To: Subject Advisors
: Teachers
: Parents and Caregivers of NS Tech Learners

Topic: Benefits of using an interactive simulation based STEM pedagogy for the recovery curriculum

Message Objective(s):
To encourage the use of interactive simulations in teaching and learning of STEM

Previously, we looked at the considerations to make when adopting a technology centred pedagogy. Given below is an outline some of the benefits of using such technology such as STEM interactive simulations. An example being the PhET Simulations from the University of Colorado founded by Nobel Laureate Carl Wieman

-Interactive visualisation – Fosters visual, dynamic learning of scientific concepts
-Cognition – Aids learning through scaffolding, vertical and horizontal integration of concepts, reducing cognitive load.
-Self-assessment – Provides real time feedback with minimal explicit guidance
-Reinforcement – Supports multiple representations, pacing and self-directed learning
-Relevancy - Affords teachers/learners the opportunity to improve the much sought after 21st century soft skills such as creativity, critical thinking, problem solving, collaboration, and communication.
-**Learner centeredness**- Allows learners to explore their own learning in a familial and game like environment.

Whereas videos from YouTube and other platforms allow for learners' exposure to content and scientific facts, interactive simulations allow learners to explore, enquire, prove and disprove, hypothesize and predict scientific phenomena.

Teachers, facilitators and learners of STEM should think outside the box to embrace simulation based activities especially for curriculum recovery where a sizeable amount of concepts and skills are to be attained in a relatively short period of time.

Thank you
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References:
www.nect.org.za/materials

https://1drv.ms/p/s!Aq50b6-m7o7qkQ0042-jC5B7cbie