ADVANCEMENTS IN TECHNOLOGY: TEACHING - LEARNING EXPERIENCE IN CHEMISTRY CLASS

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The academic year proceeded amidst all the happenings in the world. With the emergence of this worldwide crisis, face-to-face interactions have been prohibited which paved the way to the so-called new normal way of learning, The Flexible Learning Method. This modality consists mainly of the virtual, modular, and TV broadcast distance learning methods.

According to The Learning Agency Lab, virtual learning typically refers to a course taken that is completely virtual. Students receive instructional content, submit assignments, take tests, and interact entirely online or virtually. Science, particularly Chemistry, is one of the major subjects that has been significantly affected. This subject has a vast range of content which is either taught and learned through written methods or performing tasks like laboratory experiments. However, since most of the interactions nowadays happen virtually, it may be quite tough to adjust to this new learning and teaching style. Can you imagine taking a Chemistry subject in a virtual way? How will you conduct an experiment through the online setup? How will it be effective as a learning method? All thanks to the continuous advancements in technology, those questions are answered and solved.

Now, there has been a new learning system to keep pace with the pandemic that allows learners to access and receive knowledge through virtual learning. This perhaps brought an equally divided perception which may be in a form of negative and positive impacts. It has provided students with the opportunity to efficiently use time and technology but has also led to compromising the anticipated learnings to be provided in
person. The new system of learning which is supposedly taught to speed up the adaptation of students is not as effective as it may seem. Students somehow find it hard to keep up with the content being discussed virtually despite the thorough discussion of teachers. Specifically, applicable to Chemistry where laboratory experiments are vital, the pandemic has placed a toll on it which hindered the students from experiencing the gist of the subject. On the other side of the spectrum, new things do not mean that it is going to be bad. There are quite a few experiences relating to how distance learning can be portrayed in a positive way. The new learning method gives a lot of time for the students to learn the content of a specific subject like Chemistry. It gives an opportunity to extend the sources of getting information to learn.

It is also not impossible to experience experiments. It can be done virtually or in a physical way but limited to much simpler resources and demonstrations from the instructor.

Many ideas and developments are made to help pupils learn better. The virtual laboratory, for example, is a simulated learning environment that allows students to do laboratory experiments online and study concepts and theories without having to visit a physical scientific lab.

A study was conducted to evaluate the effects of virtual experimental platforms in Chemistry on experimental self-efficacy. According to Kolil, V. et al., a virtual laboratory learning platform was built that allowed interactivity, wide experimentation, and high availability for the shortlisted experiments in this study. Based on statistical analysis, exposing students to virtual laboratories, and helping them better their understanding through active hands-on learning, increases their experimental self-efficacy significantly i.e. a minimum of 88% to a maximum of 233%.

The situation we are in, took a toll on us, especially in the education sector. However, the world did not stop spinning so we shall not conclude that easily. With the
unquestionable advancement in technology, learning was not obligated to be brought to a pause. Unfortunately, even with these offerings, they remain unavailable to the vast majority, especially to those less facilitated schools. Having that in mind, conducting experiments virtually has been compromised alongside the students’ possible prospective knowledge. Nevertheless, nonexecution and non-improvisation remain as an excuse in this generation thus virtual learning has been observed even without the use of virtual laboratories. Virtual experiments have been made possible with the help of teachers. But, as a limitation, conducting experiments through online interaction can only be done if the materials needed are accessible and if the steps are not that complicated to follow.

There are numerous ways presented to learn and all we need is to adapt and embrace the new system of learning. New ways are new doors for the development of oneself. Impossible is a bit tarnished now in a world where everything may come into possibility. Honing knowledge through virtual, modular, or whatever method you can use is indeed hard, but the best battalions are produced from those who experienced tough battles in an undesirable circumstance. There is still a future ahead of us, waiting for the right moment and waiting for the right person. Perhaps, try to look on the bright side and it will lead you to the right life.

References: