

General message for Science Teachers

From Godwin (G2) Nhauro: NECT - Assistant National Education Programme Manager

Good day colleagues

This is an uncertain time for all of us. The sands are shifting daily and many of us are feeling anxious about what happens next to our health and safety, livelihood, to our education, to our freedoms and to life as we know it.

Whilst we practice physical distance and social solidarity, this disruption also provides us with an opportunity to reimagine how we live and how we work. It also allows us to exercise control over the aspects that we can change and, in this instance, how we can start working on curriculum catch up plans.

Teaching Science for Understanding: Part 6 Science messaging	WEEK 6 How to teach experiments using videos and simulations for meaningful learning.
Good day scientist groomers: From Godwin (G2) Nhauro – ANEPM (NECT)	
<p>Welcome colleagues to Part six of Teaching Science for Understanding series. Today we are mainly focusing on how to teach experiments using videos and simulations for meaningful learning. Without overstating we know most of our schools are not privileged with laboratories or lab equipment. Nevertheless, that does not mean we cannot fulfil the outcomes of the curriculum policy. In the previous series we have discussed several ways of engaging learning for effective learning inter alia, use of videos and simulations in teaching experiments.</p> <p>How do we align the teaching of experiments using videos, while making sure the learners are acquiring the associated scientific process skills as outlined in CAPS (observing, measurement, predicting, interpreting, etc.)? Solution: Make your lesson as interactive as possible, put learners into groups and follow the steps below.</p> <p>What needs to be done prior to the experiment:</p> <ul style="list-style-type: none">▪ Purpose/Question: Clarify to the learners what exactly is the aim of the experiment, what they need to learn from it?▪ Research/Prior reading: Ask learners to go and find out as much information as they can on the experiment to be done.▪ Hypothesis: After doing the research, let learners try to predict the answer to the problem, i.e. make an 'educated guess' based on the reading/research done. <p>During the experiment-based video: Play and pause approach to allow interactive learning</p> <ul style="list-style-type: none">▪ Observation: Play first part of the video and pause. Let learners record their observations in their groups.▪ Prediction: Using their observations, let learner make informed prediction on the results in their groups and give feedback to the class--- class discussion: prompt learner's critical thinking by asking <i>thought provoking questions</i>. Allow learners to ask questions as well. <p>Play video to show results:</p> <ul style="list-style-type: none">▪ Record: Let learners record results from the video▪ Review and Reflection: In their groups, let learners review and reflect on their predictions against the provided results or experiment outcomes.▪ Analysis and Conclusion: Allow learners to analyse the results and draw their own conclusion and check to see if your hypothesis was correct, allow for discussion and feedback.	

- **Wrap up** the session by aligning the intended outcomes of the experiment to the existing established scientific facts on that particular concept.

See examples on this link: <https://www.youtube.com/channel/UCOC1rkUCy1zBCFPU25kWUTw>

Stay home, stay safe, observe social distancing.