



Electronic Industry and Education Walking Together



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Submission: 📅 September 08,2018; **Published:** 📅 September 18, 2018

Opinion

Human beings are curious by Nature and probably that is why technology turns out so attractive. Many people use it only for entertainment despite it can be used also for learning. On the internet, there is a lot of content which we can learn from, but it is easier and faster watch a video to just have fun. Instead of, we may use internet to learn how to cook, play music, ride a bike or almost any other think you are interested on. People also like playing with a gadget although most of them feel disappointed if such device breaks down. What can we do to keep having fun with the game? It could be interesting to know how to fix it. For this purpose, we would need to figure out how the inside technology works. However, technology moves forwards so quickly and even sometimes children teach adults how to handle it with. Hence, to do more attractive, the learning process, why don't we put more effort into using technology to teach? Off course, not many people understand at once the theory behind the technology, but we can use technology for make this task easier.

At this point, the idea of making an application for teaching basic electronics easily comes out to my mind. Sometimes there is a big discussion about which program language to use because probably there isn't a right choice for every single case but let me pick an integrated development environment (IDE) from National Instruments, it's called IDE Multisim. For those who are not familiar with this IDE let me say that with this software you can not only design an electronic squematic with the mechanism of "drag and drop" and customize different features from an electronic component to run a simulation, but also to go beyond. New technology like machine learning (ML) could be useful to rethink that software which already handles with simulation. In fact, those IDE's are adopting also a learning process inside, becoming integrate development and learning environments (IDLE's) which can improve its performance based on the real-time recorded data from every user. From the industry side, there is a huge mechanism to launch a new electronic gadget into the market. One of the first steps is having a brainstorming around designer's team to analyses pros and cons. They usually consider how to take user's necessities

in the fastest way to develop an electronic device. It requires a real advanced knowledge of IDLE's features. There is always a long way to walk from the electronic equations until the real circuit. Once you achieve that point where every goes smoothly in theory, you start to think in how to implement your first prototype. From the educational side, professors and teachers make a huge effort to engage as much as possible their students to become successful professionals in the future. However, in both cases, time is always limited.

To reduce the time developing and the learning process without jeopardizing the quality in both cases, I suggest using Multisim. It has been chosen many times in both Industry and Education Area [1-3] Probably, the main reasons are both, how close to the market and user-friendly it is, in terms of electronic components. It has also an interesting feature called co-simulation which allows you to combine two different simulation engines. Such feature speeds up the development process and can supply results extremely close to the reality. Particularly, this feature opens the gate for those organizations which cannot afford expensive dedicate equipment for a laboratory of electronics. Moreover, ML is already being applied in either industry and education fields with results which we couldn't reach before. This disruptive technology helps us to automatize process like classification and prediction. The result of such a process can improve step by step because this technology is based on a neural network performance which we still are learning how to extract all its potential [4,5].

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