

10 SKILLS FOR FUTURE WORKFORCE

Dear Principals, Teachers, Parents, Counsellors and students,

Minister Heng Swee Keat, in his opening speech at 2014 ICT conference, highlighted the key thrust of Singapore MOE master plan for 21st century competencies in our students as:

- Our Changing World
- Stay Focused
- Stay Curious
- Stay Grounded
- Stay together

It is a timely reminder that monumental changes are going on around the world today. E.g. the passing of the Late Mr Lee Kuan Yew, the strong emergence of Makers community, the re-alignment of adult learning with the introduction of FutureSkills ... and many other examples.

In alignment with the MOE key thrust, we will continue to upgrade Castles Can Fly programs to meet our future needs.

Since we started in 2003, we are very grateful for this opportunity and are deeply touched by batches of dedicated principals, teachers, parents, counsellors and students we worked closely with during our programmes. It is through these close collaborations that we are able to keep our programmes highly customised, relevant, engaging and most importantly, light hearted – yet deeply meaningful to the students.

In this issue of Castle times, I would like to share my thoughts on

- 10 skills for future workforce

It is my personal observation that students today are facing a different kind of challenge – a challenge that, though present, remain largely unrecognised or under-addressed.

You might have guessed what I am referring to -- it is the “Finger Generation” addiction to electronic gadget. Even adults who presumably can exercise better self-control, are guilty of spending too much time on the computers from time to time, so we can’t blame the youngsters when they fall prey to social media addiction or indulging in mindless computer games.

The value of Castles Can Fly program is to help both adults and young students overcome this uphill battle by offering a learning experience that will integrate online and offline information, simulate real life scenarios and translate this learning experience into meaningful and relevant key action points.

At the end of the day, we are very focus on taking applied action more than mere academic pursuit. And this is equally meaningful and relevant for students and adults audience. We cannot afford to say that only the student needs to learn.

We need to say. “Let’s learn together. ☺”

Happy Learning
Alvin Lee Castles Can Fly, 2015

All formal education prepares the student for a future where they can find meaningful work that brings about economic value or contribution to the betterment of mankind.

To help us better understand the future, it is helpful to refer to two concepts mooted by the Institute of Future and University of Florida Research Institute:

- 6 Drivers of Change
- 10 Skills for Future Workforce

A deep understanding of these 2 main factors will help us gain greater clarity on what is really needed for students of today as compared to what the traditional education system offers.

REALISATIONS FROM THE 6 DRIVERS OF CHANGE

- Extreme Longevity
- Rise of smart machines and systems
- Computational World
- New media ecology
- Super-structured Organizations
- Globally connected world

In view of how the drivers are going to steer our economic needs, which in turn shapes the skillsets students today need to acquire, I have come to the below realisations:

Realization #1: Information Overdrive Mode

We have to accept that we are living in the age of information overdrive. It is even more crucial today to be careful not to contribute more. The 'Zen' factor of keeping things simple is critical.

Realization #2: Redefining Employment Arrangement

The new generation will unlikely be staying in a single organizational workplace as like the past. They will be exposed to a multitude of employment arrangement that is unimaginable by today's standards. And quite likely, self-employment, part-timing, multiple revenue streams will become an attractive income-generating model. This is where, beyond the academic arena, it becomes even more important to acquire skills that are relevant to stay ahead.

Realization #3: Flexibility and Rapid Shifting Gears

More so in the future than in the past is the situation where lines are blurred. Boundaries are no longer clear and everything is re-defined by the minute. In such situations, the students would be best equipped with mindset that are really elastic, flexible and not rigid.

ADAPTING THE '10 SKILLS FOR FUTURE WORKFORCE' TO THE EDUCATION SYSTEM

- **Sense-Making**
Ability to determine the deeper meaning or significance of what is being expressed
- **Social Intelligence**
Ability to connect to others in a deep and direct way, to sense and stimulate reactions and desired interactions
- **Novel & Adaptive Thinking**
Proficiency at thinking and coming up with solutions and responses beyond rote or rule-based
- **Cross-cultural Competency**
Ability to operate in different cultural settings
- **Computational Thinking**
Ability to translate vast amount of data into abstract concepts and to understand data-based reasoning
- **New Media Literacy**
Ability to critically assess and develop content that uses new media forms and to leverage these media for persuasive communication
- **Transdisciplinarity**
Literacy in and ability to understand concepts across multiple disciplines
- **Design Mindset**
Ability to represent and develop tasks and work processes for desired outcomes
- **Cognitive Load Management**
Ability to discriminate and filter information for importance, and to understand how to maximize cognitive functioning using variety of tools and techniques
- **Virtual Collaboration**
Ability to work productively, drive engagement, and demonstrate presence as a member of a virtual team.

While these 10 points are heavy subjects, they are not new. Many corporate management training are already dealing with them for some time now.

However, what is new would be the introduction of these skills down at school level and at greater urgency. That's what is new.

These 10 skills can be adapted into 2 broad categories for the ease of finding ways for the student to learn. (Some of these factors may appear in both categories.)

Self-led learning: skills that can be developed by the individual student

- Sense Making
- Computational Thinking
- Design Mindset
- Novel and adaptive thinking
- Cognitive Load management
- New Media Literacy

Group learning: skills that can only be learned through active interaction in groups

- Social Intelligence

- Cross-cultural competency
- New media Literacy
- Transdisciplinarity
- Virtual Collaboration

The first category is to allow the student to have the autonomy to be responsible for learning his own content and in his own pace, while group learning must be arranged either by the class, the school or external initiatives. This way, it will be an ongoing development, each taking his own responsibility. The school cannot be responsible for the entire learning spectrum- the student must carry their own weight.

WHAT WE CAN DO AS EDUCATORS

While these skillsets are desirable, it will not be wise to assume that we can learn and assimilate of them all at one go.

This paper attempts to provide a pragmatic approach that complements existing systems and falls within the capabilities and assets of teachers and staff. The following are some of the skills that we, as educators, can impart to the students of today.

- **Teach real world application**

It is always easier to start with purpose of learning these skillsets with the real world scenario e.g. urban planning, small business enterprise, designing a product etc. It doesn't need to be complicated as we can always tailor them down to the level that the student can digest and apply.

- **Teach people's problem application**

One of the key gaps in current education system is the lack of discussion on how we feel and see things differently. Traditionally, there has been too much focus on logic and linear thinking, with only very little room for the human emotion factor. Dealing with real people problem can develop right brain skills like cross-cultural competency, transdisciplinarity and empathy.

- **Use model making as a learning medium**

Moving away from mere paper and pen discussion, the model-making concept is a better tool for visualization and offers a better opportunity for in-depth discussion. In all art, architecture and engineering school, model making speeds up the learning process.

- **Focus on the learning process rather than the content**

While the traditional education system focuses on content learning, experiential learning helps students understand self and group learning processes far more than the content itself. This point is very key, as understanding their learning style helps them adapt to the rapidly changing work environment.

- **Facilitate and co-learn, not teach**

There will never be teachers who are trained in all 10 required skill sets. Instead of teaching these skills, facilitate, or even co-learn alongside the student. By doing so, not only do we move away from the traditional role of students as a content-learner, but it also encourages them to provide creative input, and this better prepares them for the future workforce.