Practitioner reflections essay

Technology, Development

An essential skill of an emerging educator is to know how to identify the concepts and skills their students are to know and be able to do. The table below identifies the “ Big Ideas” and generates essential questions based on those big ideas for math, science and technology standards.

“ Big Ideas”:

Accuracy of presented calculations.

Use of well-defined formulae

Definition data

Improve scientific knowledge

Use of scientific evidences and research work

Improve learner’s understanding

Laboratory demonstrations

Essential Questions:

Why apply big ideas?

How can we improve teaching mathematics?

How can we improve teaching science?

How can we improve teaching technological subjects?

How can the best be delivered to the learners?

What is the best way to test the learner?

Instructional Outcomes:

Make the students understand

Critical Thinking/Process Skills:

Possible effective efficient learning activities

In packaging problems, students should understand the mathematical and scientific properties of matter. This will play a major role in the transportation to ensure the materials have been delivered in the same state and shape without deformation. Laboratory analyses are needed to investigate the properties of matter under specific circumstances and physical states. This practical approach will make the learner understand how the material can be handled and packed. Temperature impacts on the matter should also be investigated (Smart, 2010). Practical approaches in the laboratory will help in the investigation towards making an appropriate decision on the packaging material to be used for the specific material to be transported. Basically, a STEM education will be needed.

STEM Education

STEM is an acronym for Science, Technology, Engineering and Mathematics and thus this kind of education is seen as an interdisciplinary advance to learning. With this kind of education, scholarly concepts are joined with real life teachings. This is the case whereby students relate STEM in contexts that develop links between communities, schools, work and basically the entire worldwide enterprise. This in turn facilitates growth of STEM literacy thus the power to race in the new emerging economy (Jones, 2010).

In my opinion, I think that the class PBL aligns with the current definition of

STEM education. However, it would be necessary to have a number of improvements to the class PBL. Generally, class PBL aligns with the current defining principles of STEM education through ensuring that students attain the following objectives. They become innovators, problem solvers, self reliant and mostly technologically literate which goes hand on hand with the STEM education ethics (John, 2004). In order to achieve improvement PBL would be required to develop k-12 programme materials which match with the world standards.

Personal professional thoughts about implementing STEM integrative content and instructional practices

Professional thoughts about implementing STEM integrative content and instructional practices in classroom can be achieved through the use of Understanding by Design research curriculum or the problem based learning technique. This enhances required results, appraisal confirmation, and knowledge Plan.

References

John, N. (2004). STEM: Technical education modules. New Jersey: Prentice Hall.

Jones, K. (2010). Basics of STEM Education. Oxford: Oxford University Press.

Smart, J. (2010). Higher Education: Handbook of theory and research. New York: New Press.