

My Vision of the Malaysian Education System

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We are in the Fourth Industrial Revolution (also known as Industry 4.0) where the primary enablers are connectivity and cyber physical systems. These changes necessitate a workforce of high technologically attuned individuals with inherent self-assessment capabilities and the ability and discipline to work independently and remotely within the dynamic environment. An effective education system must be able to support the continuous transition of one industrial *modus operandi* to another. It must be able to produce individuals who are capable of assimilating seamlessly and perform productively even its technical requirements keep changing perennially. In view of the changing environment, education system has to be regularly reviewed and resturctured accordingly.

Is our national education system well-aligned to support the changes that are happening in the environment? It is not an easy question to answer. However, anecdotal evidence suggest that it is failing and in dire need of a wholesale transformation. As a former teacher, I am extremely exasperated seeing the big signage in front of most schools displaying, “Congratulations, you are in school”. This statement has negative connotation and an open admission that something is amiss in the system. Other, though assailable, evidences, such as brilliant based on central exam results but not able to perform at tertiary level, visible drop in thinking skills, mushrooming of tuition centres and etc, may be used to justify a failing system. Thus, any new or revamped system should utilise intrinsic motivation among students to attend schools, develop a culture of self-assessment, and

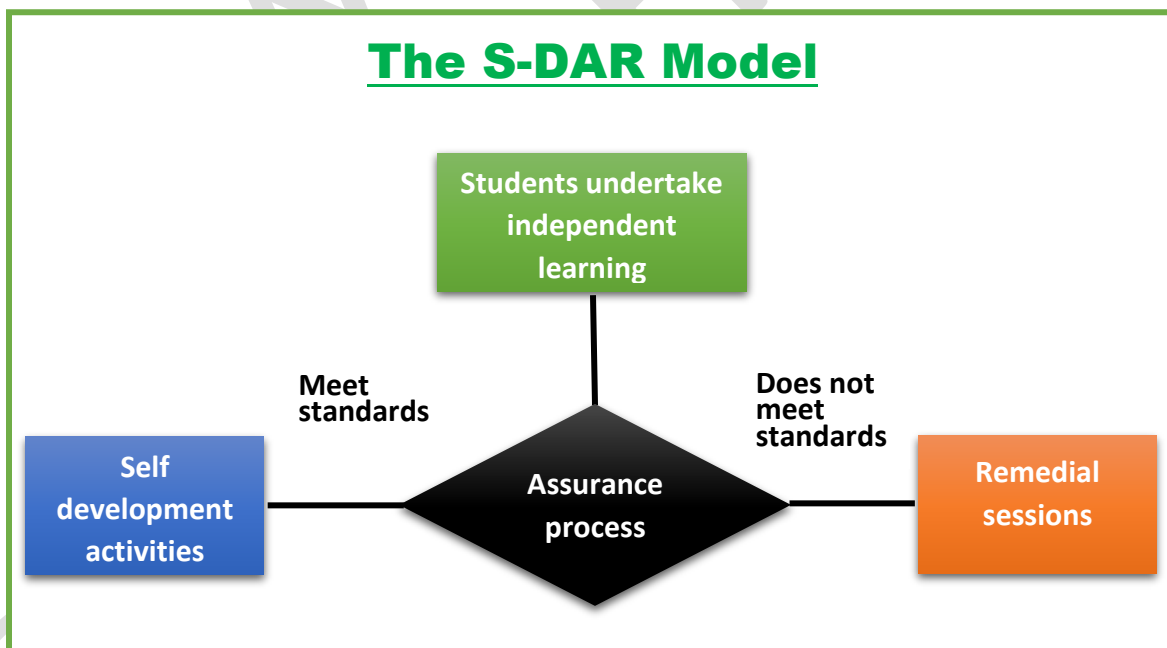
inevitably, must enable them to be independent in the process of acquiring diverse range of knowledge. Simultaneously, the students' personal development has to be emphasized as it is imperative to incite their intrinsic motivation.

What can we do to arrest the declining quality of our education system? I would like to propose a model, a vision of mine about how an education system should be to parallelly progress and aligned with the changing environment. It is an idea where it requires large scale refinement in order for it to be a viable endeavour. You will agree with me that all planning and implementation must be germinated as an idea initially. I called my vision of an education system as the "S-DAR system". It is an acronym that comprise three primary components and it stands for "**S**elf-**D**evelopment, **A**ssurance, **R**emedial". It entails the deployment of an extensive technological infrastructure with high level connectivity, virtual reality and artificial intelligence like it is in Industry 4.0.

Implementation has to be gradual and it should begin with the upper secondary students. Eventually, it will be cascaded down to lower secondary and primary level students. Let me explain to you about this model. The model emphasizes on independent learning via online resources. Similar to a production process where the product design and development stage is seen as the highest priority stage for elimination of problems in the subsequent processes, the learning content development would be considered as the most difficult phase of this education system model. Subject experts, data scientist, graphic designers, software engineers and other relevant experts have to work in teams to produce the right deliverables for effective learning and assessment. Once the learning infrastructure is established, students are needed to study online independently according to the given learning schedule prepared based on topical understanding requirements.

The first component of the system, that is, the Assurance process will commence as per schedule after the students have studied a topic independently. In the initial stage

of implementation, the assurance process is done by teachers on a face-to-face interaction basis. Ultimately, this process has to be converted to an online self-assessment mode to encourage and inculcate the self-assessment attributes in students. At this stage, the assurance teacher has the responsibility to evaluate each student as per expertly prepared assessment materials and procedures, and to determine whether the student has met the necessary knowledge acquisition standards. If a student has attained the stipulated standard, he will be allowed to move on to the self-development component and indulge in his favourite personal development activities until the next round of assurance schedule. However, if the student does not meet the required standards, he will be pushed on to the remedial classes where the conventional methods of teaching is resurrected. Again, as time progresses, the remedial classes will also be conducted under an online platform. Having remedial classes will ensure that students are not left out of the mainstream education path. The diagram below summarizes the S-DAR model:



The designing of self-development component requires the same vigour and details as the learning content development process. The activities included must be something liked by the students otherwise it will miserably fail. On the other hand, we must also ensure that what they embark on can be useful in later part of their life. There should also be a certain degree of matching or identifying the right activities for students based on their academic achievement level. Sports (inclusive of extreme sports), music, language or oratory, gaming and programming skills can be the focal part in designing this component. It must be kept in mind that this is the stage where physical human interaction will be emphasized as the other components may only create a form of virtual interaction. Societal values should be incorporated within this component.

Inevitably, implementation will require enormous amount of resources at the initial stage. However, in the long run, it is expected to be reduced. There will be a big shift in the allocation of resources compared to current allocation structure. We will see that the teaching and managerial resources will be vastly reduced as the new model asserts independent learning under a highly technological based infrastructure. Thus, teachers and education officers have to be retrained to support the self-development activities. They can be encouraged to form private business entities to which these self-development activities are outsourced. In this way, the government's expenditure is decreased and, at the same time, the retrained teachers' business entities have the opportunities to expand their services to other customers.

Performance measurement is essential to understand whether an implemented system is working as per the deliberated objectives. Thus, key performance indicators have to be devised for measurement, monitoring, reviewing and replanning purposes. Some of the key performance indicators that can be set when the system is implemented are as follows:

- For assurance component:
 - Percentage of students achieving the required standards.
 - Percentage of students exceling in meeting the standards
 - Percentage of students undertaking self assessment mode
 - Percentage of students keeping to suggested scheduled learning
- Remedial component
 - Percentage of students referred to remedial sessions
 - Average length of days per student undergoing remedial sessions
 - Percentage of students undertaking remedial sessions in an online platform
- Self-development component
 - Percentage of students achieving certain grades in their chosen activities.
 - Percentage of students choosing a specific self-development activities
 - Percentage of students switching self-development activities within a specified duration.

Key performance indicators are never static. It has to be reviewed regularly and modified to keep in alignment with the system's changing objectives.

As I mentioned earlier, this is only a glimpse of my model of an education system. Much research has to be conducted to refine the model. Then, it would probably be a 200 to 300 pages report. However, my conviction is that, a new education model should utilise technology extensively and emphasize self-development for a healthy education environment. On a personal note, I never liked to sit in class and listen to teachers. As a result, I used to play truant, albeit, in a positive manner. I sit in the library instead. As a teacher, I cannot allow students to play truant like me, though, I wish I could. When I became a lecturer, I allowed students to stay away from my class if they choose to, but they have to be responsible for their performance in the

course. Now, you may have an inkling of what was the basic premise underlying my vision of an education system. It is becoming more telling now and hence, the signage in schools congratulating students who attend classes. The world is fast changing with comprehensive technological connectivity. We see a 3-year old boy using tablets like a duck taking to water. Do you think he has the patience to listen to academic teaching when he knows well that he could obtain them via a media he has used since he was 3-years old?

The writer is the founder and content manager of www.kvk-accounting.com who advocates strongly on building cognitive thinking skills via better understanding of accounting concepts and simulating artificial intelligence process of learning from experiences. He views his exercises as a form of providing these learning experiences.