Establishing Robotics Labs in Underprivileged Schools to Promote STEM based Education for Enhancing Skill Sets Prior to Entering Higher Education Settings

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NEED -- After having speculated over a visible gap in K-12 education that doesn't address the importance of imparting technology literacy, project-based education and transdisciplinary educational activities as the cause of deficiency of vital 21st century skill sets needed by students in university years, specially students of underpriviligeded schools; the study was being initiated as part of an ongoing research to find out the potent educational reforms needed in K-12 years for enhancing skill sets in students prior to their enrollment into universities.

Fig.1, Robot that is used in beginner level

SOLUTION -- we have developed a novel open-source robotics education methodology which include open source EDVON's robots as shown in Fig.1 and Fig.2. Using robotics as a tool to teach state-of-the-art technical tools seems to be promising approach to engage the students and help them to think logically and critically.

PROJECT – We are establishing robotics labs in an underprivileged school to provide an environment where students of slums can also get trained and play their role to accelerate the technological advancement in the world. This study is focusing on what are the challenges involve in introducing robotics education in an underprivileged school; and what could be the possible ways to overcome the challenges in order to provide effective learning experience to the students.
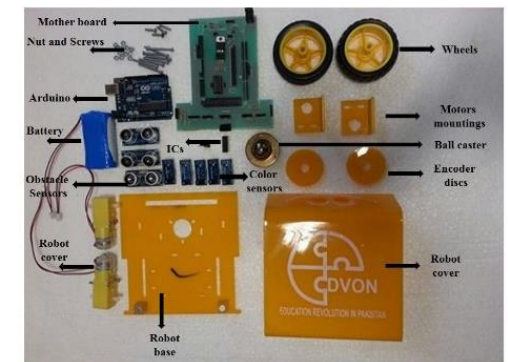

Fig.2, Modular Robot that is used in medium level