

# INDIGENOUS KNOWLEDGE SHORT LEARNING COURSE

SDL presented three short courses in Indigenous Knowledge on March 18 and 19, namely in Natural Sciences, Mathematics, and Technology. The Natural Science course was led by Dr Neal Petersen (School Director of Mathematics, Science and Technology for Education), Prof Josef de Beer (Sub-area leader of Indigenous Knowledge in the Research Focus Area Self-directed Learning) and Dr. Lounell White. The Mathematics course was presented by Prof Marthie van der Walt and Mrs Erika Potgieter, and Mr Benjamin Seleke presented the course on Technology. Forty teachers in Natural Sciences, Life Sciences, Physical Sciences, Mathematics and Technology attended the short learning courses to further empower themselves as teachers. The courses followed a very hands-on approach. Participants attended a wide variety of activities in these two days to expand their knowledge and skills as teachers:



The teachers walked to the Microbiology facilities of the NWU to take a closer look at certain bacteria under microscopes, and to cultivate their own bacteria (which they examined the next day). They were able to infect a petri dish with bacteria in various ways, which was then placed in an incubator overnight to cultivate. A creative and spontaneous teacher then chose to show his love for science by giving the petri dish a kiss! They also "treated" infected petri dishes with herbs such as ginger and cinnamon to determine whether the spices could possibly kill or counteract the bacteria.



They each had the opportunity to assemble a Foldscope (a foldable microscope). These microscopes are far more cost effective than conventional microscopes, and make scientific discovery more accessible to less fortunate and remote schools.



The foldscopes were preceded by good, clean fun when the teachers made their own soap with South African essential oils. They prepared the soap on a two-plate stove and after the melting and mixing process was completed, poured the mixture into small bowls to solidify overnight.



On the second day, they had the opportunity to see the results of their petri dishes after growing overnight. Their soap was also ready for use after solidifying overnight.



They also learned more about cooperative learning strategies to promote self-directed learning. This included the using puppetry to get acquainted with the use of De Bono's thinking caps method.



Mathematics teachers investigated the relationship between music and mathematic concepts, including making music with Boomwhackers. They also focused on how native games such as Marabaraba can be used to teach math content. The Technology teachers focused on the technological design process, and as such, built their own bridges.