants to share experiences and knowledge about the Living Lab entities and their approach in South Africa. A few of the existing Living Labs in South Africa shared their approaches and experiences, after which participants had the opportunity to explore the potential of a Living Lab research and innovation approach for their own practice.

Prof Callaghan introduced the Living Lab concept and shared the essence of Living Labs as "a user-driven collaborative networked eco-system that systematically integrates research and innovation to address real-world issues. A community of participants are living in the reality of the eco-system. Living Labs are active in a variety of environments (energy, healthcare, agriculture, education, smart cities) and in different formats (research, corporate, organizational, community)."

Ms Sibongile Radebe from the Technology Innovation Agency from the Department of Science and Innovation shared an initiative to support innovation for Local Economic Development within the National Framework for Local Economic Development. This funds a number of Living Labs in South Africa.

This was followed by a presentation about the T3 Incubation Hub, as shared by Ms Wilhela Gie, where "Township, Technology and Transformation meet". Their programmes include technological skills transfer programs as well as entrepreneurship programmes.

Ms Faiza Xaba shared the inspiring success story of the Siyafunda Community Technology Center. Their main focus is to "provide access to digital skills and technologies to support grass-roots communities in rural and urban townships in South Africa . Furthermore, it also aims to support economic, educational, and social development."

Jody and Prof Callaghan shared the LLITUP approach, as a different type of Living Lab, strongly rooted in research foundations, but lived practically through different collaborative projects.

Prof Marlien Herselman from the CSIR described her experience with the Living Lab in South Africa (LLiSA) initative which supported the initial development of Living Labs in the country since 2010. LLITUP recognizes the key role that she played since 2012 in our own conceptualization.

These presentations were followed by an interesting discussion during which participants that are involved in other living labs or in living lab research shared their experiences and stories. After lunch participants interrogated their own thoughts, current approaches and possible future application of the Living Lab approach. This was facilitated through a worksheet based on the core elements of Living Labs.

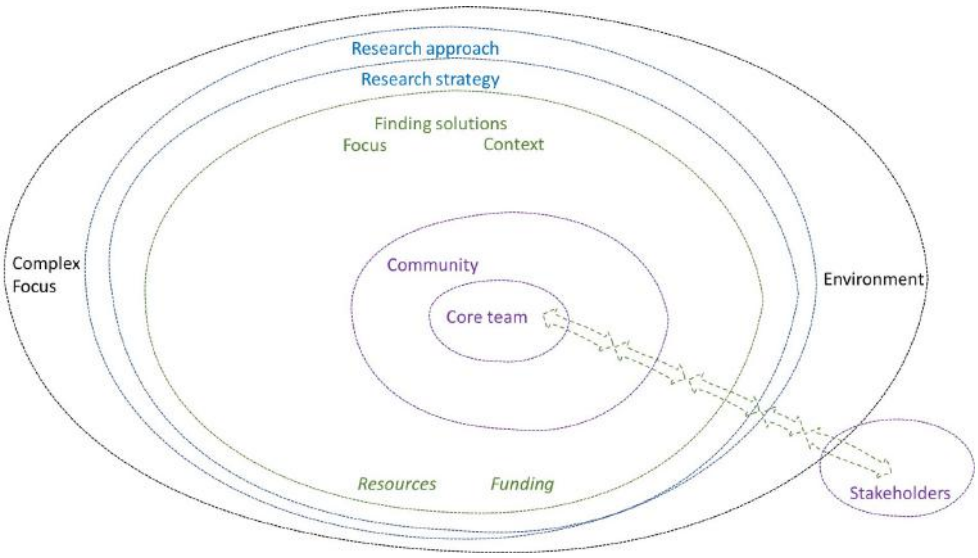
The event was organized by Ms Kanye Rampa, supported by Jody, Farihah, Gontse, and Mrs Sophia le Roux. It was attended by 40-50 people. The attendees work in different Living Labs within and beyond the University of Pretoria's borders. This included researchers and students who are studying, or intend to, study the Living Lab approach, as well as other interested parties. We found the interaction with other practitioners and interested parties to be enriching.

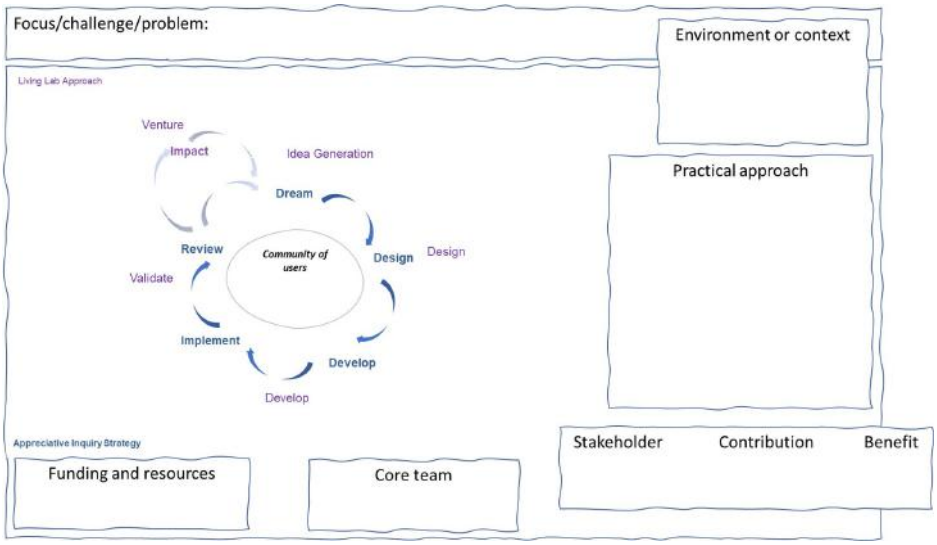
E-VENTS

LLITUP Living Lab event 8 November 2023

With inputs shared by Prof Callaghan

The core elements of a Living Lab are situated in a community within a context that are striving to find practical solutions through a well-supported research approach and research strategies. These core elements and their interactions are illustrated in the accompanying figure.





This is the Living Lab planning template used during discussions held among attendees. It requires thinking about the problem, focuses on needs that have to be addressed, and then unpacks it using the Appreciative Inquiry approach. Several practical considerations are taken into account as well.

Photos

LEFT: Attendees of the event in the F-lab. About half of the attendees were present online

RIGHT: Presenters of the day (from top to bottom) include Ms. Faiza Xaba, Ms Kanye Rampa, Prof Ronel Callaghan, Prof Marlien Herselman, Ms Sibongile Radebe and Mr Jody Joubert

E-VENTS

Unlocking the Power of ChatGPT: Making Research a Breeze Workshop

With inputs shared by Dr Celeste Combrinck

Dr Celeste Combrinck from the Department of Science, Mathematics and Technology Education (SMTE) in the Faculty of Education presented an AI in research workshop on the morning of 15 November 2023. The workshop was presented at Groenkloof Campus in Aldoel 2 to approximately 100 academics from various entities in the university. The workshop focused on utilising ChatGPT as a support tool for research. In Dr Combrinck's words: "Imagine a research assistant who is always available, teachable, and inexpensive. You now have a data scientist in your pocket." It was a hands-on experience using ChatGPT-3.5 (free version) and ChatGPT-4 (paid version) to analyse, interpret and integrate findings from quantitative, qualitative and mixed-methods studies while being ethically responsible and scientifically sound.

The workshop was divided into five sessions: introduction to and setting up ChatGPT; qualitative data analysis with ChatGPT; evaluating and improving academic writing with AI; quantitative data analysis with ChatGPT; and mixed-method research with ChatGPT. The approach was interactive and guided through several hands-on activities that allowed participants to experiment with the AI tool and discuss various options. Dr Combrinck prepared and provided several handy resources, including sets of guiding prompts and datasets.

Participants rated the workshop's usefulness as 8.5 out of 10, finding it generally applicable and useful. When we asked them what they liked the most about the workshop, they said they appreciated the enhanced understanding and skill development, the practical application and immediate utility, discovering the personas and advanced features and the ethical and practical use of AI.

Participants provided several valuable suggestions for future workshops. Some of the suggestions included the following:

1. **Extended workshop duration and depth:** Many participants desired a longer workshop, suggesting a full-day format for more in-depth exploration.
2. **Enhanced focus on prompt engineering:** A notable theme was the need for more guidance on writing effective prompts, a crucial skill for maximising ChatGPT's potential.
3. **Practical application and hands-on experience:** Respondents emphasised the importance of practical, hands-on experience with ChatGPT.

In summary, the workshop on ChatGPT was well-received, with participants valuing the enhanced understanding of the tool, discovery of new features, practical applications, engaging presentation, ethical considerations, and empowerment through knowledge and practice.

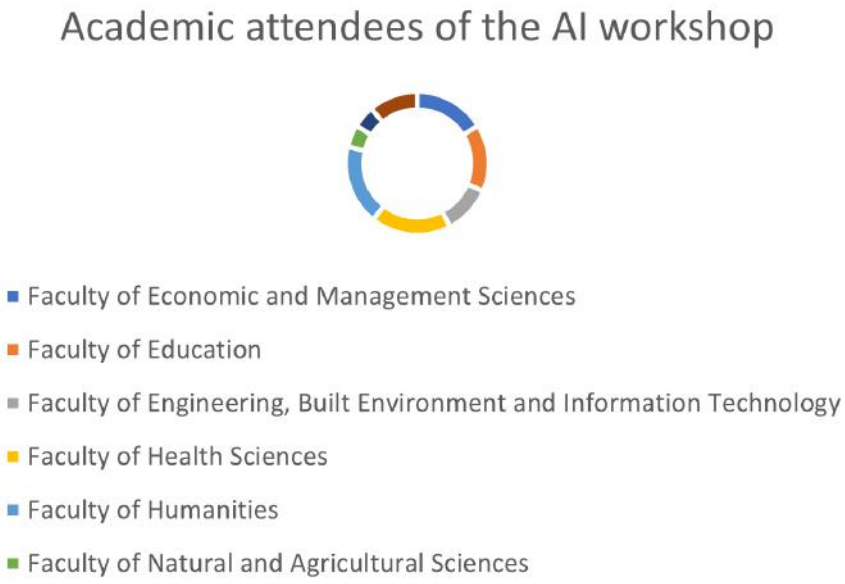
Words of thanks

LLITUP was proud to host this excellent workshop that brought together participants from different environments in true Living Lab style. We commend Dr Combrinck on the valuable and timely workshop on AI in research. She expressed her gratitude to the LLITUP lab, which provided excellent support.

E-VENTS

Unlocking the Power of ChatGPT: Making Research a Breeze Workshop

With inputs shared by Dr Celeste Combrinck



Photos
TOP: The spread of the AI event attendees across UP faculties and beyond
BOTTOM: Attendees in Aldoel 2