

Summary:

Education is the prime base that builds a nation. However, the quality of education in India is lagging day by day as the theoretical aspects and marks are given much more important than practices and interpersonal skills. According to the statistical survey from **Annual Survey of Education Report (ASER) - 2017**, the students are lagging in fundamental concepts in **Tamilnadu. Around 50% of the school students, aged 14-18 were found reading a text in English and doing simple arithmetic calculations as an unaccomplished task due to the insufficient competencies and practical skills.** Practically oriented classroom teaching can improve the competencies and skills of each individual.

‘**Let’s Make Engineering Simple**’ (LMES) Academy, Chennai is providing Big Bang toolkit ([BIG BANG KIT](#)) for engaging school students through various hand-on-activities and gaining their interest by tapping into their curiosity at a nominal cost. **The government school students find it difficult to buy the digitalized resources for their career.** Hence, those kits can be given to the school students for free and can be analyzed. The kits by IEEE Power & Energy Society (PES) also can be used. IEEE Madras Section has the largest student members shuffled over 100 institutions. It has a good number of student volunteers for organizing IEEE events. These self motivated IEEE student members can volunteer this programme and make it effective.

Introduction:

As the quality of school education is decreasing, curriculum mapped experiments that can escort them to visualize the fascinating view of science through interactive hands-on-experiments is the need of the hour in Tamilnadu. Hence, short video blogs explaining science and engineering concepts of varying difficulty levels using their practical real world applications can be used in schools. Through these videos, the scientific concepts can be understood better and the students started to relate them with real-world applications around them. Promoting application based learning which facilitates the learner to understand instead of promoting rote learning is done through the **Big Bang** toolkits of **LMES Academy** as it strives hard to create awareness about the ease of science, by bringing an attitudinal change towards science which aligns with the educational activities of IEEE which makes a better and powerful education system. The Big Bang toolkits will be distributed by the IEEE volunteers to the government school students.

Scalability and sustainability of the program:

The project can be scalable by conducting a student project camp based on their gained practical knowledge through the Big bang toolkits. A weekly/monthly survey can be conducted to the students and their teachers to find the outcomes. The sustainability of the program is done by actively involving the teachers in the programme.

How does the program align with some of MGA goals, if not all:

This programme will improve the active participation of **IEEE members** in this educational activity. It will serve as an instrument in enhancing the relationship with **IEEE** and within them as they are working as a team continuously. It increases the efficiency and effectiveness of the educational activities involved in the **IEEE Madras section**. It improves active collaboration with the **IEEE Power & Energy Society (PES)** and improves interaction between the **IEEE** student members and the society. The students inspired by this programme will join **IEEE** and their testimonies will ensure collaboration and cooperation between the geographical units. As it enhances the member-member interaction, it forms an instrument to increase their knowledge level about **IEEE**

Educational outcomes of the program:

1. The Knowledge gained in the classrooms can be realized practically.
2. The real time applications of the scientific concepts will kindle the research interest of the students.
3. Active engagement of IEEE student members in the section.
4. Students can do projects based on their learning.

Impact of the program to the participants:

The quality of education in Tamilnadu is improved along with the active participation of the IEEE volunteers. The creative thrust inside each student will push them for the solution to the social problems that they are actively involved in. Students come to know the working of real time applications is based on the scientific concepts which will induce the joy of learning.

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