

**PERCEPTION ON DIGITAL COMPETENCE IN
SOCIAL MEDIA PRACTICE AMONG CREATIVE
ARTS STUDENTS IN INSTITUTIONS OF HIGHER
LEARNING IN PENANG**

by

LIM JING YI

**Thesis submitted in fulfillment of the requirements
for the degree of
Doctor of Philosophy**

August 2018

ACKNOWLEDGEMENT

To begin with, I would like to convey my sincerest gratitude to my supervisor- Prof. Dr. Shanthi Balraj who has guided me patiently and enlightened me in many ways throughout the research and writing of this thesis. Her advices on my studies as well as my career are priceless. And not forgetting to also thank all my learned mentors - Prof. Vincent Pang and Prof. Koo Yew Lie for the generous sharing of their knowledge and insightful comments, which have always serve as a great inspiration to me.

I would also love to take this opportunity to express my gratitude to my dear friends - Helena, Eunice, Amy, Charis, Farhah, Wai Man, Wai Ying, and Pei Im who have relentlessly encouraged me to progress towards achieving my goals in life. And to those who have honoured my humble request to participate in this study, or who have assisted me in any and every way possible, heartiest thank you from me to each and every one of you for the valuable time spent and wisdom shared with me.

I am also grateful to have received financial support from MyBrain15, Ministry of Education Malaysia, and conference fund support from the Institute of Postgraduate Studies, Universiti Sains Malaysia. My utmost gratitude also to all the faculty members of School of the Arts, Universiti Sains Malaysia for their support and assistance throughout my studies.

Lastly, I am eternally thankful to my beloved family, especially my parents. Words cannot express how grateful I am to my parents for all their sacrifices and unconditional love that they have showered on me; my sisters - Jing Fen and Jing Xian for all their love, encouragement and support in all my endeavours; my niece - Jia Yi, whose adorable smile always serve as the best stress reliever amidst all the nerve-racking moments.

TABLE OF CONTENTS

Acknowledgement	ii
Table of Contents	iii
List of Tables	vii
List of Figures	ix
List of Appendices	x
Abstrak	xi
Abstract	xiii
CHAPTER 1 - INTRODUCTION	1
1.1 Perception	1
1.2 Developing Digital Competence	2
1.3 Digital Competence in Malaysia	4
1.4 The Social Media and Students	6
1.5 Implications of Social Media on Higher Learning Institutions	8
1.6 Creative Arts and Social Media	10
1.7 Problem Statement	12
1.8 Research Objectives	13
1.9 Research Questions	14
1.10 Significance of the study	14
1.11 Limitations to the study	15
CHAPTER 2 - LITERATURE REVIEW	17
2.1 Introduction	17
2.2 Perception and Digital Competence	17
2.3 Broad Outlook on Digital Competence Development	18
2.3.1 Defining Digital Competence	18
2.3.2 Growth of Digital Competence Discipline	24

2.4	Social Media among Students in Institutions of Higher Learning	25
2.4.1	Social Media, Students' Participation and Changing Literacies	28
2.5	Fundamentals of Digital Competence – The Framework developed by Ala-Mutka (2012)	30
2.5.1	Instrumental Skills and Knowledge	31
2.5.1(a)	Operational Skills and Knowledge	31
2.5.1(b)	Medium-related Skills and Knowledge	31
2.5.2	Advanced Skills and Knowledge	32
2.5.2(a)	Communication and Collaboration	32
2.5.2(b)	Information Management	33
2.5.2(c)	Learning and Problem Solving	33
2.5.2(d)	Meaningful Participation	33
2.5.3	Attitudes for Skills and Knowledge Applications	34
2.5.3(a)	Intercultural and Collaborative Attitude	34
2.5.3(b)	Critical Attitude	34
2.5.3(c)	Creative Attitude	35
2.5.3(d)	Autonomous Attitude	35
2.5.3(e)	Responsible Attitude	35
2.6	Use of Social Media for Creative Arts	38
2.6.1	Developing Digital Competence among Creative Arts Students	38
2.7	Conceptual Framework Adopted for the Study	40
CHAPTER 3 - RESEARCH METHODOLOGY		46
3.1	Introduction	46
3.2	Basic Procedure Adopted	47
3.3	Survey	49
3.3.1	Details of Sample	51
3.3.2	Quantitative Data Analysis	52

3.4	Discussion Sessions	53
3.4.1	Details of Sample	55
3.4.2	Qualitative Data Analysis	57
CHAPTER 4 - FINDINGS AND DISCUSSION		59
4.1	Introduction	59
4.2	Quantitative Findings from Survey	59
4.2.1	Demographic Details of the Sample	59
4.2.2	Creative Arts Students' Perception on Instrumental Skills and Knowledge	61
4.2.2(a)	Operational Skills and Knowledge	61
4.2.2(b)	Medium Related Skills and Knowledge	62
4.2.3	Creative Arts Students' Perception on Advanced Skills and Knowledge	63
4.2.3(a)	Communication and Collaboration Skills and Knowledge	63
4.2.3(b)	Information Management Skills and Knowledge	63
4.2.3(c)	Learning and Problem Solving Skills and Knowledge	64
4.2.3(d)	Meaningful Participation Skills and Knowledge	65
4.2.4	Creative Arts Students' Perception on Attitudes for Skills and Knowledge Application	66
4.2.4(a)	Intercultural and Collaborative Attitude	66
4.2.4(b)	Critical Attitude	67
4.2.4(c)	Creative Attitude	68
4.2.4(d)	Autonomous Attitude	69
4.2.4(e)	Responsible Attitude	70
4.3	Qualitative Findings from Discussion Sessions	71
4.3.1	Findings on Creative Arts Students' Instrumental Skills and Knowledge	72
4.3.1(a)	Operational Skills and Knowledge	72

4.3.1(b)	Medium Related Skills and Knowledge	81
4.3.2	Findings on Creative Arts Students' Advanced Skills and Knowledge	91
4.3.2(a)	Communication and Collaboration Skills and Knowledge	91
4.3.2(b)	Information Management Skills and Knowledge	102
4.3.2(c)	Learning and Problem Solving Skills and Knowledge	115
4.3.2(d)	Meaningful Participation Skills and Knowledge	124
4.3.3	Findings on Creative Arts Students Attitude for Skills and Knowledge Application	135
4.3.3(a)	Intercultural and Collaborative Attitude	135
4.3.3(b)	Critical Attitude	145
4.3.3(c)	Creative Attitude	154
4.3.3(d)	Autonomous Attitude	164
4.3.3(e)	Responsible Attitude	174
4.4	Discussions	184
4.4.1	Discussion on Creative Arts Students Instrumental Skills and Knowledge	184
4.4.2	Discussion on Creative Arts Students Advanced Skills and Knowledge	186
4.4.3	Discussion on Creative Arts Students' Attitude for Skills and Knowledge Application	192
CHAPTER 5	CONCLUSION	209
5.1	Introduction	209
5.2	Key Research Findings	210
5.3	Recommendations	217
	BIBLIOGRAPHY	219
	APPENDICES	
	LIST OF PUBLICATIONS	

LIST OF TABLES

		Page
Table 1	Breakdown of Respondents from Private and Public Institutions of Higher Learning	52
Table 2	Brief descriptions of respondents participated in discussion sessions	56
Table 3	Gender of Respondents'	60
Table 4	Respondents' Ethnic Group	60
Table 5	Monthly Family Income of Respondents	61
Table 6	Creative Arts Students' perception on operational skills and knowledge	61
Table 7	Creative Arts Students' perception on medium related skills and knowledge	62
Table 8	Creative Arts Students' perception on communication and collaboration skills and knowledge	63
Table 9	Creative arts students' perception on information management skills and knowledge	64
Table 10	Creative arts students' perception on learning and problem solving skills and knowledge	65
Table 11	Creative arts students' perception on meaningful participation skills and knowledge	65
Table 12	Creative arts students' perception on attitudes for skills and knowledge application, Intercultural and Collaborative	66
Table 13	Creative arts students' perception on attitudes for skills and knowledge application, Critical	67
Table 14	Creative arts students' perception on attitudes for skills and knowledge application, Creative	68

Table 15	Creative arts students' perception on attitudes for skills and knowledge application, Autonomous	69
Table 16	Creative arts students' attitudes for skills and knowledge application, Responsible	70
Table 17	Key Findings and Recommendation on operational skills and knowledge	79
Table 18	Key Findings and Recommendation on medium related skills and knowledge	89
Table 19	Key Findings and Recommendation on communication and collaboration skills and knowledge	100
Table 20	Key Findings and Recommendation on information management skills and knowledge	114
Table 21	Key Findings and Recommendation on learning and problem solving skills and knowledge	123
Table 22	Key Findings and Recommendation on meaningful participation skills and knowledge	133
Table 23	Key Findings and Recommendation on attitudes for skills and knowledge application, Intercultural and Collaborative	144
Table 24	Key Findings and Recommendation on attitudes for skills and knowledge application, Critical	153
Table 25	Key Findings and Recommendation on attitudes for skills and knowledge application, Creative	162
Table 26	Key Findings and Recommendation on attitudes for skills and knowledge application, Autonomous	171
Table 27	Key Findings and Recommendation on attitudes for skills and knowledge application, Responsible	183
Table 28	Summary of Key Findings and Recommendation	199

LIST OF FIGURES

		Page
Figure 1	Conceptual framework adopted for the study	37
Figure 2	Research flow chart	48
Figure 3	Creative arts students' attitudes for skills and knowledge application, Intercultural and Collaborative	67
Figure 4	Creative arts students' attitudes for skills and knowledge application, Critical	68
Figure 5	Creative arts students' attitudes for skills and knowledge application, Creative	69
Figure 6	Creative arts students' attitudes for skills and knowledge application, Autonomous	70
Figure 7	Creative arts students' attitudes for skills and knowledge application, Responsible	71

LIST OF APPENDICES

Appendix I	Sample of Survey Questions
Appendix II	Sample of Interview Questions with Creative Arts Students
Appendix III	Sample of Interview Questions with Creative Arts Lecturers
Appendix IV	Sample of Interview Questions with Creative Industry Practitioners
Appendix V	Sample of Transcript: Discussion Session with Creative Arts Student
Appendix VI	Sample of Transcript: Discussion Session with Creative Arts Lecturer
Appendix VII	Sample of Transcript: Discussion Session with Creative Industry Practitioner

**PERSEPSI TERHADAP KOMPETENSI DIGITAL DALAM AMALAN MEDIA
SOSIAL PELAJAR SENI KREATIF INSTITUSI-INSTITUSI PENGAJIAN
TINGGI DI PULAU PINANG**

ABSTRAK

Persepsi terhadap kompetensi digital pelajar seni kreatif memainkan peranan penting kerana dengan amalan media sosial, semangat pembelajaran dapat dipupuk di samping mereka terdedah pada risiko serta berdepan dengan peluang-peluang yang ada. Kajian ini bertujuan menentukan kompetensi digital pelajar seni kreatif dengan bertumpukan tiga komponen utama iaitu (i) kemahiran dan pengetahuan peringkat instrumental, (ii) kemahiran dan pengetahuan peringkat maju; dan (iii) sikap terhadap aplikasi kemahiran dan pengetahuan. Kajian ini menggunakan metodologi campuran yang mengumpulkan persepsi pelajar seni kreatif, pensyarah seni kreatif dan pengamal industri kreatif mengenai kompetensi digital pelajar seni kreatif. Kajian kuantitatif menunjukkan bahawa pelajar seni kreatif berpuas hati dengan kompetensi digital mereka. Sementara itu, kajian kualitatif pula menunjukkan bahawa pelajar seni kreatif berkeyakinan tinggi terhadap kemahiran tahap instrumental dan tahap maju. Walau bagaimanapun, pensyarah seni kreatif dan pengamal industri kreatif tidak beranggapan sedemikian. Walaupun institusi pengajian tinggi telah berusaha dengan bersungguh-sungguh untuk meningkatkan kompetensi digital pelajar seni kreatif, pensyarah-pensyarah seni kreatif mendapati bahawa bukan semua pelajar mempunyai kompetensi digital. Sementara itu, pengamal-pengamal industri kreatif berpandangan bahawa kecekapan digital pelajar seni kreatif adalah lemah pada umumnya dan mereka tidak berkompeten dalam industri kreatif. Kesimpulannya, kajian ini mencadangkan agar

institusi-institusi pengajian tinggi mengambil serius keterlibatan pelajar seni kreatif dalam amalan media sosial dan dalam jaringan dengan industri kreatif agar kompetensi digital mereka dapat ditingkatkan.

**PERCEPTION ON DIGITAL COMPETENCE IN SOCIAL MEDIA PRACTICE
AMONG CREATIVE ARTS STUDENTS IN INSTITUTIONS OF HIGHER
LEARNING IN PENANG**

ABSTRACT

Perception on digital competence of creative arts students plays an important role as their social media practices will foster their learning as well as expose them to risks and opportunities. This study aims to identify creative arts students' digital competence focusing on three core components that include perception on (i) instrumental skills and knowledge, (ii) advanced skills and knowledge; and (iii) attitudes for skills and knowledge application. This study employs a mixed methodology which gathered the perceptions of creative arts students, creative arts lecturers and creative industry practitioners on creative arts students' digital competence. Quantitative findings of the study reveal that creative arts students are satisfied with their own digital competence. Meanwhile, the qualitative findings show that creative arts students are very positive about their own instrumental and advanced skills. However, creative arts lecturers and creative industry practitioners perceive differently. While institutions of higher learning have made much effort to assist and guide creative arts students to elevate their digital competence, creative arts lecturers noted that not all students are digitally competent. Meanwhile, creative industry practitioners perceive that creative arts students' digital competence is weak in general and are not competent in the creative industry. In conclusion, this study suggests that the institutions of higher learning engage creative arts students seriously in digital competence by encouraging good practices in social media, and in building links with the creative industry.

CHAPTER 1 INTRODUCTION

1.1 Perception

Perception is one of the basic ways in meeting the reality (Démuth, 2013), the primary goal of a perception is to recover and estimate objective properties of the physical world (Hoffman, 2009). According to Lewis (2001), "Fundamental to perception is that there is an experiencing person or perceiver; secondly, that something is being perceived (either an object, person, situation or relationship); thirdly there is the context of the situation in which objects, events or persons are perceived and finally there is the process nature of perception starting with the experiencing of multiple stimuli by the senses and ending with the formation of percepts". Under perception, understanding, discernment and elements of volition and action are involved (Dowler, Green, Bauer, & Gasproni, 2006).

While Bueno (2013) and Shaver (1994) stated that perception assists in forming a mental representation of the environment and information obtained through perception provides a better understanding of the world, Tello, Moncivais & Avendaño (2013) added that perception is not merely a cognitive process but a complex process that depends on the information generated by the world and the experiences of those who perceive it. Scholars recognise that perceptions are able to offer data or information which is intangible and difficult to be measured (Herbert, 2013). Hilker & Kangas (2011) noted, perception measures what respondents believe, think or feel and develops information on (i) knowledge, (ii) experiences, (iii) beliefs and values, (iv) attitudes and opinions as well as (v) expectations (as cited in Herbert, 2013). Apart from that, Arras-Vota, Bordas, Beltran & Gutiérrez-Díez (2017) argued that digital experiences of students and lecturers, their perception on digital learning as well as the way how they

interpret the reality of the digital environment are important in understanding and evaluating students' digital competence. As such, perception is seen to be essential to identify digital competence among the students.

1.2 Developing Digital Competence

The development of digital technology offers new ways of communication, online participation and learning (Gisbert & Lazaro, 2015; Kamaluddeen Usman Danyaro, Jafreezal Jaafar, Road Allan A. De Lara, & Downe, 2010). These development and changes especially in social media have casted deep and broad impact on all sectors of the society. A report by Australian Council for Educational Research (2010) revealed that high participation and collaboration of students in the social media and other web applications affects the nature of teaching and learning.

While many countries are concerned with how Information and Communication Technology (ICT) may impact schooling and education; government plans, strategies and programmes are at the same instant developed to deal with digital competence in schools and institutions of higher learning (OECD, 2011; Zhong, 2011, Balanskat & Gertsch, 2010). Policymakers especially, are actively involved in exploring the methods to achieve new opportunities and optimal benefit from the use of ICT through the increment level of digital competence (Verdegem, 2011). Despite the fact that criticisms and debate of graduate outcomes have been increasingly prevalent (Ooi, 2016; Shanmugam, 2017; Zulita Mustafa, 2017), more complex factors such as education, attitude and development of digital competence are perceived to be crucial to prepare students from institutions of higher learning to participate in complex workplaces and society in the future (Jeffrey, Hegarty, Kelly, Penman, Coburn, & Mc Donald, 2011; Bjørgen & Nygren, 2010; Ala-Mutka, Punie, & Redecker, 2008). At a personal level,

digital competence is also deemed to be necessary for individual development, of which the educational system should integrate the said element in order to ensure participation in it in the 21st century society (Gisbert & Lazaro, 2015). Ilomäki, Paavola and Lakkala (2014, p.655) in addition stated, "digital competence is used especially in general discussions on what kind of skills and knowing people should have in a knowledge society, what to teach the young people and how to do so in order to become a capable citizen".

Digital competence is a broad definition and has been defined in various ways (Hatlevik, Guðmundsdóttir, & Loi, 2015). With the 2006 European Recommendation of Key Competences, digital competence has been acknowledged as one of the eight key competences for Lifelong Learning by the European Union (Ferrari, 2012). The European Commission (Punie & Cabrera, 2006) has then defined digital competence to mean “involving the confident and critical use of Information Society Technology (IST) for work, leisure and communication”. Digital competence is a combination of knowledge, skills and attitudes a person must possess in order to develop and participate in the knowledge society successfully. Meanwhile, the report by European Communities (2007) defined digital competence as below:

Digital competence underpinned by basic skills in IST: the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet (p. 3).

Similarly, Ferarri (2012, p. 43) stated that digital competence is the set of knowledge, skills, and attitudes (thus including abilities, strategies, values and awareness) that are required when using ICT and digital media to perform tasks; solving

problems; communicating; managing information; collaborating; creating and sharing content; and building knowledge effectively, efficiently, appropriately, critically, creatively, autonomously, flexibly, ethically, reflectively for work, leisure, participation, learning, socialising, consuming, and empowerment. According to Ilomäki, Paavola and Lakkala (2011, p. 2), digital competence consists not only of digital skills but also social and emotional aspects for using and understanding digital devices. Ilomäki et al., (2011) also mentioned that digital competence consists of (1) technical skills to use digital technologies, (2) abilities to use digital technologies in a meaningful way for working, studying and for everyday life in general and in various activities, (3) abilities to critically evaluate digital technology, and (4) motivation to participate in the digital culture.

Among the many definitions of digital competence, one of the complete and interesting definitions comes from Ala-Mutka (2011, p. 6). Ala-Mutka (2011) argued that digital competence should include three main areas: (1) Instrumental knowledge and skills for digital tool and media usage, (2) Advanced skills and knowledge for communication and collaboration, information management, learning and problem-solving, and meaningful participation, and (3) Attitudes for skills and knowledge application in intercultural and collaborative, critical, creative, responsible and autonomous ways.

1.3 Digital Competence in Malaysia

Malaysian government, like many governments instituted ICT in many areas to achieve the vision of becoming a developed nation (Yong, Gates, & Harrison, 2016; UNICEF Malaysia, 2014; Chang, Siow, Lee, Mohd Faris Bin Dzainuddin, & Zanariah Noor, 2012). Thus, the government has outlined numerous important strategies and

policies in the education system. The education policies are then driven towards digitalisation through implementation and integration of ICT into teaching and learning (Digital Revolution Changes Paradigm of Technology In Classroom, 2016; Nurul Ismail, 2015; Ghavifekr, Ahmad Zabidi Abd Razak, Muhammad Faizal A. Ghani, Ng, Yao, & Zhang, 2014; Mazalah Ahmad, Jamaludin Badusah, Ahmad Zamri Mansor, Fariza Khalid, Mohd Yusof Daud, Rosseni Din, & Diana Fazleen Zulkefle, 2016).

The important establishment by the government includes the Smart School Programme and Education Development Master Plan 2006-2010 (EDMP) which aim to increase the interest in science and technology learning through technology tools, digitalised teaching and learning resources in institutions of higher learning and Education Blueprint 2013-2025, which targets to provide internet access and virtual learning environment through 1 Bestari Net to raise the role of ICT in the entire education system (Nurazidawati Bt Mohamad Arsad, Kamisah Osman, Tuan Mastura Tuan Soh, & Nur Suhaidah Sukor, 2012; UNICEF Malaysia, 2014; Ghavifekr & Rosdy, 2015; Ghavifekr, Kunjappan, Ramasamy, & Anthony, 2016). The Malaysian government also made huge investments on ICT facilities in institutions of higher learning to support educational enhancement through digital learning environments (Magdalena Jamian, Habibah Ab Jalil, & Steven Eric Krauss, 2012).

It is clear that ICT initiative is implemented in various ways by the Malaysian government. However, digital competence is not restricted to only being technically competent but should also involves the behavioural component of the user and it has to be inculcated in the students from an early age (Norazillah Saubari & Mohammad Fazli Baharuddin, 2016). Further, most of the research conducted in Malaysia mainly explored the access and use of digital tools for teaching and learning, new or evolving

risks and opportunities of using the social media and initiatives in improving programs and courseware (Nurzali Ismail, 2015; Yong et al., 2016). Anantha Raj A. Arokiasamy (2012, p. 20) stated, 'the relationship between the use of ICT and students performance in Malaysia higher education is not clear, there is very little proof of this and earlier economic research has failed to provide a clear consensus concerning the effect on students achievement'. The factors that will affect the learning process are no longer the accessibility to ICT but rather the ability to use it effectively. As such, it is apparent that there is a need for the government and institutions of higher learning to investigate on the digital competence of students to utilise the technology for learning purpose.

1.4 The Social Media and Students

As mentioned earlier, the emergence of Web 2.0 has made a tremendous change on lifestyle and communication practices in our society. Majority of the internet users today are hooked on with social media in staying connected with people around the globe (Baruah, 2012; Lewis, 2010; Sawyer, 2011; Wooley, 2013). Social media sites such as Facebook, Youtube, Instagram, Vimeo, MySpace, Behance, DevianArt and Pinterest are common among the users (Salo, Lankinen & Mantymaki, 2013; Manka & Ranieri, 2016; Robbins & Singer, 2014; Pibernik, Dolic & Kaniza, 2013). The internet is no longer a one-way broadcast delivery system where the individual user downloads data, information and other resources which are produced by a relatively small number of content providers (Selwyn, 2012, p. 1). Internet users are able to create, edit and combine different forms of content such as images, podcasts, visual, audio and text for sharing purposes (Arnold & Paulus, 2010). Social media transformed users to be content producers from content consumers (Muniandy & Muniandy, 2013, p. 72).

Social media especially brought a variety of web-based tools and services to facilitate interaction such as communication, collaboration, sharing and learning regardless of the geographical distance between users (Redecker, Ala-Mutka, Punie, 2010; Naeema H. Jabr, 2011; Correa, Hinsley, & Homero Gil de Zuniga, 2010; Guy, 2012; Knobel, Lankshear, 2008; Mondahl & Razmerita, 2014; Seaman & Tinti-Kane, 2013). Kaplan and Haenlein (2010, p. 61) stated that social media can be defined as an 'interactive platforms through which individuals and user group create, share and exchange user-generated content'. Social media is now a platform where the users can make their own decision to choose with whom, what, where, when and how they would like to interact.

In Malaysia, the usage of social media has become an integral part of the students' lives. A report by UNICEF Voices of Youth and the Communication Section of UNICEF Malaysia (2014, p. 32) stated that 18-24 years old Malaysian make up the biggest portion of internet users in the country and social networking makes up approximately one-third of the Malaysian's PC 'screen time'. The report also shows that children and young people aged 13 to 24 years old make up nearly half of the Facebook users in Malaysia (UNICEF Malaysia, 2014, p. 34). Many of the young Malaysians students are connected on social media and are having a range of activities in many ways. Meanwhile, International Telecommunication Union's (2013) also reported that Malaysia stands out as having the fourth-highest proportion of 'digital natives' in the world and nearly three-quarters of the country's youth are categorised as digital native. However, exposure to technology alone will not increase the ability to use digital tools in an effective way and does not sufficiently develop digital competence. Therefore, the

high usage of social media among students nowadays highlights the importance of contemplating on digital competence.

1.5 Implications of Social Media on Institutions of Higher Learning

Institutions of higher learning means any University or University- College which are established under the Malaysia Universities and University Colleges Act 1971 and providing higher education leading to the award of a diploma, degree or the equivalents (Universities and University Colleges Act 1971, Act 30). Nowadays, social media has rapidly become a popular means of communication and learning for many institutions across the world, a large number of students in institutions of higher learning are using social media (Kamaluddeen Usman Danyaro, Jafreezal Jaafar, Road Allan A. De Lara, & Alan G.Downe, 2010). Apart from looking into the usage pattern of the students, researchers over the world also focus on the use of social media by educators, education institutions, education stakeholders and others, given that social media is a platform for various educational related activities such as discussion, learning, problem solving and information searching outside the traditional classrooms (Al-Rahmi & Mohd. Shahizan Othman, 2013).

Past research shows that there are both positive and negative implications of the social media on students from institutions of higher learning (Teoh, Pourshafie, & Liew, 2017; Al-Sharqi, Hashim, & Kutbi, 2015; See Yin Lim, Agostinho, Harper & Chicharo, 2014; Afendi Hamat, Mohamed Amin Embi, & Haslinda Abu Hassan, 2012). However majority of the research findings indicated that much success of students depends on being able to communicate, share, and use information to solve complex problems, and being able to adapt to and innovate in response to new demands and changing circumstances as well as in being able to command and expand the power of technology

to create new knowledge (NESA, 2017; Honey & Raphael, 2017; OECD, 2010; OECD, 2012). Hence, in relation to students' academic achievement, new standards for what students should be able to do are replacing the basic skill competencies and knowledge expectations in the past (Pacific Policy Research Center, 2010).

Today's Malaysian university students are not the same as those in the past, they have been born into a digital age where technology forms an integral part of their lives (Yong et al., 2016). Meanwhile, digital tools based teaching methods have been prevalent in several universities and colleges in Malaysia; the digital technology is now widely accepted as educational aids and tools in Malaysia (Rassiah, Chidambaram, & Sihombing, 2011). According to Teoh, Pourshafie and Liew (2017), social media is an online tool used in the pursuit of academic knowledge among the university students. Social media allows students that come from different backgrounds, cultures, and social groups to have online interaction and gather different views on certain discussed problems and topics based on their existing personal experiences (Mohd Ishak Bin Ismail & Ruzaini Bin Abdullah Arshah, 2016). However, the terms digital native and active participation do not indicate that students are automatically digitally knowledgeable, as there is a huge variation in what students are able to do with technology and what they know about technology (Hargittai, 2010).

Malaysian university students spend many hours socialising on social media but there is an adverse aspect to their use of social media in a positive way (Al-Rahmi, Norma Alias, & Mohd Shahizan, 2016; Muniandy & Muniandy, 2013). In tandem with this, Tenku Putri Norisha Tenku Shariman, Norizan Abdul Razak and Nor Fariza Mohd. Noor (2012, p. 1490) stated, 'exposure of students to digital technology is not sufficient to consider them as 'digital native', mere access to digital contents and resources is not

enough to guarantee that students will use those contents and resources in a productive and enriching ways'. Tenku Putri Norisha Tenku Shariman et al. (2012) also mentioned that Malaysian university students need to transform their beliefs about what it means to be literate in order to cope with the enormous change amidst technological and knowledge driven culture. Further, Nurazidawati Bt Mohamad Arsad, Kamisah Osman, Tuan Mastura Tuan Soh and Nur Suhaidah Sukor (2012, p. 35) pointed out that 'to boost up technology practices in learning, students need to develop their digital age literacy, students without the skills will have difficulty to compete with others to get an employment since the skills in the workplace will continuously accrue'.

1.6 Creative Arts and Social Media

The digital world is not static and is continuing to experience rapid development. Similarly, creative arts is also one of the recent growth areas in tertiary education, now taught from undergraduate to doctoral level in educational institutions globally (Webb & Brien, 2007).

Recent studies show that social media platforms are embraced by business, creative arts and other fields (Staines & Lauchs, 2013). MTM London (2011) argued that social media particularly 'Facebook' has become a major tool for discovering as well as sharing of information on arts and culture. Findings of the report also showed that interaction with arts and cultural content in digital environment can be classified into five main categories: access, learn, experience, share and create.

The creative arts sector in institutions of higher learning encompasses a spectrum of intersecting and overlapping disciplines, ranging from visual arts, craft, design, creative writing, performing arts (drama, dance and music) and film, to television and electronic media production (Webb & Brien, 2007). There are also institutions of

higher learning that expand and include other disciplines such as architecture, landscape design, fashion design, software design, arts of culinary and so forth. For creative arts, digital transition provides a space where artists can replace physical objects with electronic files for learning, collaborating with other users, finding reference and distributing artwork over networks regardless of time and distances (Lupton, 2014; Stoeckel & Sinkinson 2013; Dabbagh & Kitsantas 2012; MTM London, 2011; Minocha, 2009). Apart from that, social media also enable online communities to engage, participate and contribute in creative production (Kylie A & Maria Solomou, 2017). The emergence of social media benefited many artists by lowering the costs of creating and increasing the ability to find collaborators and managing marketing, meanwhile there are also significant new challenges, such as an increasingly crowded marketplace, copyright issues, and disruptions of traditional revenue models (Colin, Rahilly, Richardson & Third, 2011; Hausmann & Poellmann, 2012; Center for Cultural Innovation, 2016).

The Canadian Public Arts Funder's Report (2011, p. 4) stated, social media can have an impact on the arts from at least three different perspectives: (i) helping to bring audiences to performances and to artworks by matching art to people who are looking for it, (ii) providing a platform to create art and to carry on dialogue and debate on communities of interest and (iii) getting comments and building arts awareness among the public.

These days, majority of creative art students are specifically engaged with social media sites like Facebook, Youtube, Behance, Pinterest and DeviantArt, which provide them with new platforms in sharing artworks, finding references, as well as building up connections. (Lupton, 2014; Stoeckel & Sinkinson 2013; Dabbagh & Kitsantas 2012;

Ellison, Steinfield & Lampe, 2011) Furthermore, according to Rodriguez (2011), digital media used in an educational context has begun to be explored and it is clear that they demonstrate potential in this area. This reveals that the social media which allows various forms of sharing could be a potential platform for improvement in learning and artwork related development.

1.7 Problem Statement

1. Shopova (2014) in her research, 'Digital literacy of students and its improvement at the university' stated that the role of digital competence is increasing as confidence and critical use of information technology for learning, working and communicating is needed. Her study shows that in order to be successful in their performance and to achieve better results in the learning process, it is important for the students to improve their digital competence and improve their skills in using ICT. However, there is little information available which explicitly focus on digital competence of creative arts students in institutions of higher learning of Malaysia. Not much is known about the way creative arts students are responding to the opportunities as well as challenges through their engagement on the social media.
2. As pointed out, due to the rapid development and changes of social media tool, digital competence will be one of the most important deciding factors of the kind of achievements that will be derived from using social media. Besides, students nowadays are enthusiastically connected to social media (Farrah Dina Yusop & Melati Sumari, 2013; Salvation & Nor Azura Adzharuddin, 2014; Shanthi, Ambigapathy, Prasad & Rao, 2013). According to See Yin Lim, Agostinho, Harper & Chicharo (2013) with particular reference to the use of social media

among students, very little has been reported on creative arts student and academic engagements, their perspectives and perceived effectiveness of social media usage in higher education especially in the Malaysia context. Therefore, the relevance of looking into digital competence among creative arts students is immensely critical. Considering the active participation of creative arts students on social media, it is important to make their participation a meaningful and productive one. Where creative arts students' participation on social media is concerned, we have yet to investigate how creative arts students' digital competence can be developed and improved for learning, artwork development and meeting the goals, at a time when valued and creative knowledge is predominantly communicated in digital forms. Besides, it is also essential to understand perception of creative arts students' digital competence in staying relevant to creative arts.

1.8 Research Objectives

In general, the study aims to identify perception of digital competence in social media with regard to learning and creative work among creative arts students.

The specific objectives are as follow:

1. To identify creative arts students' perception on instrumental skills and knowledge for digital tool and media usage among creative arts students.
2. To identify creative arts students' perception on advanced skills and knowledge for media application, strategic and personal goals through social media.
3. To identify creative arts students' perception on attitudes for skills and knowledge application on social media by creative arts students.

4. To identify perception of creative arts lecturers on digital competence among creative arts students.
5. To identify perception of creative industry practitioners on digital competence among creative arts students.

1.9 Research Questions

1. What is the perception of creative arts students on instrumental skills and knowledge for digital tool and media usage among creative arts students?
2. What is the perception of creative arts students on advanced skills and knowledge for media application, strategic and personal goals through social media?
3. What is the perception of creative arts students on attitudes for skills and knowledge application on social media by creative arts students?
4. What is the perception of creative arts lecturers on digital competence among creative arts students?
5. What is the perception of creative industry practitioners on digital competence among creative arts students?

1.10 Significance of the Study

Today, the creative economy in this digital age is now accepted as a large and rapidly growing aspect of most advanced economies. Furthermore, digital competence at higher education is then necessary to prepare students for a working life characterised by innovation and value creation. There are many studies that have explored the use of social media by students in institutions of higher learning, but there are no adequate research on creative arts students that explores the use of social media for creative arts learning and creative artwork development. In view of the want of significant research

which studies on developing digital competence among creative arts students in Malaysia, this research could provide a consequential contribution to this particular subject. Findings of this study presents an understanding on creative arts students' digital competence focusing on social media practices under three main areas of digital competence, namely instrumental skills and knowledge, advanced skills and knowledge and attitudes. It provides perception from creative arts students, creative arts lecturers as well as creative industry practitioners on creative arts students' appropriate use of social media for their learning, achieving opportunities and managing risks. This thesis will be useful as a reference guide to stakeholders, education and industry practitioners, and institutions of higher learning. The findings of the study would generate understanding about creative arts students' digital competence and creative arts students' social media practices for further studies. The knowledge generated will help to enhance digital competence among creative arts students in institutions of higher learning in Malaysia.

1.11 Limitations to the Study

Creative arts refer to a wide range of activities that allow creative and imaginary expression such as music, design, drama, broadcast, photography, creative writing and so forth. One of the limitations of this study is the number and type of students, creative arts lecturers and creative industry practitioners who are involved in the discussion sessions. It is not the focus of this study to see the differences exhibited between the degree and diploma students, therefore references to creative arts students in this study are to be construed as references to creative arts students in general who are pursuing creative arts studies in any institutions of higher learning. Besides, it is also not mandatory for the creative arts students to participate in this study, therefore due regard should be had for the differences between the creative arts students' academic disciplines,

educational background and culture. However, making it mandatory could also be problematic for this study as creative arts students would be less motivated to share their practices and experiences. Another limitation is the number of creative industry practitioners. There have been difficulties to make appointments for discussion sessions with creative industry practitioners as some of them were reluctant to be interviewed. Therefore, the findings cannot represent the views of creative industry practitioners of the whole creative arts industry in general. The use of questionnaire has its own limitation as well as creative arts students involved may give answers they perceive appropriate rather than their specific personal experience. However, the discussion sessions conducted did help to minimise the limitation by providing valuable insights of creative arts students, creative arts lecturers and creative industry practitioners.

Summary of Chapter 1:

Chapter 1 introduces the research area and outlines the background for the present study. It briefly reviews the development of perception, digital competence and social media. The chapter also describes the aim of the present study and identifies the importance as well as limitations of the present study.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

Interest in the concept of digital competence has been increasing rapidly in the last decade; the term digital competence has been used in different areas to describe competence needed in a digitalised knowledge society (Hatlevik & Christophersen, 2013; Petterson, 2018). It is therefore important to determine the digital competence of creative arts students. This chapter reviews the growth of digital competence and the influences and use of social media among students in the institutions of higher learning. Ala-Mutka's digital competence conceptual framework is discussed in details in the following section.

2.2 Perception and Digital Competence

'Perception' is an umbrella term which includes components such as knowledge, interest, social values, attitudes or behaviours (Jefferson, McKinley, Capstick, Fletcher, Griffin, Milanese, 2015). It also provides environment related information which emerges from the counterfactual dependence between the environment and corresponding perceptual experience about the environment around us, it is about something that is experienced (Bueno, 2013; Nordvall & Arvola, 2016; Limbeck-Lilienau, 2016; Barroso, 2013, Phillips, Weisbuch, & Ambady, 2014). Besides, Macrae & Quadflieg (2010) argued that perception also revealed information on processes, characteristics and outcomes associated with seeing other individuals (as cited in Phillips et al., 2014). While perception is defined in many ways and discussed in various theories, Ward, Grinstein, and Keim (2010, p. 73) stated, "most define perception involve a process of recognising (being aware of), organising (gathering and storing), and interpreting (binding of knowledge) sensory information".

As the popularity of social media is increasing, understanding users' perception towards it has also become very essential, user's perception will influence social behaviour and play a vital role in shaping events (Dowler et al., 2006; Lampe, Ellison, & Steinfield, 2008). While institutions of higher learning promote digital learning, there is a need to understand university students' experiences and perceptions about it (Frank, Reich, & Humphreys, 2003). Perception of students, academics and practitioners on the use of social media in education is important to understand the role of social media in supporting education, it is an influential factor in the successful adoption of digital technology in education because it is also an importance reference in designing the teaching materials (Neier & Zayer, 2015; Liton, 2015; Hrastinski & Aghaee, 2012; Lui, Choy, Cheung, & Li, 2006). Lewis (2001) also stated that it is important to gather perception of people with different cultures and backgrounds to minimise perceptual error due to the different degrees of influence when psychological perception is developed. Therefore, perception on digital competence is in need of study as it can be a leverage to help guide educators, practitioners, researchers, and policy makers (Goodfellow, 2011; Collier, Foley, Moguel & Barnard, 2013; Burnett, 2014).

2.3 Broad Outlook on Digital Competence Development

2.3.1 Defining Digital Competence

Competence is a combination of knowledge, skills and attitudes that a person must own for successful development and participation in the knowledge society (European Commission, 2006). In year 2006, the European parliament and the council had announced digital competence as one of the Eight Key Competences for Lifelong Learning and it was defined as 'the confident and critical use of Information Society Technology (IST) for work, leisure and communication' (European Communities, 2007).

According to Digital Agenda Scoreboard (2011), the essential knowledge, skills and attitudes related to digital competence are described as follows. Digital competence requires a sound understanding and knowledge of the nature, role and opportunities of IST in the everyday contexts: in personal and social life, as well as at work. This includes main computer applications such as word processing, spreadsheets, databases, information storage and management, and an understanding of the opportunities and potential risks of the Internet and communication via electronic media (e-mail, network tools) for work, leisure, information sharing and collaborative networking, learning and research. Individuals should also understand how IST can support creativity and innovation, and be aware of issues surrounding the validity and reliability of information available and the legal and ethical principles involved in the interactive use of IST.

Skills needed include the ability to search, collect and process information and using the information in a critical and systematic way, assessing the relevancy and distinguishing the real from the virtual while recognising the links. Individuals should have the skills to use tools to produce, present and understand complex information and the ability to access, search and use internet-based services. Individuals should also be able to use IST to support critical thinking, creativity, and innovation.

Besides, the European framework also argued that individuals should also understand how IST can support creativity and innovation, and be aware of the issues surrounding the validity and reliability of information available, and the legal as well as ethical principles involved in the interactive use of IST (European Communities, 2007).

Digital competence is also discussed by Krumsvik in an educational discourse. He argued that digital competence is an essential part of a teacher's education (Krumsvik, 2011). According to Krumsvik (2011),

'Digital competence is the teacher's proficiency in using ICT in a professional context with good didactic judgement and his or her awareness of its implications for learning strategies and the digital Bildung of pupils' (p. 44-45)

The digital competence model that Krumsvik (2011) developed includes 4 core components which are basic ICT skills; didactic ICT competence; learning strategies; and digital building. Krumsvik (2011) added that while teachers are increasingly integrating ICT into their teaching lessons, this 'competence journey' consists of a process of self-awareness in terms of adoption, adaptation, appropriation and innovation. Calvani, Cartelli, Fini and Ranieri (2008, p. 186) contended that digital competence consists of being able to explore and face new technological situations in a flexible way, to analyze, select and critically evaluate data and information, to exploit technological potentials in order to represent and solve problems and build shared and collaborative knowledge, while fostering awareness of one's own personal responsibilities and the respect for reciprocal rights and obligations. They emphasised that digital competence should consist of four important dimensions as follows:

- (i) Technological dimension: being able to explore and face problems and new technological contexts in a flexible way;
- (ii) Cognitive dimension: being able to read, select, interpret and evaluate data and information taking into account their pertinence and reliability;
- (iii) Ethical dimension: being able to interact with other individuals constructively and using available technologies with a sense of responsibility;

(iv) Integration between the three dimensions: understanding the potential offered by technologies which enable individuals to share information and collaboratively build new knowledge.

According to Ilomäki, Lakkala & Kantosalo (2011, p. 1), digital competence is the most recent concept describing technology related skills and is grounded on the basic skills in ICT, i.e. the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the internet. Digital competence is an evolving concept related to the development of digital technology and the political aims and expectations of citizenship in a knowledge society (Ilomäki et al., 655:2014). Ilomäki et al. (2014) found that the term 'digital competence' was described in several ways such as: an ability to operate technological applications and to use technology to accomplish personal and collective needs (Erstad, 2006), a part of ICT literacy (Beqiri, 2010), the effective use of technology (Aznar & González, 2010), a need for learning and developing democratic participatory culture in a knowledge society (Gansmø, 2009). Thus, they deduced that digital competence should consist of (i) technical skills to use digital technologies, (ii) abilities to use new technology in a meaningful way for learning, working and various activities in everyday life, and (iii) abilities to critically evaluate digital technologies (Guitert Catasús, Romeu Fontanillas & Romero Carbonell, 2015).

Ala-Mutka (2011) in her work 'Mapping Digital Competence: Towards a Conceptual Understanding' proposed for a conceptual model of digital competence which covers three main areas as below:

1. Instrumental skills and knowledge for operational and medium related media usage.

2. Advanced skills and knowledge for communication and collaboration, information management, learning and problem solving and meaningful participation.
3. Attitudes for skills and knowledge application that foster intercultural and collaborative, critical, creative, responsible and autonomous involvement.

Digital competence framework by Ala-Mutka includes not only technical skills, but also relevant knowledge and attitudes (Rambousek, Fuglík, & Štípek, 2015). Moreover, the framework comprises of 6 skills and knowledge areas and 5 attitude areas (Ala-Mutka, 2011).

There is another definition which has been proposed by Ferrari, who defined digital competences as a set of knowledge, skills and attitudes which include abilities, strategies, values and awareness that are required when using ICT and digital media to perform tasks; solve problems; communicate; manage information; collaborate; create and share content; and build knowledge effectively, efficiently, appropriately, critically, creatively, autonomously, flexibly, ethically, reflectively for work, leisure, participation, learning, socialising, consuming, and empowerment (Ferrari, 2012; Pérez-Escoda, 2015). Ferrari (2013) then argued in DIGCOMP project, digital competence should include 5 areas of digital competence and 21 sub-competencies that characterise skills and attitudes in terms of necessary knowledge. Those areas include:

- (i) Information: Identify, locate, retrieve, store, organise and analyse digital information, judging its relevance and propose.
- (ii) Communication: Communicate in digital environments, share resources through online tools and links with others and collaborate

through digital tools, interact with and participate in communities and networks, cross-cultural awareness.

(iii) Content-creation: Create and edit new content; integrate and re-elaborate previous knowledge and content; produce creative expressions, media outputs and programming; deal with and apply intellectual property rights and licences.

(iv) Safety: Personal protection, data protection, digital identity protection, security measures, safe and sustainable use.

(v) Problem-solving: Identify digital needs and resources, make informed decisions as to which is the most appropriate digital tool taking into account the purpose or need, solve conceptual problems through digital means, creatively use technologies, solve technical problems, update one's own and others' competences.

Meanwhile, Bamford and Wimmer (2014) argued that digital competence involves an understanding of culture in terms of media literacy and the use of image and sound manipulation software. It may also involve film making, sound recording, music composition software, and so forth.

In recent years, digital competence has been defined in various ways. It has become a key concept for discussions on the needs of learners' skills and knowledge in the current society. The term 'digital competence' has been interpreted through various ways such as digital literacy, digital competence, eLiteracy, e-Skills, e-Competence, computer literacy and media literacy in policy documents, in the academic literature, and in teaching, learning and certification practices (Gallardo-Echenique, Minelli de Oliveira, Marqués-Molias, & Esteve-Mon, 2015). However, digital competence is generally

defined as the need of skills, knowledge, attitudes to handle technology and situations in the digital world.

2.3.2 Growth of Digital Competence Discipline

For the past few years, the advancement of digital technology has engendered a tremendous change on lifestyle and communication norms in our society. Following that, there has been a significant growth on digital competence discipline. A wide variety of concepts such as digital competence, digital literacy, media literacy, ICT literacy, 21st century literacy and internet literacy are used to analyse students' achievement through the use of digital technology and tools (Hatlevik & Christophersen, 2013). While different concepts appear from time to time with its own particular significance, all these concepts are found to have a common meeting point (Figaredo & Miravalles, 2014). Although scholars hold different views and definitions for the concept of digital competence, majority of their descriptions are still developed based on the basic approach of the term 'digital literacy'.

'Digital literacy' was first introduced by Gilster in year 1997. Gilster (1997) noted that digital literacy is a special kind of mindset; focusing on the ability to understand, appreciate and use multiple formats of information which are delivered via computer. The concept is also in relation to basic skills concerning the access, assessment, and management of information related to learning processes. Looking at the development of digital technology, Gilster insisted that the ability for interpreting the information involve basic thinking skills and core competences is important, without which, he or she would not be able to perform various tasks in an interactive environment. The term of 'digital literacy' is extended and now it includes all sets of

specific skills and competencies needed for searching, finding, evaluating and handling information in computerised form (Shopova, 2014).

The concept of digital literacy has been used for a number of years since then. At the same time, other concepts are still in used. Martin argued that a multitude of literacies may be confusing and inconvenient, but it represents the reality of social life, where perspectives and situations change immensely and constantly; changes in the society and culture due to new technology will then be affecting the terms being used (Ala-Mutka, 2011; Ilomäki et al., 2014). According to Ala-Mutka (2011), different concepts have been developed due to the fact that the actual elaboration of digital competence varies depending on the context and the particular 'language' used. As a result, the 'jargon jungle' has appeared (Ferarri, Punie & Redecker, 2012).

Cervera & Contabrana (2015) stated that, although the concept of digital literacy is more commonly used internationally and sometimes appears as synonyms of digital competence, the two terms carry different connotations. In recent years, digital literacy is often used in the European initiatives and policy context when making reference to the e-inclusion dynamic (European Commission, 2010). Whilst, 'digital competence' is used in a broader and educational oriented concept (European Parliament and Council, 2006). Ferarri, Punie and Redecker (2012) noted that digital competence is a new literacy that involves new components and a high degree of complexity.

2.4 Social Media among Students in Institutions of Higher Learning

Social media has a variety of definition. Kaplan and Haenlein (2010, p.16) defined social media as a group of Internet based applications that are build on the ideological foundations of Web 2.0, and that allows the creation and exchange of user generated content. Carr and Hayes (2015) in their paper 'Social media: Defining,