

Mobilizing STEM Education for Learners with Minimal Exposure to Modern-Day Resources

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Brunei Darussalam is a nation that is rich in natural oil and gas. Thus, the driver of the Bruneian Economy is the Oil and Gas Industry which in-hand gives the constant need for a well educated and skilled workforce around the STEM industries. However, the majority of the population should remove the stereotypical mindset of STEM is only around Oil and Gas, Civil, Electricals. It has to be imbedded in the mindsets of the youth of Brunei that STEM in core is about staying Creative, Innovative and Versatile with great management skills. A recent news shared that 90% of Brunei's population have access to internet and social media. This shows a great shift in ways of accessing information and learning amongst the youth. However, it proves there is still room for improvement to enhance accessibility of valuable STEM information on global standards and increase engagement of schools and youth with much lower budget around STEM research and awareness activities.

Local primary school educators do face issues around time constraint for additional tasks to organize an outreach programme on a constant basis. Therefore, the relevant responsible authorities are making efforts and trying new methods to implement more social and outreach activities for the youth around STEM awareness through active collaboration to ease access for the students. This gave rise to several social investments and corporations like OGDC, Livewire, and Tarbiyyah (Happy Harun). OGDC being the grand social investment of Brunei Shell Petroleum to the people of Brunei, holds great responsibility as a science centre, in this purpose of awareness and exposure around STEM.

OGDC as a well-known Science Centre has annual educational targets in the form of Social Outreach Programmes like NXplorers Camp for Juniors, Women in Science Competition for female schoolers which commenced this year, OGDC mobile science shows and science activities around topics like Fire and Pressure, multiple Modular Exhibits that are built for mobile education, and ofcourse, OGDC's in-house highly competent Science Educators and Exhibitors. It is also equally vital to have highly competent and versatile educators with great people and communicational skills to achieve results better than expectations. Dealing with large number of diverse tourists and visitors who come to the science centre, has moulded the Science Educators to be able to communicate and improvise key concepts and knowledge to a wide range of audience.

As an initiative, it is very encouraging to implement a mobile classroom in a caravan like what Happy Harun of Tarbiyyah Global do as their service in this industry. A mobile modular exhibit and science show in one setup would increase convenience and accessibility of our outreach programmes and penetrate deeper into the rural and unfortunate areas of Brunei as well as regional areas in Borneo in the near future after successful implementation locally. This would allow periodical tours around the region like music crews, instead consisting of educators of STEM for a powerful purpose. Together, we can make STEM fun again through early exposure from a very young age between schooling years 4 to 6. Furthermore, initiating young children to find their inner leader through strategic leadership and STEM programmes like NXCamp and Women In Science which brings out and nurtures the pupils by providing them with tools for problem solving and innovation.

Moving on, although initiatives are made for rural and diverse outreach programmes, it still does not ensure efficient and effective learning by the students. This is where well competent Science Communicators are mandatory. And what judges their competence is their versatility, people skills, science knowledge, and emotional quotient. This allows them to understand a group of people better before starting to cascade any information. Thus, to grasp the attention of the audience, it is vital to give them and their way of living a respect and normalize the situation for them to learn with more

ease. To maximize the results of this initiative, there must be a strong research and development team communicating and feeding the educators who design the curriculum and activities for the respective target audience with relevant information that they require.

Just as life, STEM also is evolving and constantly changing. Thus, a very flexible system and fellow membership are required to constantly provide the youth with quality and global standard education and skills. By being able to cascade one key concept in multiple mobile ways and languages to diverse set of audience will prove success as a Science Communicator. Collaborate and constantly keep in touch with global networks followed by simplification and customization of teaching and learning methods for target audience. In conclusion, mobile learning is still in its infancy and has a lot more room for enhancements.