

## MANAGEMENT STRATEGIES OF SAINT GABRIEL FOUNDATION'S SCHOOLS IN THAILAND ACCORDING TO THE CONCEPT OF ENHANCING DIGITAL CITIZENSHIP IN STUDENTS

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**Abstract:** The objectives of this research were 1) to explore the conceptual framework of management strategies of Saint Gabriel Foundation's schools in Thailand according to the concept of enhancing digital citizenship; 2) to explore the current and desirable statuses of the management strategies of these schools; and 3) to develop the management strategies of these schools. The research applied a mixed methods research approach. The population included 16 Saint Gabriel Foundation's schools in Thailand in academic years 2017. The instruments comprised a concept questionnaire; a current and desirable statuses questionnaire; and an assessment form for the propriety and feasibility of management strategies. The data analysis involved descriptive statistics, i.e. frequency, percentage, mean, and standard deviation;  $PNI_{Modified}$  indices; and content analysis. The results revealed that the conceptual framework of enhancing digital citizenship in students encompassed 3 components including the respect toward oneself and others in digital world; the use of digital appliances with responsibility and safety; and digital innovations creation. Internal status analysis indicated academic department as weakness and student affairs department as strength; and external status analysis indicated government policy, economic status, and social status as threats, and technology as opportunity. The management strategies of Saint Gabriel Foundation's schools in Thailand according to the concept of enhancing digital citizenship comprised 3 main strategies, namely: (1) To improve school management to enhance students' digital responsibility and safety; (2) To enhance management capacity to develop students' ability to create digital innovations; and (3) To uplift school management to enhance students respect in themselves and others in the digital world.

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## **Introduction**

### *Background and Significance of Research*

The dynamic challenge of the 21<sup>st</sup> century as external pressure for Thailand involves the change in global socioeconomic context as a result of digital revolution, changing toward the Industry 4.0, implementation to achieve the United Nations' goal of sustainable development in 2030 ratified by Thailand, the impact of ASEAN community, and the need for manpower in the 21<sup>st</sup> century. Internal pressure involves the change of population structure, the middle-income trap, the change of people's attitude, belief, values, and culture along the flow of globalization, and economic growth resulting in rapid degradation and damage of resources. The problem with quality standards of education provision at all levels, weaknesses in education, development of personnel in science, English, technology, inadequate education management, including the problems with morals and ethics, the lack of awareness on the importance of discipline, honest, and public mind among Thai people are all appeared to pose considerable impact on education system (National Education Plan 2017 – 2036). Development of Thai people in this new age in line with education reform requires the creation and preparation of young people who will be entering the era of 21<sup>st</sup> century world. The focus of the Ministry of Education in the development of young people aims at promoting students' morals and ethics, analytical thinking skill, creativity, technological skills, and ability to work and live in peace with others in the world society. Schools as fundamental setting to produce and develop human resources of the country are required to take on the role in providing education as a means to develop human resources. Schools must ensure students' adequate level of potential and capability in different areas, acquired knowledge, competency, and appropriate characteristics, and their application of knowledge and ability to develop themselves and the country in the future. In particular, students are to be enhanced with ICT competency and usage with morals, ethics, and judgment, and are able to keep pace with constant and advanced development of ICT technology. Efforts have been put by various organizations at both the national and global levels to promote digital literacy among children and youth. These include such as by introducing an "Indicator" of DQ – Digital Intelligence as defined by the World Economic Forum (2017). Thailand Digital Economy and Society Development Plan was developed to provide implementation framework in line with the digital economy and society policy. The plan identified 4 key goals, namely: 1) Competitiveness: Increasing international competitiveness by using technology, developing innovation, building new business, increasing GDP by 25%; 2) Equal opportunity: Creating social opportunity on an equal basis by providing information and services through digital media, ensuring access to broadband internet for all, placing Thailand in the top 40 of ICT Development Index; 3) Human capital: Preparing people for career skills in the digital era by equipping them with skills of digital technology and increasing manpower in technology; 4) Government reform: Using digital technology to increase effectiveness and

transparency of government service and placing Thailand in the top 50 of UN-eGovernment Ranking (Digital Thailand, 2017).

The Saint Gabriel Foundations of Thailand (SGF) as an educational organization of Saint Gabriel's Catholic brothers provides education through all of its 16 affiliated schools and 1 university. Its key mission is to provide education to children and youth. SGF had formulated its Six-Year Strategic Plan (2016 – 2021) (SGF, 2016) to provide the direction of practice for SGF schools in order to move the school toward achieving international standards and competitiveness with other countries worldwide. SGF's database is in place and covers information of all affiliated schools to be used for SGF's management. However, the strategic plan did not focus on proactive work regarding student digital behavior with morals and ethics, responsible and safe use, and ability to create digital innovation. Rather, only media equipment was provided to school and classroom. Previously, schools did not allow students to bring technological device especially mobile phone to school, but a later change is that students are encouraged to bring to school their mobile internet-connected device. It is an effort of SGF schools as private schools to keep pace with the world of digital era. SGF schools acted in identifying policies, regulations and agreements to initially prevent problems but failed to focus on instilling, teaching, and guiding students on digital literacy with cognizance, immunity, safety, morals, ethics, and with ability to distinguish between good and bad media. Digital technology is a tool used merely to support class instructions but might not enough to develop students in the 21<sup>st</sup> century since learning about content or subject matter is effectively acquired by students themselves through independent study from a large amount of information on the internet as the main media that outpace books and texts (Vicharn Panich, 2012).

Given the above reasons, school administrators need to modify their management approach to focus more on student preparedness toward the international world by equipping them with knowledge, understanding, and skills to use ICT technologies with safety, creativity, morals and ethics. This can be achieved by implementing the management strategies of Saint Gabriel Foundation's schools according to the concept of enhancing digital citizenship in students. These involve school's awareness and effective management in curriculum development, instructional management, measurement and evaluation, including promotion of student disciplines by student council section, boy scout/reserved officers' training corps section in ways that demonstrate respect for oneself and others, responsibility and safety in digital use, as well as enhanced ability to create digital innovations. However, investigation of relevant documents and research found that most of them examined the use of digital technology only in teaching and learning activities. The current research therefore focused on exploring and developing management strategies of Saint Gabriel Foundation's schools in Thailand under the Office of the Private Education Commission according to the concept of enhancing digital citizenship in students. The results obtained will be valuable for furthering the development of student quality in line with the education reform policies, and for guiding the management of schools at fundamental level to attain desirable quality and maximum benefits.

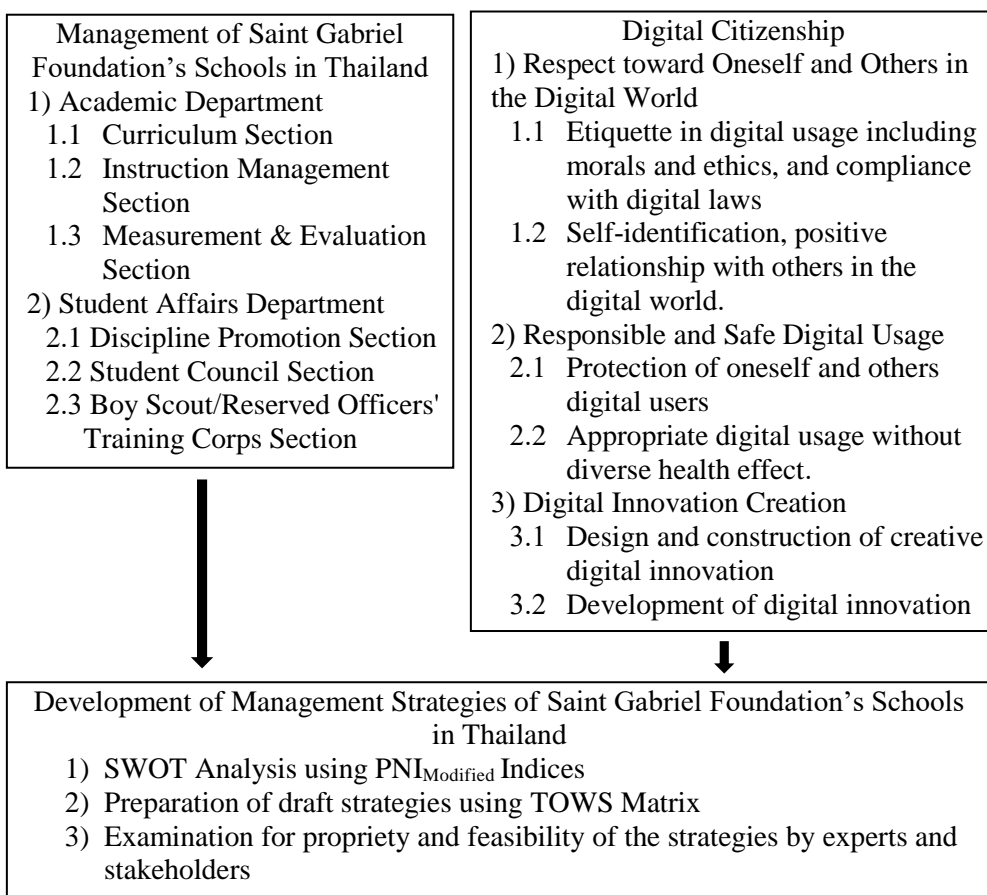
## Objectives

There were two objectives of this study.

1. To explore the current and desirable statuses of the management strategies of Saint Gabriel Foundation's schools in Thailand according to the concept of enhancing digital citizenship in students.
2. To develop the management strategies of Saint Gabriel Foundation's schools in Thailand according to the concept of enhancing digital citizenship in students.

## Conceptual Framework

Based on the concepts and theories on management strategies of Saint Gabriel Foundation's schools in Thailand according to the concept of enhancing digital citizenship in students, the conceptual framework was obtained as in Figure 1.



**Figure 1: Conceptual Framework of Management Strategies of Saint Gabriel Foundation's Schools in Thailand according to the Concept of Enhancing Digital Citizenship in Students**

## Research Scope

This research examined by the scope of work as appeared in the administrative structure of schools affiliated to the Saint Gabriel Foundation of Thailand, which contains 2 departments. Academic department consists of curriculum section, instruction section, and measurement and evaluation section. Student affairs department consists of discipline promotion section, and student council/reserved officer's training corps section.

The research population included 16 schools affiliated to the Saint Gabriel Foundation of Thailand, in academic year 2017, comprising primary school, secondary school, primary-secondary school, and vocational school. A total of 413 informants were from 4 groups of school administrators, teachers, students, and parents.

## Research Methodology and Instruments

Mixed method approach was applied in this research, comprising 6 steps.

Step 1: Investigate the documents and works related to the management of 16 SGF schools in Thailand according to the concept of enhancing digital citizenship in students so as to determine the conceptual framework of school management by the concept of enhancing digital citizenship in students and the concept of digital citizenship.

Step 2: Explore the current and desirable statuses of SGF schools in Thailand according to the concept of enhancing digital citizenship in students.

Step 3: Analyze the strengths, weaknesses, opportunities, and threats of the management of SGF schools in Thailand according to the concept of enhancing digital citizenship in students.

Step 4: Draft management strategies of 16 SGF schools in Thailand according to the concept of enhancing digital citizenship in students.

Step 5: Examine the propriety and feasibility of the draft management strategies of 16 SGF schools in Thailand according to the concept of enhancing digital citizenship in students.

Step 6: Develop the management strategies of 16 SGF schools in Thailand according to the concept of enhancing digital citizenship in students.

## Conclusion of Research Results

The current and desirable statuses of the management of SGF schools in Thailand according to the concept of enhancing digital citizenship in students. In overall, schools' management of academic department and student affairs department were both at a moderate level ( $\bar{x} = 3.126$ , S.D. = 0.907), with higher level in the management of student affairs department than in academic department.

The current status of enhancing digital citizenship in students was at a moderate level in overall ( $\bar{x} = 3.126$ , S.D. = 0.907). The analysis by individual aspects found that the management of SGF schools in Thailand according to the concept of enhancing digital citizenship in students was at a highest level on the respect for oneself and others in the digital world ( $\bar{x} = 3.157$ , S.D. = 0.948), followed by digital innovation creation ( $\bar{x} = 3.121$ , S.D. = 0.924), and responsible and safe digital use ( $\bar{x} = 3.100$ , S.D. = 0.940).

The analysis of current status of external factors of school management by the concept of enhancing digital citizenship in students indicated that the 4 factors i.e.

government policy, economic condition, social condition, and technology were contributing factors to school management and were at a moderate level in overall ( $\bar{x} = 3.227$ , S.D. = 1.046). By individual aspects, technology was found as a contributing factor to school management and at a highest level ( $\bar{x} = 3.338$ , S.D. = 1.048), followed by social condition ( $\bar{x} = 3.244$ , S.D. = 1.077), government policy ( $\bar{x} = 3.165$ , S.D. = 1.047), and economic condition at a lowest level ( $\bar{x} = 3.159$ , S.D. = 1.012).

Investigation of the desirable status of school management by the concept of enhancing digital citizenship in students indicated that school management of academic department and student affairs department were both at a highest level in overall ( $\bar{x} = 4.563$ , S.D. = 0.556). Schools desired for more improvement in the management of student affairs department than academic department.

For the desirable status of enhancing digital citizenship in students, the results suggested that schools desired for the management to enhance digital citizenship in students at a highest level in overall ( $\bar{x} = 4.563$ , S.D. = 0.556). Results on individual aspects showed that respect for oneself and others in the digital world was at a highest level ( $\bar{x} = 4.586$ , S.D. = 0.542), followed by digital innovation creation ( $\bar{x} = 4.563$ , S.D. = 0.604), and responsible and safe digital use at a lowest for ( $\bar{x} = 4.541$ , S.D. = 0.594).

The analysis of desirable status of external factors of school management by the concept of enhancing digital citizenship in students indicated that the 4 factors i.e. government policy, economic condition, social condition, and technology were contributing factors to school management and are at a highest level in overall ( $\bar{x} = 4.573$ , S.D. = 0.417). By individual aspects, technology as a contributing factor to school management was desirable at a highest level ( $\bar{x} = 4.634$ , S.D. = 0.632), followed by social aspect ( $\bar{x} = 4.583$ , S.D. = 0.681), government policy ( $\bar{x} = 4.555$ , S.D. = 0.682), and economic aspect at a lowest level ( $\bar{x} = 4.541$ , S.D. = 0.691).

#### *Strengths, Weaknesses, Opportunities, and Threats of School Management by the Concept of Enhancing Digital Citizenship in Students*

1. The strength of school management by the concept of enhancing digital citizenship in students was student affairs department ( $PNI_{\text{modified}} = 0.451$ ); and the strength of concept of enhancing digital citizenship in students was respect for oneself and others in the digital world ( $PNI_{\text{modified}} = 0.453$ ).

2. The weakness of school management by the concept of enhancing digital citizenship in students was academic department ( $PNI_{\text{modified}} = 0.469$ ); and the weaknesses of concept of enhancing digital citizenship in students were responsible and safe digital use ( $PNI_{\text{modified}} = 0.465$ ), and digital innovation creation ( $PNI_{\text{modified}} = 0.462$ ).

3. The opportunities and threats of school management by the concept of enhancing digital citizenship in students were as follows.

- 1) Technology ( $PNI_{\text{modified}} = 0.383$ ) was opportunity for the respect for oneself and others in the digital world; while responsible and safe digital use was threat for digital innovations creation.
- 2) Government policy ( $PNI_{\text{modified}} = 0.439$ ) was threat for responsible and safe digital use but was opportunity for respect for oneself and others in the digital world and digital innovation creation.

- 3) Economic environment ( $PNI_{\text{modified}} = 0.436$ ) was threat for digital innovations creation but was opportunity for respect for oneself and others in the digital world and responsible and safe digital use.
- 4) Social environment ( $PNI_{\text{modified}} = 0.413$ ) was threat for digital innovations creation but was opportunity for respect for oneself and others in the digital world and responsible and safe digital use.

*Management Strategies of Saint Gabriel Foundation's Schools in Thailand according to the Concept of Enhancing Digital Citizenship in Students*

The analysis results of strengths, weaknesses, opportunities, and threats of school management were brought to developing the management strategies of Saint Gabriel Foundation's schools in Thailand according to the concept of enhancing digital citizenship in students, which contain 3 main strategies, 7 sub-strategies as outlined in below.

## **Discussion**

*Current and Desirable Status, Strengths, Weaknesses, Opportunities, and Threats of the Management of Saint Gabriel Foundation's Schools in Thailand according to the Concept of Enhancing Digital Citizenship in Students*

Based On The Findings Of Current And Desirable Statuses of SGF schools management according to the concept of enhancing digital citizenship in students involving school's academic department with its 3 sections of curriculum, instructions, measurement and evaluation, and student affairs department with its 2 sections of student council, and boy scout/reserved officers' training corps, it was clearly pointed out that the current status of school management was at a moderate level and was considered weakness of SGF schools.

With respect to the prioritization of needs, the need for student affairs department fell in low category, while the need of academic department fell in high category. The findings suggested that the implementation of academic department should be enhanced in all of the 3 sections i.e. curriculum, instruction, measurement and evaluation. In particular of measurement and evaluation, the need fell in high category which was consistent with the suggestion obtained from the data given by these SGF schools reflecting problematic status. Considering the problems as reported by questionnaire informants, the digital readiness of school teachers, (number, knowledge, competency) ranked first, followed by the lack of budget for technology development, the lack of advanced equipment, students' discipline in digital use, low level of promoting student council to work in digital citizenship, and low level of promoting students to learn and practice boy scout/reserved officers' training corps in relation to digital citizenship. It accorded with a research on the management strategies for creative social network collaboration that investigated among private kindergartens in Bangkok. It reported about the problem status in the management of creative social network collaboration in view of the informants that creating understanding of parents about the use of social network was more problematic than other aspects (Rungruthanan Bunyaruk, Paitoon Sinlarat, and Pongsin Viseshsiri. 2017).

The current results also showed that the desirable status was at a highest level in overall for the management of SGF schools according to the concept of enhancing digital citizenship in students. This is because digital communication is widely used by people in the world today especially among the new generation. It is hence necessary that students are well prepared by focusing on instilling, teaching, and guiding them to use digital with literacy, immunity, safety, morals and ethics, including their ability to distinguish between good and bad media (Vicharn Panich, 2012) Digital technology is a tool used merely to support class instructions but might not enough to develop students in the 21<sup>st</sup> century since learning about content or subject matter is effectively acquired by students themselves through independent study from a large amount of information on the internet as the main media that outpace books and texts.

Regarding the need of schools, the findings reflected a high level of need in responsible and safe digital use and digital innovations creation. Considering by sub-components, the etiquette in digital usage, morals and ethics, compliance with digital related laws, appropriate digital usage without diverse health effect, and development of digital innovations were reported at a high level of need for school's academic department. In student affairs department, high level of need was reported for digital innovations creation, and responsible and safe digital use.

Based on the analysis of external factors, the current status was found at a moderate level while the desirable status was at a highest level for the management of SGF schools in Thailand according to the concept of enhancing digital citizenship in students. For individual external factors, the mean value of technology was at a highest level for both the current and desirable statuses, followed by social condition. Economic environment as an external factor was reported with a lowest mean for both the current and desirable statuses. This can be explained that the use of digital technology contributes to the integration of IT, communication, and transportation that provides a cyberspace and hence brings about rapid socioeconomic change. It is noted here that technological environment is considered opportunity for school management to enhance digital citizenship in students. It was supported by the policies on education provision for children and youth through the 16 affiliated schools of SGF. In 2016, the Saint Gabriel Foundation of Thailand had formulated its Six-Year Strategic Plan (2016 – 2021) (SGF, 2016) to provide the direction of practice to its affiliate schools in order to move toward achieving the international standards and competitiveness with every country around the world. Regarding the management of information technology and ICT literacy, all of these affiliated schools implemented to develop the host system, connected backup system, and electronic multimedia classroom, and also promoted the use of technological system in school management such as E-Office, Line, and SWIS (School Web-based Information System).

*Management Strategies of Saint Gabriel Foundation's Schools in Thailand according to the Concept of Enhancing Digital Citizenship in Students*

From the above research results, management strategies were developed for Saint Gabriel Foundation's schools in Thailand according to the concept of enhancing digital citizenship in students, comprising 3 main strategies, 7 sub-strategies, which will be described next.



### Main Strategy 1: To Improve School Management to Enhance Students' Digital Responsibility and Safety

The result pointed out that the academic department was weakness and with a high level of need. With respect to enhancing digital citizenship in students, responsible and safe digital use and digital innovations creation were weaknesses and with a high level of need. For external environment, government policy, economic condition, and social condition were all the threats. In view of these findings, this main strategy 1 hence focusses on improving school management to enhance students' digital responsibility and safety, aiming at mitigating these weaknesses and preventing such threats. The focus is on the management of academic department in particular of the 3 sections i.e. curriculum, instruction, measurement and evaluation, and also the student affairs department in particular of the 2 sections i.e. discipline promotion and boy scout/reserved officers' training corps. This is in line with the digital citizenship concept in Australia (AUS) (UNESCO,2014:18-20) recognizing the role and significance of ICT on the society especially its influence on children life. Relevant programs were offered to people and special programs to children, including the management and promotion of safe online usage.

In addition, the result showed that government policy, economic condition and social condition were all the threats for enhancing digital citizenship in students. Technology is the only factor that provided opportunity to reduce weaknesses in enhancing students' digital citizenship in terms of respect for oneself and others in the digital world, and responsible and safe digital use in order to improve school management to enhance students' digital citizenship. Therefore, this main strategy 1 was developed to focus on reducing weaknesses and preventing threats by emphasizing on improving school management of academic department and student affairs department so as to develop students' knowledge on digital citizenship with respect for oneself and others in the digital world, responsible and safe digital usage, and digital innovations creation. It accorded with the idea suggested by Ribble (2011: 15-44) on integrating the knowledge and ability of reading and writing texts and digital usage (Digital Literacy) as well as technology into the class teaching and learning which become increasingly complicated every year, by teaching technology as one of the subjects among others in the curriculum that students learn in the practice room. However, the teaching and learning on technology competency to learn when and how to use technology do not always include appropriate use of technology.

The main strategy 1 hence focuses on improving school management to enhance students' digital responsibility and safety in which teachers are required to manage their instructions on appropriate and inappropriate technologies; various programs; suitable technological equipment and devices. Given increasing technological advance and growth, teachers apply them to aid in their teaching and working, while new-gen students need more advance learning style than the traditional ones. Students are calling for new learning, digital understanding as well as creative digital usage. In response, schools should offer students new courses such as digital citizenship course, technology entrepreneur course, and also new learning opportunities. Accordingly, school instruction management will ensure student's learning that keeps pace with the current age of digital world, along with useful

activities for their 360-degree learning, and measurement and evaluation system to facilitate the improvement of academic management.

#### Sub-Strategy 1.1: To Improve the Management of Measurement and Evaluation to Enhance Students' Ability to Protect Oneself and Other Digital Users

As suggested by the research result, measurement and evaluation is the work of top priority that needs urgent improvement since it was weakness and with a high level of need. This sub-strategy serves to remove such weakness and prevent threats to enable students' using digital with responsibility and safety and protecting themselves and others in the digital world. The author proposed the idea to improve the measurement and evaluation to enhance students' ability to protect oneself and other digital users is in line with the Global Digital Citizen Foundation (GDC) (2015: Online) that specified the tenets of digital citizenship in relation to 3 areas of responsibility, namely: 1) Responsibility for yourself involves responsibility of what one posts online including such as words and images; being careful that they will not cause damages to oneself and being aware that such posts can be used by others and sometimes in negative ways; 2) Responsibility for others involves responsibility of what one posts online since it can effect on others; thinking carefully before posting anything online or instant messaging. The general rules and agreement for digital use always state about politeness and compliance to laws and never posting anything prohibited, and if it was seen, reporting it immediately, including never sending false story and forwarding the message that are derogatory to other; and 3) Responsibility for property involves responsibility of violating intellectual properties, software, music, movies, etc.

#### Sub-Strategy 1.2: To Improve the Management of Student Council and Boy Scout/Reserved Officer's Training Corps to Enhance Students' Safe Digital Use and Without Adverse Health Effect

Based on the research results, despite with student affairs department as strength, student council and boy scout/reserved officer's training corps section was appeared to be weakness. This sub-strategy thus focuses on improving students' potential to use digital safely and without adverse health effect; and activities organized by the student council and boy scout/reserved officer's training corps section that promote students' digital literacy and their awareness of the safety for themselves and other digital users. This corresponds to digital citizenship concept of Ribble (2011: 15-44) referred to self-safety in digital use (Digital Security) that one has to ensure that personal information is safe, although high safety system is available one should protect personal information. He also described about physical and psychological well-being in a digital technology world (Digital Health and Wellness) as not being overly immersed oneself in the digital world to cause physical and psychological illnesses. IT is important and necessary that students are taught about such danger and certain activities that pose adverse health affect.

#### Main Strategy 2: To Enhance School Management Capacity to Develop Students' Ability to Create Digital Innovations

As suggested by the research finding, digital innovations creation was considered weakness; school management of academic department in particular of the

measurement and evaluation section was weakness; and also, student affairs department in particular of student council section and boy scout/reserved officer's training corps section were weaknesses and reported with a high level of need, while external environment in particular of government policy was opportunity. This strategy is thus the second priority. To develop this main strategy 2, the author seeks to improve the weaknesses by using opportunity i.e. technology as the starting point to develop the strategy. Schools have to take on the duty to develop students by allowing them to initiate the learning to resolve the weaknesses in knowledge development on creating digital innovations.

This main strategy 2 is in line with the digital citizenship concept suggested by the International Society for Technology in Education (ISTE) (2016: Online) that focuses on skills and quality that students are expected to have in the digital world. The characteristics of digital citizenship for students were defined as follows. 1) Knowledge constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others. 2) Innovative designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. 3) Computational thinker: Students develop and employ strategies for understanding and solving problems by using technology to develop and test solutions. This agreed to the Ministry of Information and Communication Technology (ICT., 2016: 6) in its Digital Economy and Society Development Plan aiming to drive the national socioeconomic development towards stability, wealth, and sustainability with an aim to build economic competitiveness of the country by using innovation and technology as major tools to create production and service innovations.

#### Sub-Strategy 2.1: To Enhance School Management Capacity of Measurement and Evaluation Section to Develop Students' Ability to Create Digital Innovations for Economic Value Added

The research finding indicated that measurement and evaluation section was weakness and with a high level of need on digital innovations creation. This strategy is to employ opportunity to reduce the weakness on students' digital innovations creation for economic value added in order to remove the weakness of school academic management. Since government policy and economic condition by sub-components offered opportunities, they would enable schools to seek collaborations for improving the measurement and evaluation section to support effective student development. The author then proposed an approach to developing students by targeting at developing digital innovations for economic value added. This is consistent with the digital citizenship concept of the North Central Regional Educational Laboratory (NCERL) and METIRI Group (2013:1-60) that includes 4 main factors and several sub-factors to enhance student characteristics with essential skills prepared for their living in the 21<sup>st</sup> century and corresponding to changes in technology affecting their life. Digital citizens are thus required to possess the following 4 essential skills: digital-age literacy; inventive thinking; effective communication; and high productivity involving the ability to plan and manage the results; effective use of real-world tools; and relevant high-quality products.

### Sub-Strategy 2.2: To Enhance School Management Capacity of Student Council Section to Develop Students' Ability to Create Digital Innovations for Economic Value Added

As suggested by the research result, the student council section was weakness and with high level of need in digital innovations creation. Digital innovations creation was weakness of student council section, while social condition and technology were threats. The author proposed that schools shift its paradigm in order to improve the student council section by arranging student development activities that contribute to their development of digital innovations for economic value added. Co-curricular or extracurricular activities arranged by student council section will enhance students' digital citizenship. According to the digital citizenship concept outlined by the International Society for Technology in Education (ISTE) (2016: Online) regarding the development of digital innovations, they refer to the characteristics of students' digital citizenship as knowledge constructors. Students construct knowledge by themselves, curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.

### Sub-Strategy 2.3: To Enhance School Management Capacity of Boy Scout/Reserved Officer's Training Corps Section to Develop Students' Ability to Design Creative Digital Innovation

The current result pointed out that boy scout/reserved officer's training corps section was weakness and there was a high level of need in digital innovations creation. By individual components, the design of creative digital innovations was weakness in boy scout/reserved officer's training corps section, while social condition and technology were threats. The author then proposed that schools improve boy scout/reserved officer's training corps section in particular of the arrangement of student development activities that support students in designing creative digital innovations. Co-curricular or extracurricular activities arranged by the boy scout/reserved officer's training corps section will enhance students' digital citizenship. This conforms to the digital citizenship concept outlined by the International Society for Technology in Education (ISTE) (2016: Online) regarding the development of digital innovations that the students' digital citizenship is characterized as innovative designer. Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. Such development applies technology in teaching and learning from planning, implementing, to evaluation. In the current research, other than the curriculum section and instruction section, there is another unit that may involve in developing students' ability to design creative digital innovations. The author hence examined the feasibility and propriety of boy scout/reserved officer's training corps section in this respect by identifying the task to develop students' ability to design creative digital innovations. It differs from other research in that academic section was assigned for development task. In this research, improving boy scout/reserved officer's training corps section to take on student development in designing creative digital innovations was reported at a high level of propriety and feasibility.

### Main Strategy 3: To Uplift School Management to Develop Students' Respect for Themselves and Others in the Digital World

The finding suggested that respect for oneself and others in the digital world was strength. Considering by individual aspects of school management, the weaknesses and a high level of need were reported for measurement and evaluation section, student council section, and boy scout/reserved officer's training corps section. On the contrary, the 4 aspects of external environment i.e. government policy, economic condition, social condition, and technology were found as opportunities. In light of this situation, the author proposed the main strategy 3 to lead to developing students' respect for oneself and others in the digital world by developing those sections as weaknesses of academic department and student affairs department, integrating relevant activities to support the teaching and learning that improve students' respect for oneself and others in the digital world. It is compatible with the concept of enhancing digital citizenship in students of the Catholic Diocese of Townsville, under the Townsville Catholic Education Office, Australia (2015: Online). This concept involves educating students and all technology users about how to use technology appropriately, effectively and not abusing it. Digital citizenship comprises a number of themes including appropriate online etiquette, literacy on how digital technology works and how to use it, understanding of ethics and digital related laws, knowing on how to stay safe online, and health issues of using technology.

#### Sub-Strategy 3.1: To Uplift School Management of Measurement and Evaluation Section to Develop Students' Digital Etiquette, Moral and Ethics, and Compliance to Digital Related Laws

Based on the research result, respect for oneself and others in the digital world and responsible and safe digital use were weaknesses of measurement and evaluation section, while digital etiquette, morals and ethics, and compliance to digital related laws were weakness of the respect for oneself and others in the digital world and reported with a high level of need. The 4 aspects of external environment i.e. government policy, economic condition, social condition, and technology were found as opportunities. The author proposed this strategy to improve the measurement and evaluation section as weakness. It will even strengthen the strength by utilizing various activities and opportunities to assist in reducing such weaknesses so that students will be improved in their digital etiquette, morals and ethics, and compliance to digital related laws. This agrees to Riel (2012: iii) in a study on digital literate citizen: how digital literacy empower mass participation in the United States. He examined digital literate citizen in 3 aspects of the ability to use electronic tools to retrieve, evaluate and create information as it has become essential for engagement in various mass participation and social activities in the United States, including those activities within the domains of social membership, civic, political, and online participation. Because of increased use of information technologies in public spheres, technology and information skills have become required to effectively participate socially and politically. The findings indicated that strength of digital literacy skills empower public for social mass participation, political participation, and online social activities.

### Sub-Strategy 3.2: To Uplift School Management of Student Council Section and Boy Scout/Reserved Officer's Training Corps to Develop Students' Self-Identification and Good Relationship with Others in The Digital World

The findings pointed out that the weaknesses of student council section and boy scout/reserved officer's training corps were respect for oneself and others in the digital world, and responsible and safe digital use, while self-identification and good relationship with others in the digital world was weakness of the respect for oneself and others in the digital world and was in a high level of needs. On the other hand, government policy, economic condition, social condition, and technology offered opportunities. The author proposed this strategy to uplift student council section and boy scout/reserved officer's training corps section in developing students' self-identification and good relationship with others in the digital world by using co-curricular activities. It agrees to Daranit Khongthiam (2014: 5-6, 141-154) in a research on self-identification of the online social network users on www.YouTube.com. The findings revealed that the users under 20 years of age had more obvious motivation to use YouTube.com more than the users of other ages, which included the desires to utilize free time, avoid problems, relieve loneliness, to be known, to be famous, to be recognized, to express one's idea, and to express self-interest. It also found that male users identified themselves on the YouTube.com videos significantly more than female users to express themselves as a master in certain way, discoverer, skeptical, trying something new, good role model, opinion leader, outstanding on the on-line world. The users with lower level of education identifies themselves more than those with higher level of education.

## Recommendations

### *1. Recommendation for Utilizing Research Result*

1.1 The SGF's academic department should inform its affiliated schools to place an importance on formulating new policy on education management planning on technology in particular of creating digital citizenship in students. The current research found a moderate level the current status of school management, however the suggestions by informants indicated the strengths of academic department about the readiness of schools in technological equipment, the readiness of students in language and digital use, and the parents' knowledge and capability to give support and establish good relationship with schools.

1.2 Administrators of SGF schools should focus on the management of measurement and evaluation of digital citizenship especially on responsible and safe digital use, as found to be weakness in the management of SGF schools according to the concept of enhancing digital citizenship in students. Schools should consider using technology in the 360-degree measurement and evaluation.

1.3 Administrators of SGF schools and other education related agencies should consider improving the current curriculum by integrating into it the digital literacy. They should also introduce policies to promote student development activities that allow students to participate in providing suggestions, managing school resources,

developing school learning environment; and students' easy access to knowledge for constant learning. Schools should regularly supervise and monitor the implementing results for further continuous improvement.

1.4 As observed, the results showed a highest level of desirable status in enhancing students' digital citizenship; the strengths in the curriculum section and instruction section; and a high level of propriety and feasibility as evaluated by experts. Schools accordingly need to stress on developing digital literacy to enhance students' digital characteristics including respect for oneself and others in the digital world; digital etiquette, morals and ethics, and compliance to digital related laws; self-identification and good relationship with others in the digital world; responsibility and safe digital use to protect oneself and other digital users; appropriate digital use without adverse health effect; creating innovations with the ability to design creative digital innovations; and development of digital innovations.

1.5 Teachers can utilize the current results to integrate into their management of teaching and learning as well as co-curriculum activities. They should facilitate in developing student characteristics on respect for oneself and others in the digital world, responsible and safe digital use, and creating digital innovation.

According to the finding, the desirable status to enhance digital citizenships in students was at a highest level. The analysis of external environment indicated social condition as threat in enhancing students' digital citizenship.

## *2. Recommendation for Further Research*

Based on the above research results and discussion, the author provided the following recommendations for further research that may contribute to the achievement of developing student's digital citizenship.

2.1 Research should investigate external conditions as major factors to enhance students' digital citizenship and look into students' digital innovations creation by using digital technology for economic value added. As stated in the policy of the current government, (2017), Thailand is on its way toward the 4.0 era in which technology and innovation become the core of development. The current research clearly indicated that technological environment provides opportunity for the management of Saint Gabriel Foundation's schools in Thailand according to the concept of enhancing students' digital citizenship. However, government policy, economic and social environment remained the threats for most of these schools. To wait for the development and nationwide coverage of information technology and internet networks for education in schools might be tardy. Further research should consider the possibility of using students' personal technological device in school context to aid in enhancing students' digital citizenship and other aspects since available data showed that the world today is entering the age of digital economy and society.

2.2 Research should look into school management using instruction approach that integrates media use and supportive school environment to improve school capacity in instruction management that enhances students' digital citizenship with the ability to use digital technology with responsibility and safety, and also effectively create digital innovations. In here, academic department was weakness in the management of Saint Gabriel Foundation's schools, coupled with the government

policy, economic and social conditions, and technology as threats. Moreover our research clearly pointed out that responsible and safe digital use and digital innovation were weaknesses.

## References

- Rungrujtanan Bunyaraksh, Paitoon Sinlarat, and Pongsin Viseshsiri. (2017). *Creative Online Social Cooperation Strategy Management in Education for Private Kindergarten in Bangkok Metropolitan Area*. Graduate School, Department of Educational, Dhurakij Pundit University, 2017.
- Catholic Education. Diocese of Townsville. (2015). *What is Digital Citizenship?* [Online] Available from: [http://www.tsv.catholic.edu.au/resource\\_centre/digital\\_citizenship/digital\\_citizenship.php](http://www.tsv.catholic.edu.au/resource_centre/digital_citizenship/digital_citizenship.php) [2015, March 9].
- Global Digital Citizen Foundation. (2015). *Digital citizenship school program*. [Online] Available from: <https://globaldigitalcitizen.org/digital-citizenship-school-program> [2015, February 22].
- International Society for Technology in Education. (ISTE) (2016). *ISTE Standard*. [Online] Available from: <http://www.iste.org/standards/iste-standards/standards-for-students> [2016, April 22].
- Riel, J. (2012). *The Digital Literate Citizen: How Digital Literacy Empowers Mass Participation in the United States*. Georgetown University Washington, D.C.2012. p. iii.
- Daranit Khongthiam. (2014). *Self-Identification of The Online Social Network Users on www.YouTube.com*, Graduate School, Bangkok University, 2014.
- Ministry of Information and Communication Technology. (2016). *Digital Thailand: Digital Development for Economic and Social Development*. Bangkok. 2016. pp.1-35.
- National Economic and Social Development Board Office. (2016). *The National Economic and Social Development Plan No. 12, 2017-2021*. Bangkok: The office of the prime minister, 2016. p.42.
- Office of the Education Council. (2012). *The National Education Plan 2017-2036*. Bangkok: Ministry of Education, 2017.
- Wicharn Panich. (2012). *Ways to Create Learning for Students in the 21<sup>st</sup> Century*. Bangkok: Sodsri-Saridwongs Foundation, 2012.
- Ribble, M. (2011). *Digital Citizenship in Schools*. 2<sup>nd</sup> ed. Printed in United States of America, 2011. pp.15-44.
- The North Central Regional Educational Laboratory and the Metiri Group. (2015). *Engauge 21st Century Skills: Literacy in the Digital Age*. [Online] Available from <http://pict.sdsu.edu/engauge21st.pdf> [2015, April 25].
- The Office of Electronic Transactions Commission (Public Organization) Office. (2015). *A Report of the Survey Result of the Internet User Behaviors in Thailand Year 2015*. Bangkok: The Ministry of Information Technology and Communication, 2015
- The Saint Gabriel Foundation of Thailand, Foundation. (2016). *Six Year Strategic Plan of the Saint Gabriel Foundation of Thailand, 2016-2021*. Bangkok: Plan Printing Publisher Limited. 2016. pp.11-55.



- UNESCO Bangkok Asia and Pacific Regional Bureau for Education. (2014). *Fostering Digital Citizenship through Safe and Responsible Use of ICT*. 2014. pp.18-23.
- World Economic Forum. (2016). *8 digital life skills all children need – and a plan for teaching them*. [Online] Available from: <https://www.weforum.org/agenda/2016/09/8-digital-life-skills-all-children-need-and-a-plan-for-teaching-them/> [2016, December 12].