LLITUP NEWS

*The **play** edition*

Exploring VR and simulation software for WIL

LLITUP was requested to investigate the possibilities of combining Virtual Reality (VR) experiences with Work-Integrated Learning. Annèl investigated several options that included both VR and simulation experiences for teachers-in-training.

Mursion provides a human-controlled, simulated classroom experience where interaction with students, also those with learning challenges, can be practiced. This has a real feel to it, as the students' responses are authentic and relevant to what the teacher doing the simulation brings to the classroom scenario.

BELOW: Live demo of Mursion software

Other options investigated included 360 degree classroom videos with *Google Cardboard*, *Immersive Education*, *Engage* software, *SimSchool* as well as various South African-based educational VR companies like *ClassVR*. It was exciting to explore the possibilities that these tools have for future teacher training.

Mursion

Cardboard

CLASSVR®

EDITORIAL: PLAYFUL LEARNING

In this issue of LLITUP News, we showcase the play that LLITUP is known for

By now our readers will have come to know our love for play in the LLITUP collaboratorium. In our fourth edition of LLITUP News, the PLAY edition, two key events need highlighting: LLITUP's exploration of simulation software for teacher training and the use of BeeBots in both the CIE Honours class as well as for 3rd year Foundation Phase students.

A regular feature, E-learning, receives significant attention in this edition as training opportunities for the Humanities Department staff, 4th year Education students and teachers are featured. **Be on the lookout for videos to watch (indicated by the yellow dot and arrow) and participate in our survey on online teaching.**

LLITUP NEWSLETTER

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What are the minimum requirements for new staff to be able to teach using ClickUP? This was the pressing question that the Humanities Department had and it was addressed through online Teaching and Learning seminars presented by LLITUP.

To use ClickUP as a Learning Management system (LMS) requires certain skills. Even more, to use ClickUP as an LMS to support *online* learning requires further upskilling. Prof Johan Wasserman and Dr Lizette de Jager from the Humanities Department had the vision for personalised training opportunities for the department's staff members. Two online seminars were held, aimed at expanding specific skills of the Humanities staff, while catering for the varying degrees and levels of expertise and needs.

Seminar 1: 21 August 2020
The bar graph indicates which BlackBoard skills the staff required. This was the focus of the first seminar.
Seminar 2: 18 September 2020
The seminar focused on podcasting, whitelisting of videos as well as narrated PowerPoints.

Podcasts (by Jody Joubert)
Before exploring Jody's five easy steps to podcast design, the staff members explored the definitions and usefulness of podcasts. Definitions like "taped radio conversation", "short sound recordings that are readily available" and "digital audio files" captured the essence of what podcasts are. Podcasts are useful as revision tools, for lesson recordings and for verbal feedback to students. Jody asked a key question, "Who makes the podcast – the lecturer or the student?" In answer to his own question, he indicated that students can also benefit from making podcasts as form of revision of work.
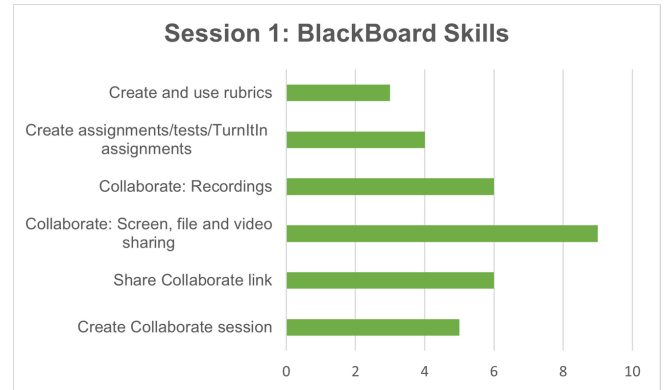
Some useful tips when designing podcasts:
- Use WAV rather than MP3 files (better sound quality)
- Maximum length of an effective podcast: 10 minutes

Session 1: BlackBoard Skills

(bar graph)
- Create and use rubrics
- Create assignments/tests/TurnItIn assignments
- Collaborate: Recordings
- Collaborate: Screen, file and video sharing
- Share Collaborate link
- Create Collaborate session

(axis: 0 2 4 6 8 10)

ABOVE: Vital BlackBoard skills

> "At this point we (my HoD and I) are comfortable knowing that most of the staff in our Department are able to make use of most of the tools in ClickUP and are prepared and empowered to continue with remote teaching where necessary."
> **Dr L de Jager**

Narrated PowerPoints (by Annèl van Rooyen)
Narrated PowerPoints are useful alternatives for face-to-face classroom teaching. These video presentations allow verbal content covering with personalised content. Narrated PowerPoints have the ability to address the needs of multiple intelligences and also allow students to go through the subject content at their own pace. Annèl focused on some key characteristics of a narrated PowerPoint that included the preparation of slides, adding of sound/music, use of slide transitions animations, recording of the narrated PowerPoint and finally the exporting and publishing of the finalised video-format narrated PowerPoint.

Based on the good questions of the Humanities staff members, the following points were also made:
- URL links will not work in the PowerPoint after the narrations have been recorded and exported as a video file
- The laser point cannot be used, but annotations can be made while recording the narrations
- Narrated PowerPoints are embedded as videos into PowerPoint (and therefore need to be whitelisted)

RIGHT: Click on the image to view the video on designing a narrated PowerPoint

Designing a narrated PowerPoint

LLITUP Collaboratorium

The basics (and a few nice ideas)

E-LEARNING

WIL Online Lesson Study Process

The teaching practice show had to go on amid the inability of 4th year Education students to go out to schools in 2020. The combination of Lesson Study and WIL (Work-Integrated Learning) enabled students to experience teaching in a new way from August to September. Dr David Sekao and Jody Joubert shared their experiences with us.

What is Lesson Study?

Dr Sekao introduced the concept of Lesson Study to our readers. Lesson Study is one of many teacher development models. It is a current global phenomenon, used by both pre- and in-service teachers. It enables collaborative work (i.e. the sharing of ideas and the advancement of lifelong learning) as well as reflective practice. It also enhances the acquisition of 21st century skills. Ultimately, UP Education students' exposure to Lesson Study has the potential to distinguish our students from others.

The planning process

The planning process comprised three parts:
1.) Experts from different fields, including the Teaching and Learning committee and the LLITUP team, designed a Lesson Study process summary.
2.) Prof Callaghan and Jody Joubert constructed the ClickUP page. On this page, the WIL office could manually assign groups and mentors.
3.) Train students and staff. The training of students explained the Lesson Study process via online Collaborate sessions as well as learning and support materials available on ClickUP. In the same way, mentor lecturers were trained with a focus on assessment. These presentations are available at www.up.ac.za/lesson-study.
The team behind this initiative included Prof Ronel Callaghan, Prof Rinelle Evans, Dr David Sekao, Dr Sonja van Putten, Mr Jody Joubert, Ms Joyce West, Ms Emma Nurse, Ms Zandile Ngcetane, Ms Genevieve Fourie Teles and Ms Nontuthuzelo Mhlanga.

RIGHT: The LS cycle as used for LS in WIL in 2020

The Lesson Study process

1.) Students were divided into groups of 6 who planned a lesson together. In total 199 groups were created, since every student was allocated to two subject methodologies or two lessons (depending on the student's educational phase) with two mentor lecturers.
2.) This lesson was then presented online to a few learners (approximately 3).
3.) Students reflected together after the lesson presentation.

In this integrated LS process, the students and their mentor lecturers worked together. Planning templates and reflection ideas were made available to students as well. Upon successful completion of this LS process, students receive an *Online Lesson Study badge*.


ABOVE: Planning and preparation infographic visually represents the process

E-LEARNING

In 2019, Samuel Mampa did his teaching practical in the Mankweng district. While a visionary circuit manager involved him and other students in training on the challenges posed by the 4th IR (Industrial Revolution) for education then, Samuel presented a teacher training course aimed at teachers and their teaching practices during Covid-19 in 2020.

LLITUP is extremely proud of Samuel who took the work and impact of LLITUP to new frontiers. Samuel's involvement in teacher training was the topic for the email interview with Annèl van Rooyen.

The training started off with a week-long gathering of primary school principals and 30 ICT pioneer teachers. After the pioneer teachers underwent three weeks of training, they went out to their school clusters to train other teachers as well, reaching 700 teachers in total. The 700 teachers trained on the use of a variety of tools reached 26 000 learners. The diagram to the right illustrates what ripple effect the initial training had in the Mankweng district.

Primary school principals and 30 pioneer teachers

Pioneer teachers train 700 teachers in the cluster

26 000 learners reached
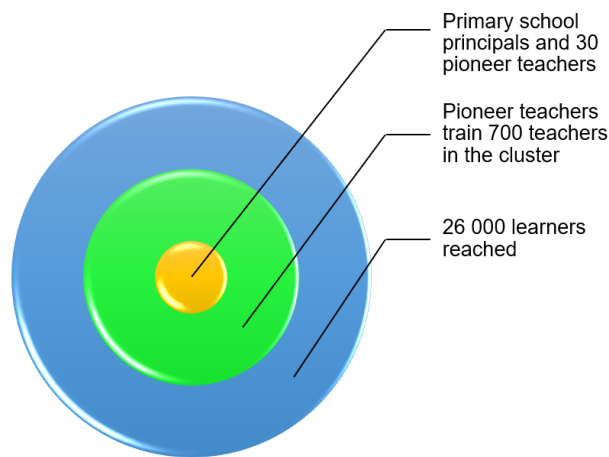
ABOVE: The ripple effect of the training

The training included exposure to WhatsApp as teaching tool, Google Classroom for learning management and assessment, as well as an introduction to Zoom and BlackBoard. Samuel made use of PowerPoints and learning material videos to convey the course content. The participants also considered issues such as the Digital Divide and its associated data access issues.

Samuel's experience of the course was the following: "*I have learnt a lot from different principals and teachers about the use of technologies in education. There are some other downfalls of technology use that I was not aware of and this training helped me to identify these.*" According to Samuel, the teachers who attended the course already started using the tools and found that their teaching was simplified. Even uninterested teachers started to realise the benefits of using technology tools in teaching, since these add elements of fun and ease.

Masethulela David Magagane
How are you Sir Mampa. Hope you are still doing well.

The seed of ONLINE teaching that you planted here in Mankweng 'High Tech' Circuit has spread to more than 700 Educators after you trained more than 30 ICT Pioneers in ONLINE teaching to train other teachers.

The seed is now been spreading to more than 26 000 learners in our Circuit.

Your selfless efforts and sacrifices are highly visible.

You did not just qualify or graduate for yourself.
Kudos and accolades to you 🏆🥇❗

Thanks Sir Mampa. May the mighty God multiply your blessings.

With love from the Principals, Educators and Learners and Parents of Mankweng High Tech' Circuit.

LEFT: Samuel received extremely positive feedback from the Circuit manager.
BELOW: The tools used for the teacher training
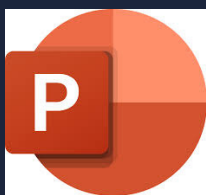
"There is still more that needs to be done, especially in public schools in terms of ICT integration. I would appreciate it if we have more people like the circuit manager of Mankweng who go the extra mile to ensure that all the teachers are well equipped with all the necessary skills to integrate ICTs in teaching and learning."

DREAM2PLAY

Based on the value of the coding and robotics session for JST320 students in 2019, Dr Judy van Heerden and Ms Nadia Swanepoel requested another session, this time in a virtual fashion via BlackBoard Collaborate. The LLITUP team dared to dream and made this exciting and interactive online session happen on Thursday, 29 October 2020.

"The purpose of this session was to introduce the Foundation Phase students to the possibilities of coding and robotics in their field of specialty and hopefully to inspire them to investigate the Digital Curriculum for future application. Coding and robotics is one of the most exciting ways to foster interdisciplinary and interactive learning. Participants are immersed in activities, and are without even realizing it, learning and developing many different skills. This includes not only learning about coding and robotics, but also integrated subject content and skills such as problem solving, creativity, innovation and more. The adaptability of this field to all levels of education, from pre-school to tertiary education, offers many opportunities for innovative applications."

(Prof Ronel Callaghan)

### Behind the scenes: Preparation for the session
To enable an interactive, playful session, the students had to prepare for the session.

Preparation: Abstract play
Students could discover how BeeBot works through the use of the BeeBot emulator (https://www.terrapinlogo.com/emu/beebot.html) This emulator allows the user to code BeeBot on the computer in the same way as the actual robot. The robot can only be used on a limited selection of maps in the online version, but Beebot still makes the same sounds and movements as the actual robots.

Preparation: Concrete play
After experiencing the possibilities of BeeBot, the students had to build an A3 BeeBot map and write a story to accompany the map and the BeeBot's movements. BeeBots' commands had to be written down as well.
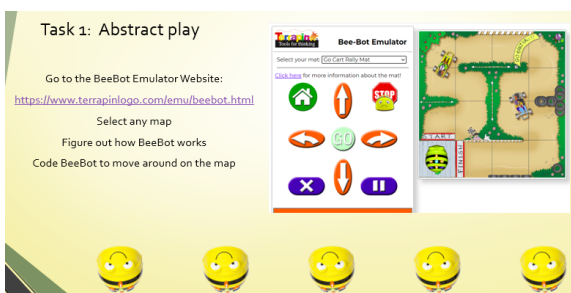
The session: Jody's road safety BeeBot story
After a brief introduction to the basic movements of BeeBot, Jody told his BeeBot story with the use of his map and the BeeBot. BeeBot learnt how to cross the road safely and applied the knowledge when crossing the road, as seen in BeeBot's programmed movements. Jody coloured his pictures (the house, school, flowers and the beehive) by using only coloured dots.

Task 1: Abstract play

Go to the BeeBot Emulator Website:
https://www.terrapinlogo.com/emu/beebot.html
Select any map
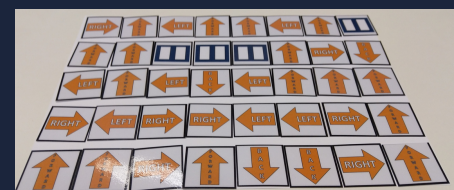Figure out how BeeBot works
Code BeeBot to move around on the map

PHOTOS
LEFT: Jody with his road safety map and BeeBot
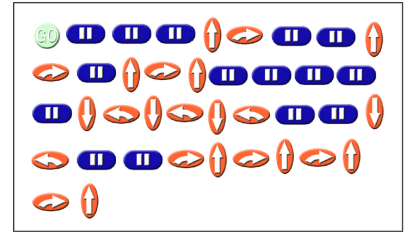RIGHT (TOP): Codes for Jody's story
RIGHT (BOTTOM): Jody's road safety map for his BeeBot story.

Click on the BeeBot map to the right to see how BeeBot crosses the road safely

DREAM2PLAY

JST320 coding and robotics session continued...
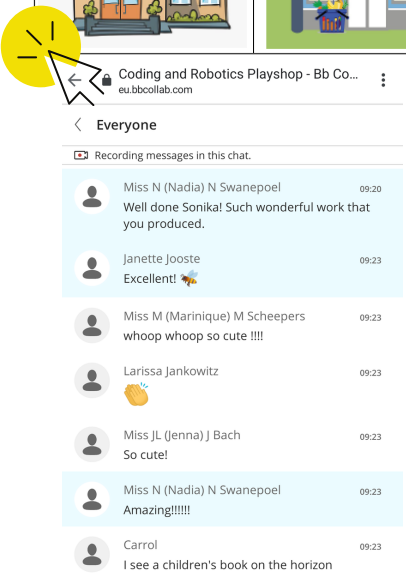
Background about Betty Bee's story

Sonika Coetzee, a JST student and writer/designer of Betty Bee's story, said that although she felt uncertain about coding at first, she challenged herself to explore the possibilities of BeeBots using the online BeeBot emulator. The more she played around, the more her confidence increased. "At first I struggled with the commands (where to go with it), but I felt more comfortable as I went. Then I thought of a story with the little bee." Sonika thought that it would be very nice to actually use BeeBots in a classroom setting to see how learners would enjoy her activity.

During the session, Sonika told the story while BeeBot followed the programmed commands as planned by Sonika. *Watch Betty Bee's story by clicking on the map (left).* After an applause from the team in the lab, Jody said, "That is amazing!" and Prof Callaghan added that it is the cutest story. Some of the other participants also expressed their thoughts in the chat forum.

Contributions of two Honours students (Carrol Moller and Janet Jooste)
Carrol explained what their CIT assignment based on *Computers as mindtools* entailed. She was the one who introduced the LLITUP team to the BeeBot emulator after discovering it online. Carrol explained the BeeBot activity that she did with her grade 9 language class. While the learners were very uncomfortable at first, they were very happy with their final products. Even a shy learner was excited to give feedback about the activity after class. Learners learnt much more than just the skill of giving directions.
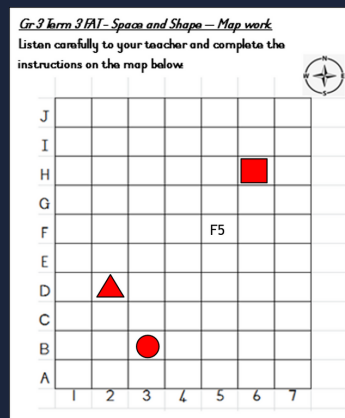
Janet's Foundation Phase lesson was about reading coordinates for grade 3s using the wild west map. She found that learners performed much better due to the situated learning that was enabled by using the BeeBots. "This experience just opened up worlds for the learners" and interactivity was central to this learning experience.

Coding and Robotics Playshop - Bb Co...
eu.bbcollab.com

Everyone

Recording messages in this chat.

Miss N (Nadia) N Swanepoel — 09:20
Well done Sonika! Such wonderful work that you produced.

Janette Jooste — 09:23
Excellent! 🐝

Miss M (Marinique) M Scheepers — 09:23
whoop whoop so cute !!!!

Larissa Jankowitz — 09:23
👏

Miss JL (Jenna) J Bach — 09:23
So cute!

Miss N (Nadia) N Swanepoel — 09:23
Amazing!!!!!!

Carrol — 09:23
I see a children's book on the horizon

TOP: Betty Bee's story map (Click to watch)
BOTTOM: Feedback on Sonika's story

Attendees / participants: More than 70 JST320 students and their lecturers, Dr Judy van Heerden and Ms Swanepoel, the LLITUP team under the guidance of Prof Ronel Callaghan as well as two CIE Honours students, Janet Jooste and Carrol Moller.

Carrol Muller

Janet Jooste

Sonika Coetzee

Gr 3 Term 3 FAT - Space and Shape – Map work
Listen carefully to your teacher and complete the instructions on the map below

Janet Jooste's materials for the coordination lesson
LEFT: Coordinates worksheet
RIGHT: Wild west map

Feedback from the JST lecturers:
Dr van Heerden thanked the LLITUP staff and all involved in the session.
"We really appreciate your time and effort. You went far beyond our expectations and we learnt a lot."

FROGGY'S TECH CORNER

Demonstrating bots as mindtools in the lab

Compiled by Annèl van Rooyen

In 2020, we as LLITUPians have not seen the inside of the LLITUP lab often enough. With things slowly moving back to normal, we took the chance to showcase our bots and their abilities to the CIE Honours students.

CIT (Computers as cognitive tools) introduces students to the ways in which students can learn *with* computers and not only *from* them. To make the mind shift from *e-learning* to *computers as cognitive or mindtools* requires some serious meta-cognitive activity and careful consideration of HOW tools are used for teaching and learning purposes.

With some careful planning and adjustments (of course), this module also went online in 2020. During the fourth session, students were exposed to dynamic modelling tools. In short, **dynamic modelling tools** enable the testing of hypotheses and also showcase dynamic relationships. Typically, dynamic modelling tools succeed well in answering *What if? questions*.
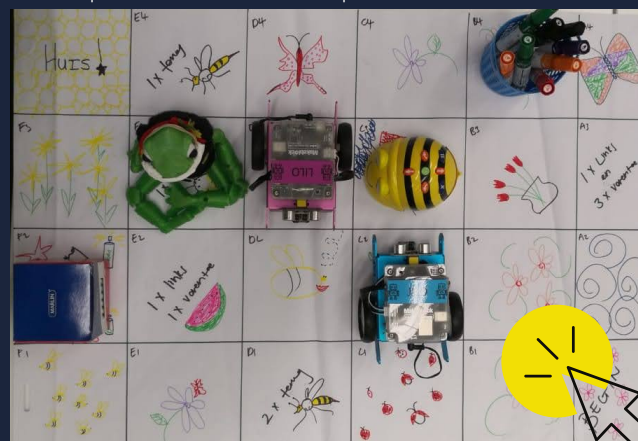
Since coding is a great example of dynamic modelling tools in action, the students had to gain some practical experience with such tools. As preparation, students explored coding apps like *Tanks* and *Grasshopper*. To get the real look and feel of the possibilities of coding and robotics, however, students needed to have some interaction with bots. Usually, the *Beebots* would have been in class for students to do some activities with. The LLITUPians saw the perfect opportunity for a live, lab-based demonstration of *Beebots* during the Collaborate session on Friday, 2 October 2020. Jody and Annèl were in the lab, activating and demonstrating the use of *Beebot*'s movements based on the participating students' prompts and suggested coding sequences. The interaction with the *Beebots*, as well as the showcasing of our other bots, the *Mbots* and the *Turing Tumble* as well as a masked Froggy made the session as enjoyable as usual.

ABOVE FROM LEFT TO RIGHT:
- Tanks coding app
- Tanks level demonstration
- Tanks coding tokens
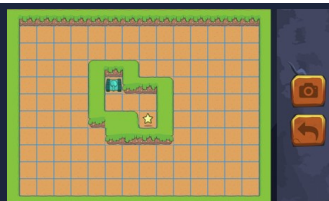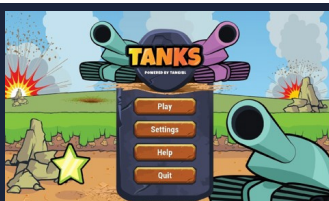
LEFT: The Turing Tumble, two Mbots and Beebot are displayed in the lab. The masked Froggy accompanied the bots with pleasure.

RIGHT: The game board used for this activity was designed by lecturers from our Education Faculty during a 2019 play session. The rules of the game were slightly changed for our demonstration purposes. On this photo, all elements on the board game served as obstacles that would make the coding more challenging.

Click on the image to watch the Beebot video