

THE IMPORTANCE OF HANDS-ON LEARNING IN TEACHING SCIENCE

by:

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Science is an integral part of education. It teaches learners the importance of understanding the world around them and beyond. Moreover, it is a subject that is best taught through experience, and the best way to simulate situations that provide experience for students is through the use of Hands-on Learning.

Hands-on Learning, also called Experiential Learning, is the process of learning through direct practical experiences such as workshops, experiments, and other similar activities. Hands-on Learning allows students to take what they have learned and apply it to real-world situations. It enables them to analyze certain situations through their own hands, forcing them to focus and use their skills. It is built on, of course, experience, and as the saying goes, "Experience is the best teacher."

Hands-on Learning has been shown to improve learners' scientific process skills (Alkan, 2016). Because this kind of learning focuses on direct experience and observation, it creates an environment in which students can see clearer connections between choices and results. It contrasts with traditional teaching methods in which students can only hear or read about certain situations, which may not be as effective because most of the time, they do not pique a learner's interest and it may even be deemed boring. For example, in subjects such as chemistry, it can be assumed that students would want to see chemical changes in real-time rather than seeing these changes as symbols on the board.

Hands-on Learning can also improve a learner's knowledge retention. Since science is known to be repetitive, exact, and factual, there are many times in which memorization is required. Hands-on Learning has been tested in different fields such as Plant Sciences (Bauerle et al., 2012) and Wildlife Courses (Millenbah et al., 2003), and has been seen to improve

knowledge retention if appropriately integrated. It can be expected to provide the same results in other fields and in the different Sciences that are taught in the K-12 curriculum- especially in secondary education.

Hands-on Learning should be done more frequently, but it is not to say that it isn't observed in the K-12 curriculum. Experiments and other similar activities are already been conducted. In public secondary schools, aside from the usual laboratory equipment PASCO equipment are provided to encourage hands-on learning. The students frequently used these in their specialized subjects such as General Biology and Physics.

There are many more types of learning that could improve education, but Hands-on Learning is the best in providing experiences that are vital to student's learning. It can contribute to developing different skills not only in Science, but also other skills such as cognition, emotional and social skills. Hands-on Learning should be explored more by educators and students alike. If done correctly, it could benefit the field of education in ways that we would not even expect.

References:

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