Microsoft Philanthropies: Hour of Code Report

Background to this project

In support of the Hour of Code movement, Microsoft Philanthropies commissioned SchoolNet SA to offer Hour of Code workshops to learners from South Africa and Lesotho making use of the Minecraft themed tutorials. The intention was to have these workshops as close as possible to the Computer Science Education Week (i.e. 1 – 9 December 2017) when the Hour of Code is celebrated internationally.

The target was to offer workshops in 50 venues – averaging 50 participants per workshop. In most venues, two sessions of training were offered to approximately 25 learners per session in order to reach the 50 learners. This allowed each child to have his/her own device to work on as well as better access to internet connectivity and more individual attention from the facilitator.

Between 1 – 9 December 2016 – 41 face to face workshops and 4 virtual workshops were held. A total of 1874 learners and 106 government officials (teachers) attended the face to face workshops.

In addition to the face-to-face workshops, three online sessions were held primarily to brief facilitators and to talk them through the materials so that they would be better equipped to run successful Hour of Code sessions at their schools. A Microsoft Virtual Academy on the Hour of Code was also broadcast live from the Microsoft studio in Johannesburg. Once edited, this Virtual Academy will be made available to teachers throughout Africa where we anticipate a large number of views.

74 government officials (teachers) attended the live virtual sessions and we anticipate that at least a further 500 teachers will view the recorded Microsoft Virtual Academy once this is edited and made available on the MVA platform.

This means that this intervention would have reached at least 2 554 people in total.

CSED Week 2016 Highlights:

- At the session held at Microsoft School Blairgowrie Primary - Microsoft Managing Director Zoaib Hussain joined in this session and "learnt to code" along with the group. The students were excited to have senior Microsoft staff attending the session and participating in the activities.
- The students loved the code.org/minecraft themed materials. Students who are already familiar with Minecraft enjoyed seeing the characters and concepts they are already familiar with being used in a new way to demonstrate the basics of coding.
- Getting a code.org/minecraft branded promotional items (a stylus pen, ruler or pair of sunglasses) recognised the achievements of students who had successfully tried out coding for the first time and gave them a memento of the event.

Below are some quotations from Hour of Code facilitators describing the highlights of their sessions:

"It was exciting, we started with some songs to celebrate the World Aids Day, All learners wore a red ribbon. All went according to plan. We were ready for anything because we downloaded the off line version and work from it with other computers while others were online."
- Nomusa Keninda (Session at Anglo American Science, Career Guidance & ICT Resource Centre – Emalahleni, Mpumalanga)

"I facilitated an Hour of Code Minecraft session for the Grade 2 Learning Support Students. They were so excited about the NEW Minecraft Designer mode. They were already familiar with code.org and have apparently completed a number of coding sessions, they were indeed master coders and showed me a few hacks and tricks! We had two expert 8year old coders in the class!"
- Elsabe Hart (session at Microsoft School Christel House – Ottery, Western Cape)

"Besides challenges of learners failure to attend as expected, the two sessions I had with learners on the 7th and 8th respectively were awesome. The few that came enjoyed the sessions. They started to realise that most of the problems they encounter in their environment can be resolved by creating or coding a simple application. It was so wonderful for them to create educational games themselves."
– Avahoni Ntsieni (session for Huhudi High School conducted at Ganyesa ICT Resource Centre, NorthWest)

CSED week 2016 lowlights/challenges:

- At most South African government schools, learners complete examinations in mid-November and then stay at home until returning to school on the final day to get their reports. By the time schools knew about the Hour of Code workshops their learners were no longer at school and needed to be encouraged to come back to class to participate in the workshops. At schools where learners were still at school teachers complained of the short notice time to organise a workshop and said that December was a busy time in terms of exam marking, finalising reports and year end functions.
- Whist there is an offline version of the code.org/minecraft materials, the tutorials work best when run online. At schools with limited connectivity the materials took a

long time to load, especially when a number of learners were all trying to access the videos simultaneously.

- Whilst in theory the code.org/minecraft materials can be accessed on any device with a modern browser at schools where learners bought their own devices many of the browsers were out of date and problems were encountered when accessing some of the levels that required one to navigate.
- Some learners had had very limited experience in using computers prior to the Hour of code workshop. This made it challenging for the facilitator to get them to complete even simple tasks such as connecting to the internet, launching the browser and navigating to a page.
- There was a very short amount of time allowed to organise a large number of workshops. This made it challenging to get the promotional items couriered to schools in time for the workshops – especially where the schools were situated in rural areas not serviced every day by couriers. In these cases, the facilitators were asked to distribute the promotional items in the new school year.

Below are some quotations from Hour of Code facilitators describing the challenges of their sessions:

"The network became slower and I had to pair my kids. Luckily I had offline videos to show them. Learners were excited and did not want to end the session."
-Yolande Peter (Umtiza High School – East London, Eastern Cape)

"December months are not suitable for these sessions. Learners have finished their exams and are on holiday."
- Bennett Johannesen (Siyanda Resource Centre – Upington, Northern Cape)

"1. It was a challenge getting learners to the centre on those days, because it was on the last day of school and learners were collecting reports cards from the school.
2. It was difficult to use internet explorer to excess to code.org/Minecraft during the session, of which I realised it later."
– Avahoni Ntsieni (session for Huhudi High School conducted at Ganyesa ICT Resource Centre, NorthWest)

"Talking about the challenges made me laugh because initially hour of code takes one hour. On the 6 December 2016 we started at 10h00 trying to make things work, workshopping my colleagues on what is expected of us and the objectives of the day. I was workshopping Diopong learners and we had to start by teaching them on how to hold a mouse and use the key board because at their school they do not have computers. By coming to University of Limpopo is their first touch. We struggled. Only four got certificate that day. I was very necessary to use another day to continue because we achieved too little. So I came on the 7th December and spent

three hours and fortunately at the end everyone had a certificate displayed on their screens and later on retrieved in colour to show parents at home. What a day! I think it's very necessary for each school to have computer lab so that at least once a week they touch them. With Pula Madibogo kids it was fast because I trained them when I was still a principal there."
-Phuti Ragophala (session for Dipong Primary held at University of Limpopo – Mankweng, Limpopo)

Brief summary of key events and activities:

Hour of Code sessions took place in the following cities:

Maseru – Lesotho
Polokwane – Limpopo
Upington – Northern cape
East London – Eastern Cape
Butterworth – Eastern Cape
Cape Town – Western Cape
Ottery – Western Cape
Oudsthoorn – Western Cape
Vereeniging – Gauteng
Johannesburg – Gauteng
Bryanston – Gauteng
Bedfordview - Gauteng
Ganyesa – NorthWest
Tweelagte – NorthWest
Ogies – Mpumalanga
Emalahelni – Mpumalanga

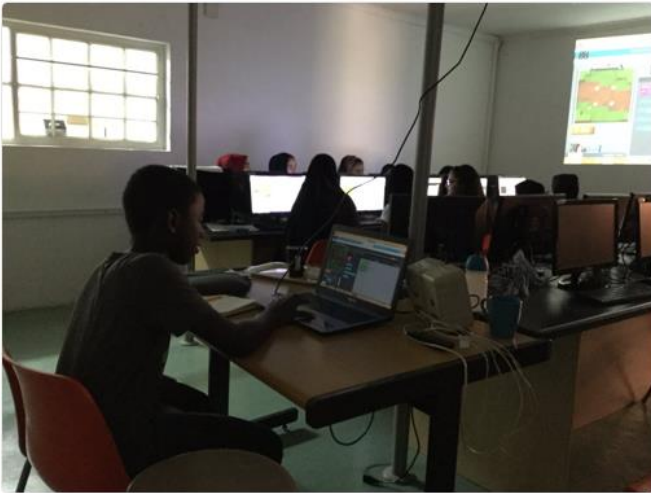|	
Total learners trained:	1874
Total government officials trained:	106
Average grade of learners:	Grade 6,2
Average age of learners	11,5 years old
Number of face to face sessions:	41
Number of online sessions:	4

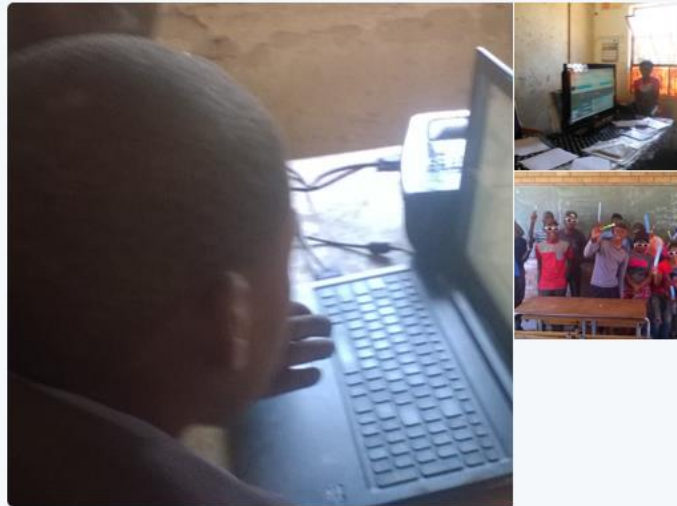## Some screen grabs of the tweets generated at the workshops:

Nomusa Keninda @musakeninda · Dec 1
We code, we solve, we collaborate, we are creative #HourofCode
@schoolnetsa @Mpueducation @MicrosoftEduSA

hawa patel @hawa_patel · Dec 2
Age is a number.....try coding today!!! Creating logical creative thinkers!!
@hourofcode @SchoolNetSA @Microsoft_EDU #hourofcode

Adam Mojapelo @mojapelo_adam · Dec 11
#HourOfCode @MicrosoftEduSA @microsoftedu #MIEExpert @SchoolNetSA

Conclusion

Thank you to Microsoft and code.org for the opportunity to be part of this exciting project to expose young people to the basics of computer science. The learners thoroughly enjoyed the sessions and I am sure than many of the facilitators will be keen to participate again in future Hour of Code projects.

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