

Developing Students' 21st Century Competencies in Singapore

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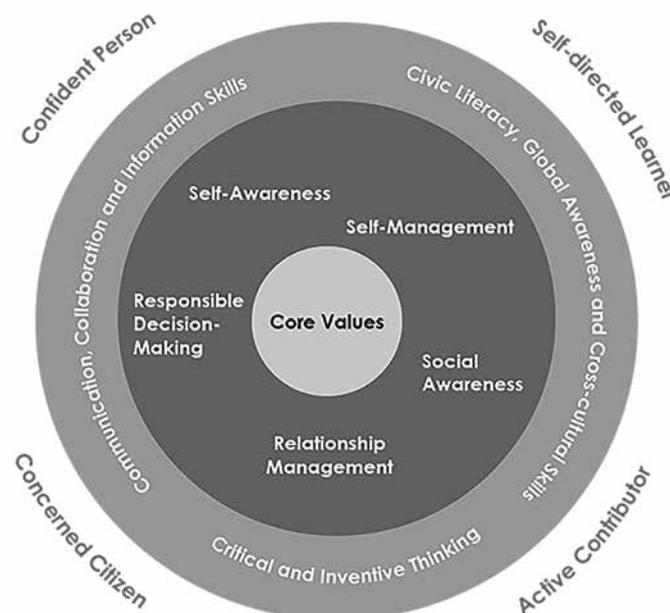
Introduction

The Ministry of Education in Singapore (MOE) has identified competencies that have become more and more important in the 21st Century so that Singapore's students could flourish in a rapidly changing world. These competencies, represented in the 21st Century Competencies framework, support the holistic education that Singapore schools provide to better prepare the students to face challenges and seize opportunities in the future. Schools and parents of the students need to work together to help them develop these 21st Century Competencies. Chapters 1, 2 and 3.1 are essentially the summaries from the website of the Ministry of Education (2019a, 2019b) that explains the 21st Century Competencies Framework in detail. Chapters 3.2, 4 and 5 focus more on one of the authors, Chan's teaching experience and opinion, with references from other sources.

Design and methods

Chapter 1 : The Framework

The framework of 21st CC consists of a core, middle ring, outer ring, and the outcome of education outside the ring.



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1.1 The Core

Values must support the knowledge and skills a person has. Values should define a person's character as they shape the beliefs, attitudes and actions of a person. The values form the core of the framework of 21st Century Competencies. The core values are respect, responsibility, resilience, integrity, care, and harmony.

1.2 The Middle Ring

The middle ring signifies the Social and Emotional Competencies, which are skills necessary for children to recognise and manage their emotions, develop care and concern for others, make responsible decisions, establish positive relationships, as well as handle challenging situations effectively. The five main Social and Emotional Competencies are Self – Awareness, Self – Management, Social Awareness, Relationship Management and Responsible Decision – Making.

1.3 The Outer Ring

The outer ring of the framework represents the emerging 21st Century Competencies necessary for the current globalised world. These are:

- Civic Literacy, Global Awareness and Cross – Cultural Skills;
- Critical and Inventive Thinking;
- Communication, Collaboration and Information Skills

The three domains of 21st Century Competencies, which are Civic Literacy, Global Awareness and Cross – Cultural Skills, Critical and Inventive Thinking, and Information and Communication Skills have been identified after a comprehensive review. The review consisted of an environmental scan of literature, an examination of internal and external frameworks, and consultation with experts in the field of developmental and educational psychology. These three competency domains were recognised as having greater importance and relevance in the future.

1.3.1 Civic Literacy, Global Awareness & Cross – cultural Skills

The society is becoming increasingly cosmopolitan and more Singaporeans live and work abroad. Young Singaporean will therefore need a broader worldview, and the ability to work with people from various cultural backgrounds, with different ideas and perspectives. At the same time, they should be well – informed of national issues, take pride in being Singaporean and contribute to the community actively.

1.3.2 Critical and Inventive Thinking

Young Singaporean need to be able to think critically, assess options and make sound decisions. They should have a desire to learn, explore and be prepared to think out of the box. They should not be afraid to make mistakes and face challenges that may seem to be intimidating initially.

1.3.3 Communication, Collaboration and Information Skills

With the Internet Revolution, information is often literally just a click away. Young Singaporean should know what questions to ask, how to select information and extract that which is relevant and useful to their needs. At the same time, they need to be discerning so that they can protect themselves from harm, while adopting ethical practices in cyberspace.

The workplace of the 21st Century requires young Singaporeans to be able to collaborate in a respectful manner to share responsibilities and make decisions with one another to meet group goals. Most importantly, they should also be able to communicate their ideas clearly and effectively.

Chapter 2 : The Desired Outcomes of Education

The development of 21st Century Competencies will help the students to embody the Desired Outcomes of Education. These are attributes that educators aspire for every Singaporean to possess upon the completion of his or her formal education.

In sum, the person who is schooled in the Singapore Education system is:

- a confident person who has a strong sense of right and wrong, is adaptable and resilient, knows himself, is discerning in judgment, thinks independently and critically, and communicates effectively.
- a self – directed learner who questions, reflects, perseveres and takes responsibility for his own learning.
- an active contributor who is able to work effectively in teams, is innovative, exercises initiative, takes calculated risks and strives for excellence.
- a concerned citizen who is rooted to Singapore, has a strong sense of civic responsibility, is informed about Singapore and the world, and takes an active part in bettering the lives of others around him.

Chapter 3 : The Standards and Benchmarks for 21st Century Competencies

As the 21st Century Competencies are relatively new concepts, the Standards and Benchmarks have been developed so that schools and MOE will have common understanding of these competencies.

3.1 Development of the Standards and Benchmarks in School

The objective of the Standards and Benchmarks is to define what students should know and be able to do. The Standards are aspirational statements that define what the students should know and be able to do in each of the three competency domains discussed above. The Benchmarks further clarify and specify the Standards, indicating developmentally appropriate goals for each stage, which are Primary 3 and Primary 6, Secondary 2 and Secondary 4/5, and Junior College 2 / Pre – University 3. The level of the Benchmarks are achievable by the majority of students by the end of each stage.

3.2 Using the Standards and Benchmarks in School

The Standards and Benchmarks define what students should know and be able to do, and provide a common point of reference for all teachers to plan, teach, and assess the 21st Century Competencies in the total curriculum (Liew, 2013). However, the learning and teaching of certain competencies in some subjects or programmes comes more naturally than others. For example, in the learning and teaching of Chinese Language, Primary school students are learning strategies in reading comprehension that develops their Critical and Inventive

Thinking (CIT), as they would have to learn to lift relevant evidence from a text to explain their opinions to a open – ended question. They would also need to think of solutions to solve some issues from the scenarios given in the text. This would be align to the all the standards and benchmarks within the CIT domain for students of that level.

In the designing of lessons, teachers should refer to the Standards and Benchmarks for the 21st Century Competencies. They should get feedback on whether their students have learn what they were taught through questioning, observing and assessing students' work. For example in the domain of CIT, Project Works and Performance Tasks are used to develop and assess students' CIT. The results for such tasks count in academic assessment. CIT is also assessed through questions of higher order of thinking in various subjects during national examinations at different stages of education.

Chapter 4 : A Case Study of ICT PRO Programme

In a Singapore primary school, an ICT PRO Programme was launched beyond the curriculum time. This programme focuses on teaching the students on the use of some ICT tools and programmes identified by the school teachers that are useful in the curriculum. It also addresses the challenging issues in the digital space, such as the safe use of social media and copyright problems online. As a whole, this programme is part of the total curriculum that supports the development of 21st Century Competencies as mentioned above.

4. 1 Deciding the Lesson Objective based on the Standards an Benchmarks

In one of the lesson for Primary 3 students, the ICT PRO programme addresses the issue of cyber – bullying. The lesson objectives is to first identify acts of bullying online and second, to learn to deal with the bullying. The two main objectives in developing 21st Century Competencies are aligned to the Standards and Benchmarks under the domain of Communication, Collaboration and Information Skills for students of that level.

4. 2 Planning Classroom Activities that aligns to the Objectives

The students have to use an online learning portal to access to a quiz that questions the students' behaviour online. The quiz gave students various scenarios and they have to select what they would do in these scenarios. After which, they would share the 'score' of their quiz on the comment link and also write down one thing they discovered about online bullying under a discussion topic on the portal. Students would have to comment on at least one of their peers' message on the online portal. They are free to reply to the comments under their thread. Therefore, students learn to communicate in an online discussion forum using their laptops.

The content of the quiz all revolves various acts of cyber – bullying, from giving out information of others online without consent, spreading untruths of others in social networks and even the misuse of another person's account. The students watched a video in regards to cyber – bullying thereafter where teachers also hold face – to – face discussion in the classroom. The students are highly exposed to issues concerning the ethical use of information online and adhering to rules in the cyberspace.

4.3 Assessing Students Learning in 21st Century Competencies

One of the most concrete ways to assess the student's competencies would be their comments and quiz score on the online discussion, especially for the first objective of developing 21st Century Competencies. The responses that they posted and comments on their peers' threads showed whether they could communicate using ICT tools. The content of their comments would also show if they are aware of the ethical handling and use of information, as they would have to post what they have discovered about online bullying. The words they chose to use to reply to their peers thread would also display if they are aware of adhering to the rules of online discussion, such as appropriate language to use etc.

Another way of assessment was the face-to-face discussion in the classroom, when the teacher guides the students to answer questions such as how will you handle information about themselves or others online, what other ICT tools have they been using outside school to communicate with others.

4.4 Feedback on their development

The main restriction of this lesson is that teachers could only address the students insufficiency of awareness of issues concerning the ethical handling and use of information, and failure to adhere to the relevant rules through the discussion on the online portal used in the lesson, as the subsequent lessons on this programme did not have the same lesson objective. It is also only through daily activities online they engaged in which the teacher could accurately assess the students' competencies, as there are many ICT tools in the market now.

Teachers will also have to be mindful that every student develops these competencies at a different pace, due to each student's language capacity and familiarity with ICT tools, so the teacher might not be able to assess the students accurately, which leads us into the discussion on the next chapter.

Chapter 5 : Limitations to the Assessment of Students' 21st Century Competencies

Even though the Standards and Benchmarks gave educators clear guidelines and definitions of what is expected of the students, there would be discrepancy in terms of assessing the students as many students may display what is expected of them within the classroom, or at least when a figure of authority is around, but may not have such competencies in reality. An example would be in the domain of Civic Literacy, Global Awareness & Cross-cultural Skills, there are benchmarks such as the student is able to "demonstrate socio-cultural sensitivity and awareness" (Liew, 2013). This would pose challenges to educators and would require more noticing skills in students' daily school activities. However, educators should also keep in mind that the standards and benchmarks are given to keep them on track in the development of the students' 21st CC, and assessment is only part of the process. As a fraternity, all educators could have common goals in developing 21st CC by designing and executing meaningful lessons and activities using the same standards and benchmarks.

Conclusion

Developing 21st Century Competencies through total curriculum within and outside of structured school time – table is crucial. The education system have been moving in recent years towards more flexibility and diversity. These approaches in education will allow Singapore to nurture students with the different skills that they need for the future. The student finds his or her own talents, and grow and emerge from school confident of his or her abilities. This will encourage them to follow their passions, and promote a diversity of talents among them whether in academic fields, or in sports and the arts.

The desired outcome of developing 21st Century Competencies would also need the collaboration of the community and parents, as young Singaporeans are definitely not isolated from the society but learn from role models around them. Heightening the awareness of these competencies should not be limited to the educators only, but the mass media is also responsible to support young Singaporeans in this journey by informing and educating the public of the competencies discussed so that the country would be able to work toward the same goal for the future pillars of the nation.

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