

NSF SUPPORT FOR STEM IN EDUCATION IN SRI LANKA

Subject: The Meeting Convened by the Ministry of Education to Finalize the Way Forward on STEAM Education

Date: 11 March 2022

The meeting was attended by the core group members of the Ministry of Education on STEM Chaired by the NSF Chairman Prof Ranjith Senaratne. The State Secretary of Education Dr. Upali M. Sedere, the Additional Secretary Mr. Neil Gunadasa, many Core Group Members attended. The Chairman of the NSF STEM Working Committee Dr. Chandra Embuldeniya presented the document compiled after discussion (Please see the document on the www.NSF.ac.lk web portal of the NSF).

The Chairman of the NSF Prof Senaratne in his opening remarks mentioned that the world is inextricably linked to STEM in development and Sri Lanka has to adopt STEM starting with education. He mentioned the importance of the work carried out by the STEM Committee of the NSF to develop the thoughts and finally in collating views of everyone into presenting the STEM strategy.

Dr. Chandra Embuldeniya presented the document Introduction of STEM/STEAM Curriculum in General Education. The document dealt with the important elements covering the main aspects of STEM education vis a vis Brief Proposals, Expected Outcomes, Implementation, Non-STEM, Curriculum, Time Frames, Teacher Training, Financing, Assessments, and Barriers. The way forward is based on the belief that the education curriculum reforms of the ministry are now complete with the necessary elements for the future generations and the STEM comes into the curriculum with the development of STEM activities to connect the silos of disciplines in engineering, mathematics, technology, aesthetics with science. Engineering is not taught but is picked up by the students with designs and mathematics connect with science and designs to develop models. Aesthetics bring the demand from society for the intrinsic values of appearance, quality, functionality, history, economics, etc. The curriculum developed by the ministry will be held firmly as the base for STEM connectivity in developing the mindset experience. STEM is indeed a new mindset and the experience of applying knowledge in solving real-life problems.

The areas of Teacher Training, Student Assessments, Ethics, and Non STEM subjects were discussed in-depth and will be carried forward when implementing. The implementation would not require additional funds than what has now been allocated while no new infrastructure would be needed. The training of teachers could also be handled in the new normal with the online facilities. The laboratory facilities will be developed with the assistance of the NSF if needed when the procurements arise within budgeted allocations.

Secretary Dr. Upali M. Sedere presented excerpts from the curriculum so far developed and mentioned that STEM is already included in the developed material. It has been developed in consultations with the organizations involved at the grassroots level such as the National Institute of Plantation Management, Banks, Insurance Cos, Trading Cos, etc and of course, the NSF STEM Working Committee reports. It is a pleasant experience to notice the syllabus contains many practical aspects contributed by the participating organizations in the curriculum. Dr. Sedere mentioned that 250 schools will initiate STEM in Education from May 2022. He responded positively to the need for teacher training and school assessments.

Prof Senaratne and Dr. Embuldeniya both expressed their compliments on the efforts taken by the Ministry in modernizing the curriculum. Dr. Sedere invited Dr. Embuldeniya to help in Teacher Training

for which he advised the Additional Secretary Mr. Neil Gunadasa to use a video clip. The presentation material provided by the NSF Working Committee will be on the Education website.

The success of the entire STEM transformative experience depends on the formative assessments and Dr. Embuldeniya suggested the School-Based method. This has been adopted at grades 12 and 13 and It was agreed to look into this in detail for other levels. The purpose is to empower the teachers to monitor and continuously assess the evolution of students on the STEM learning experiences.

Dr. Embuldeniya mentioned that STEM is only a label and the label can be kept aside in future implementation as that will reduce the burden of branding and differentiation. This was agreed by the NIE Director Dr. Asoka de Silva endorsed this view. The comments offered by the participants were positive in support of the direction suggested by Dr. Embuldeniya and Dr. Sedere. The National Education Commission has adopted a new policy to support STEM. STEM is what is experienced by the students irrespective of the labels attached to it.

In conclusion, Prof Ranjith Senaratne thanked all members of the Core Group for their participation and contribution.

Chandra Embuldeniya

Chairman-STEM Working Committee, NSF