Comparison of Digital Literacy Standard between Thailand and Other Countries

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Abstract - Digital Literacy is of importance and necessary in life. Currently, life of all people regardless of their gender, age, and occupation depends on information technology. As a result, many countries have developed Digital Literacy Curriculum to provide knowledge about the Digital Literacy to their citizens. This is applied to Thailand as well. A development of personnel in the country is of significance to ensure that Thailand is able to be compared with other countries. Consequently, government authorities especially the Office of the Civil Service Commission (OCSC) has worked coordinately with Thailand Professional Qualification Institute (Public Organization) under supervision of prime minister to develop Digital Literacy Project for Government personnel. The aims of the project were to provide knowledge for the Government personnel and to set up the Digital Literacy Standard. The researcher has synthesized, investigated and compared the standard that was set by the OCSC and Thailand Professional Qualification Institute (Public Organization) with the standard of other countries. The objective of this research was to investigate and compare the Digital Literacy Standard between Thailand and other countries. Literature review and other documents about the Digital Literacy Standard of Thailand and other countries were analyzed.

The result suggested that the standard of Bass Modules of Thailand was in accordance with the standard of other countries. Nevertheless, Intermediate modules and Advances Modules of Thailand were differed from the standard of other countries. In addition, it was found that countries that have set Digital Literacy Standard on various areas were Arab States and Europe. Thailand has set the least Digital Literacy Standard when comparing to others. Digital Literacy Standard on Presentation, Using Databases, IT Security, Online Collaboration, and Project Planning were areas that have been mostly used to set the standard. Information Literacy and Managing Online Information were less likely to be used to set the standard.

Keywords - Digital Literacy, Bass Modules, Intermediate Modules, Advances Modules

I. INTRODUCTION

At present, the world is proceeding into the digital age. Digital Technology is no longer a tool to support the work of human. It is truly integrated into our life. It changes the structure and economic activity patterns in term of production, trading, service offering, education, social process, and interaction between people.

Thailand has to accelerate digital transformation as it will be a key that drive development. In Thailand, Digital Technology will help addressing the challenges encountered by the country and will increase the opportunities for economic and social development (Ministry of Digital Economy and Society, 2016). The important thing that will help increasing competitive capabilities is to ensure that people will have competency that meets the needs of the labor market (Thailand Professional Qualification Institute (Public Organization), 2014). As such, Thailand government led by the Ministry of Digital Economy and Society has developed this Digital Economy Master Plan to make the Digital Technology becoming an important mechanism for economic and social development. This also includes the development of every sectors, business process reengineering, trading, service offering, improvement of the efficiency of the state administration and quality of life of citizens (Ministry of Digital Economy and Society, 2016). In order for Thailand to successfully develop Digital Technology, the context of other countries is needed to be studied as it will unsure that Thailand will be developed in the same direction.

II. OBJECTIVES

To investigate and compare Digital Literacy Standard of Thailand with other countries.

III. SCOPE OF STUDY

In this research, the focus has been given on the comparison of Digital Literacy Standard between Thailand and other countries. The researcher has set the scope of the research on the Digital Literacy of Thailand by studying information from the Office of the Civil Service Commission (OCSC) and Thailand Professional Qualification Institute (Public Organization). In addition, Digital Literacy Standard of other countries such as in ASIA, Autralia, Arab States, Africa, Europe, The Americas, USA, and Canada were also explored.

IV. METHODOLOGY

The research was a qualitative research and concentrated on comparison of the Digital Literacy Standard. The steps of the research are as follows:

A. Data Sources

The data sources in this research can be categorized into 2 parts: First was the data source within the country such as websites. These websites included the website of the Office of the Civil Service Commission (OCSC) (https://www.icdlthailand.org) and Thailand Professional Qualification Institute (Public Organization) (https://tpqinet.tpqi.go.th/tpqi/). The Thailand Professional Qualification Institute (Public Organization) has developed Thailand's Digital Literacy Standard at the end of 2016 whereby the Digital Technology ICDL (International Computer Driving License) was selected and certified by the Thailand Professional Qualification Institute (Public Organization). This was because it was qualified to be used as an assessment tool. It covered all standards that have been set and there was a high quality online testing that could be effectively used to assess skills of each personnel. In addition, the results from the test were of details and could be further used to analyze potential in other areas (https://www.icdlthailand.org/blank, 2017).

The researcher collected data of other countries from websites that included ASIA http://www.icdlasia.org, Autralia ttp://icdlaustralia.org, Arab States https://icdl.org/find-a-national-operator, Africa http://icdlafrica.org, Europe http://ecdl.org/about-ecdl, The Americas http://icdlamericas.org, USA http://icdlusa.org, and Canada http://icdl.ca/index.php?lang=en. A group of countries that the researcher investigated can be categorized into several areas, as shown in Fig. 1.

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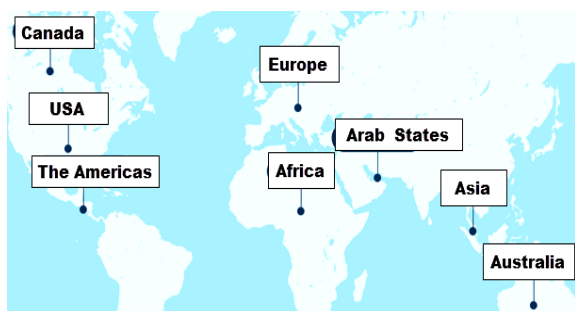
Fig. 1 Group of Countries that Set Digital Literacy

B. Research Instrument

Data record form was used in this research.

C. Data Collection

The researcher collected data about the Digital Literacy Standard from websites of Thailand and other countries. The data was then recorded on the form that the research has prepared.

D. Data Analysis

The researcher analyzed the collected data by creating the comparison table on each area of Digital Literacy of each country.

V. RESEARCH FINDING

In order to compare Digital Literacy Standard between Thailand and other countries, the researcher has analyzed and synthesized the information and results are shown in Table I.

TABLE I
SYNTHESIS AND ANALYSIS OF THAILAND'S DIGITAL LITERACY AND OTHER COUNTRIES

Digital Literacy	Computer Essentials	Online Essentials	Word Processing	Spreadsheets	Digital Media	Hardware	Telecommunication	Presentation	Using Databases	IT Security	Online Collaboration	Image Editing	Web Editing	Project Planning	2D CAD	Health Information System Usage	ICT in Education	Digital Marketing	Computing	Information Literacy	Managing Online Information	Advanced Word Processing	Advanced Spreadsheets	Advanced Database	Advanced Presentation
	Bass Modules				Intermediate modules																	Advances Modules			
ICDL	✓	✓	✓	✓				✓																	
(TPQL)	✓	✓	✓	✓	✓	✓	✓	✓		✓				✓											
ICDL ASIA	✓	✓	✓	✓				✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
ICDL Autralia	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓							✓	✓	✓	✓
ICDL Arab Strates	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
ICDL Africa	✓	✓	✓	✓				✓	✓	✓	✓			✓				✓				✓	✓	✓	✓
ICDL Europe	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ICDL The Americas	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓								✓	✓	✓	✓
ICDL USA	✓	✓	✓	✓				✓	✓	✓	✓			✓				✓				✓	✓	✓	✓
ICDL Canada	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓							✓	✓	✓	✓	✓
Total	10	10	10	10	1	1	1	10	8	9	8	5	6	9	4	3	3	5	3	2	2	8	8	8	8

In this research, the Digital Literacy Standard that has been set by the Office of the Civil Service Commission (OCSC) consisted of 5 skills that were Computer Basics, Online Basics, Word Processing Basics, Spreadsheet Basics, and Presentation Basics. It could be clearly seen that Digital Technology or Digital literacy (the Office of the Civil Service Commission (OCSC), 2017) was of importance and necessary for work and operation.

For the standard of other countries, majority of countries has categorized Digital Literacy Standard into 3 levels, including Bass Modules, Intermediate Modules, and Advance Module. The researcher has synthesized, investigated and compared the Digital Literacy with the standard of other countries. The result suggested that the standard of Bass Modules of

Thailand was in accordance whereas the Intermediate modules and Advances Modules of Thailand were differed from the standard of other countries. In Thailand, there was no standard set on Advances Modules.

After finish analyzing Digital Literacy Standard of each country, the researcher has conducted analysis in each area. Skill that was analyzed was the Intermediate modules as the Bass Modules and the Advances Modules were similar in all countries, except Thailand that had no Advances Modules. The analysis was conducted in order to investigate which areas of Digital Literacy were mostly used to set the standard. In this research, frequency was used to analyze, as shown in Fig. 2.
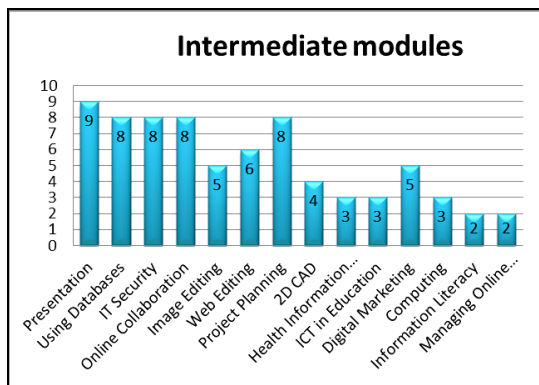

Fig. 2 Numbers of Countries that have Applied Each Area of Digital Literacy to Set the Standard

According to Fig. 2, it was found that Presentation was the area that have been mostly used to set the Digital Literacy Standard, followed by Using Databases, IT Security, Online Collaboration, and Project Planning. The areas that were less likely to be used to set the standard were Information Literacy and Managing Online Information.

Furthermore, the researcher has also investigated the number of Intermediate modules that were set by other countries. The results are shown in Fig. 3.
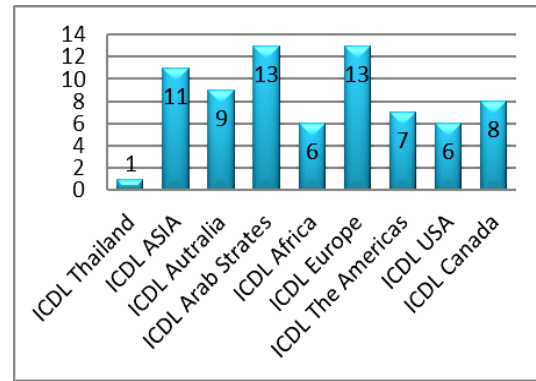

Fig. 3 Digital Literacy Standard in Each Area that Each Country was Used to Set the Standard

According to Fig. 3, it was found that groups of countries that set the most Digital Literacy Standard in each area were Arab States and Europe. In all, there were 13 areas, followed by 11 areas in ICDL ASIA. Last but not least, Thailand was the country that set the least Digital Literacy Standard which was only 1 area.

VI. CONCLUSIONS AND DISCUSSION

Digital Literacy is of importance and necessary to human life in various aspects. Government authorities have given attention on it, especially the Office of the Civil Service Commission (OCSC) and Thailand Professional Qualification Institute (Public Organization) under supervision of prime minister. They have developed Digital Literacy Project to provide knowledge for the Government personnel and to set up the Digital Literacy Standard. Other countries have also given attention to the Digital Literacy. This is in accordance with the research of A. Ondrejková that conducted study on the Digital skills and digital divide in context of the Digital Agenda for Europe focused on Slovakia. The research found that the European Commission has supported and provided training about the digital skills to labors and consumers (A. Ondrejková: 2015). In addition, each country set the Digital Literacy Standard differently. Majority of countries has categorized Digital Literacy Standard into 3 levels included Bass Modules, Intermediate modules, and Advances Modules. In contrast, Denise Leahy and Dudley Dolan have categorized the Digital Literacy into 7 modules (Denise Leahy and

Dudley Dolan, 2014). When comparing Digital Literacy Standard of Thailand with other countries, it was found that Thailand's Digital Literacy Standard on Bass Modules were similar to other countries as it was the basic of the information technology. This was in accordance with the research of Alan Oxley that conducted a study on Designing a Computer Literacy Course. The research indicated that the basic knowledge for all students were the hardware – keyboard, mouse, screen, secondary storage device, and printer; The operating system, to log on and to manage files and folders; Word processing software Spreadsheet software, to process formulae and create Charts; Graphics software; Presentation software. Furthermore, for Intermediate modules and Advances Modules, there was a difference. The number of areas covered by Thailand's Digital Literacy Standard was lesser than other countries. Thailand focused only on 1 area which was the Presentation. From other 14 areas, Presentation was an area that other countries have used to set most of the standards. Information Literacy and Managing Online Information were less likely to be used to set the standard. There were only 2 countries that used these 2 areas to set the standard. The groups of countries that have set Digital Literacy Standard in many areas were Arab States and Europe. Both groups have equally set the standard in 13 areas. Africa and USA were countries that set the least number of the Digital Literacy Standard. According to the data analysis, it was found that standards on Using Databases, IT Security, Online Collaboration, and Project Planning in other countries were used to be set as standards more than other areas. It was necessary skills that needed to be acquired. Thailand should focus on these areas in order to ensure that the Digital Literacy of the country will be able to compare with other countries.

REFERENCES

(Arranged in the order of citation in the same fashion as the case of Footnotes.)

[1] Ministry of Information Technology and communication centre. (2016). "Digital Development Plan for Economy and Society". Bangkok.

[2] Office of the Civil Service Commission (OCSC). (2017). "Digital Literacy for government personnel and private sector". <https://www.icdlthailand.org>.

[3] Thailand Professional Qualification Institute (Public Organization). (2014). "Annual Report". Bangkok.

[4] Office of the Civil Service Commission (OCSC). (2017). "Development of Digital Literacy of government personnel and public sector personnel". <http://www.ocsc.go.th/DLProject/mean-dlp>.

[5] Find Your Regional Website ICDL. (2017). "ICDL". International Computer Driving Licence, <htttps://icdl.org/>.

[6] ICDL Canada. (2017). "Computer Use Skill Certification". <http://icdl.ca/index.php?lang=en>.

[7] ICDL Asia. (2017). <http://www.icdlasia.org>.

[8] ICDL Australia. (2017). <http://icdlaustralia.org>.

[9] ICDL USA. (2017). <http://icdlusa.org>.

[10] ICDL Arab States. (2017). <https://icdl.org/find-a-national-operator>.

[11] ICDL Europe. (2017). <http://ecdl.org/about-ecdl>.

[12] ICDL the America. (2017). <http://icdlamericas.org>.

[13] ICDL Africa. (2017). <http://icdlafrica.org/?>.

[14] Leahy, D. and Dolan, D. (2014). "History of the European Computer Driving Licence2".

[15] Digital Literacy Stand for Thai workforces. <https://www.icdlthailand.org/blank-3>.

[16] Oxley, A. (2010). "Designing a Computer Literacy Course". Computer and Information Sciences Department, Universiti Teknologi PETRONAS Bandar Seri Iskandar, Malaysia.

[17] Ondrejková, A. (2015). "University of Economics in Bratislava". Faculty of Economic Informatics, Department of Applied Informatics, Dolnozemská cesta 1/b, 852 35 Bratislava, Slovak Republic.