

The 5 Strategies to Effective Cyberparenting

Mohamad Nizam Kassim

Senior Analyst Cyber Safety, Outreach Division
CyberSecurity Malaysia, Malaysia.

Abstract: The advancement in technology and internet services significantly impacts our society positively and negatively. Unfortunately, the concerned parents seem helpless in struggling to overcome these negative impacts in relation to their children's technology and internet usage. The main objective of this conceptual paper is to propose the practical strategies for the concerned parents to overcome these challenges in raising up mobile and web generation in the era of digital culture. This conceptual paper called '*The 5 Strategies to Effective Cyberparenting*' underlines an indispensable approach for the concerned parents in creating family online safety environment for their children. Hence, these strategies would be used as reference thinking model for the concerned parents to overcome the internet threats in digital culture and as guidelines for security professional to develop and implement security awareness program for the concerned parents. As a result, the concerned parents will be empowered with the right knowledge and skills in cyberparenting.

Key words: Cyberparenting, parenting styles, child online protection, family online safety, internet threats

INTRODUCTION

In the midst of technological innovation and internet services in our society, many concerned parents are increasingly worried about their children's safety in relation to technology and internet usage. The lack of knowledge and skills in technology and internet services is often the main reason why concerned parents remain helpless in raising mobile and web generation in the era of digital culture. Despite of the benefits of technology and internet services to our daily life, the risks of our children becoming the potential online victims are imminent (Palfrey and Gasser, 2008). These risks includes exposing to the inappropriate and harmful contents such as sexual violence, racist and hate materials (Livingstone, 2008), being exploited by cyber criminal and

commercial manipulation in the cyberspace (Livingstone, 2008; Mitchell et al., 2010), privacy invasion (Livingstone et al., 2012), health and wellbeing risks associated with inappropriate technology and internet usage (Leung, 2008) and many more. Unfortunately, there is generational divide between the concerned parents and their children. Often, the concerned parents are less knowledgeable, inexperience and lack of confident in technology and internet usage than their children. Therefore they are not fully understood the associated threats related to the technology and internet usage (Subrahmanyam et al., 2012). Consequently the parenting styles adopted by the concerned parents are often not applied to the digital culture to address these threats. It implies that the concerns parents are not aware of the needs for digital literacy and digital citizenship education and the importance of cyberparenting in raising up mobile and web generation in the era of digital culture.

IMPORTANT PHASES OF THE DIGITAL WORLD

In order to understand the digital culture, the concerned parents must fully aware about the concept of becoming the digital citizens (or netizen). There are four different phases of digital world i.e. digital divide, digital inclusion, digital literacy and digital citizenship (Ribble, 2012) as shown in Figure 1.

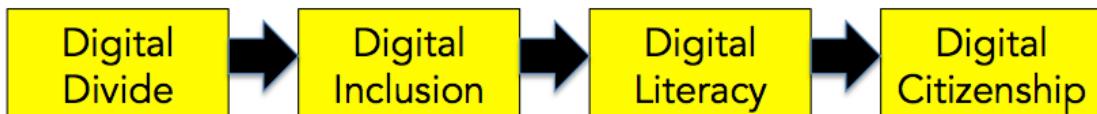


Figure 1: The phases of digital world

Phase 1 - Digital Divide

Mohamed et al., 2012 describe that former U.S. President Bill Clinton first coined the term of digital divide in 1994 that used to differentiate between people with the internet service and those who do not. The digital divide can be described as the economic challenges faced by individuals, homes, businesses, and geographic areas to access, to use or to learn the technology and internet services (Mohamed et al., 2012 and Ribble, 2012). The factors that contribute to the digital divide namely due to the level of education, income, age, and gender. Furthermore the deficiency in technology and internet usage is appear to be competitive disadvantage in the digital culture (Malecki, 2003). Mohamed et al., 2012 highlighted that other factor also contributes to the digital divide that is poor electricity and telecommunication infrastructure in the geographical areas.

Phase 2 - Digital Inclusion

The provision of technology and internet services to the geographical areas that considered as digital divide is called digital inclusion (Ribble, 2012). It also includes the participation of all individuals and communities in promoting technology and internet usage to overcome the exclusion in the digital culture (Mohamed et al., 2012). There are number of research studies have been associated to the digital inclusion and social sciences such as engaging senior citizen to the digital world (Olphert, et al., 2005), digital inclusion at schools (Meneses and Monimo 2010) and poverty and digital inclusion (Skuse, et al., 2007).

Phase 3 - Digital Literacy

Park, (2013) and Meneses et al., 2010 refer to the digital literacy as the ability to use technology and internet services and it is prerequisite to participate in digital culture as well as to acquire knowledge and skills in the 21st century. Hence, the digital literacy focuses on proficiency and participation in technology and internet usage. The significant of proficiency and participation in digital literacy has transformed every aspect of our society such as teaching and learning (Kaffash et al., 2010), social communication (O'Hara, 2013) and job recruitment (Serenko et al., 2012).

Phase 4 - Digital Citizenship

The digital citizenship can be described as the norms of appropriate and responsible behaviour in relation to technology and internet usage. Ribble, (2012) has introduced the concept of digital citizenship. He further describes the nine elements that characterized the digital citizenship i.e. digital access, digital commerce, digital communication, digital literacy, digital etiquette, digital law, digital rights and responsibilities, digital health and wellbeing and digital security. These nine elements become indispensable educational foundation in creating responsible digital citizen. Other researchers (Ohler, 2012; Livingstone et al., 2012; O'Hara, 2013) have stresses on the importance of education in digital citizenship to avoid the inappropriate behaviour in technology and internet usage. Therefore the digital citizenship education should be nurtured in our society in order to create responsible digital citizens.

In short, it is essential that the concerned parents to be educated in digital literacy and digital citizenship in order to understand the digital culture

among their children. However the parenting styles in digital culture remain the main issues on how to engage with their children in today's reality.

PARENTING STYLES IN PHYSICAL WORLD

In the view of parent-children relations, Maccoby & Martin, (1983) suggested that there are four styles of parenting: authoritative, authoritarian, permissive and neglectful and two dimensions of parenting: demanding and responsiveness. A combination of parenting dimensions and styles can be illustrated as Figure 2.

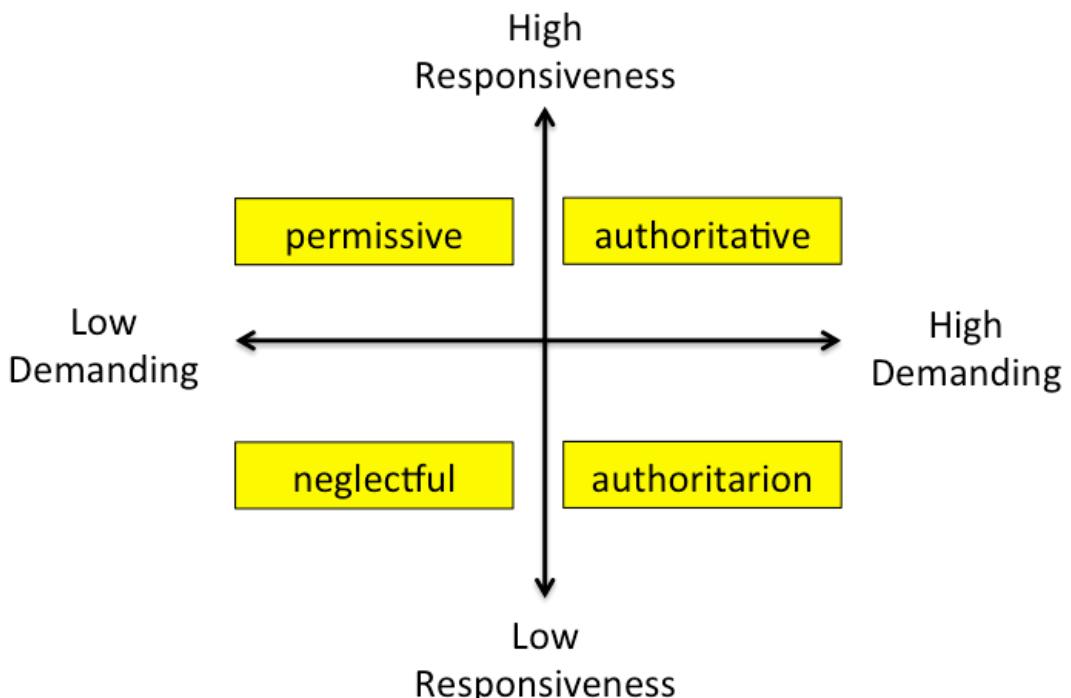


Figure 2: Parenting dimensions and styles

Maccoby & Martin, (1983) and Baumrind, (2005) stated that high responsiveness and demanding parents adopt an *authoritative parenting style*, low responsiveness but high demanding parents adopt an *authoritarian parenting style*, high responsiveness but low demanding parents adopt a *permissive parenting style* and low responsiveness and low demanding parents adopt a *neglectful parenting style*. Hence, the concerned parents must identify their parenting styles whether they are adopting

- *authoritative parenting style* which guide their children to be independent and encourage them make their own decision but still have limitation on specific decision and action.
- *authoritarian parenting style* which very restrictive parenting to comply with their rules and expectation with minimal open communication with their children.

- *permissive parenting style* which very much involved with their children's social life, set their limit control over them but very responsive to their needs.
- *neglectful parenting style* which disengaged with their children's social life and dismissing their opinion and emotion.

These parenting styles will determine the specific behaviours that the parents should be adopted to interact with their children which emphasizes mutual respect, non-punitive and conflict-avoidance and parenting outcomes.

INTERNET THREATS AND PARENTING STYLES

The technology and internet usage among mobile and web generation is influenced by the parenting styles adopted by the concerned parents. (Livingstone, 2008). However the concerned parents must gain the right perspective on how the internet threats would impact on their children in relation to their children's technology and internet usage. Therefore, the concerned parents should bear in mind that the internet threats can be categorized into five different perspectives:

- technology-based threats that targeted end-user devices, networks and applications such as malicious codes, wireless hacking and reverse engineering (Choo, 2011)
- human-based threats that targeted the end users in order to achieve emotionally, psychologically or monetary damages such as online frauds/scams, cyberbullying, cyberstalking and oversharing personal information (Mitchell et al., 2012)
- the impacts of human psychology and behavioral as the results of misuse, abuse or overuse technology and internet services such as internet addiction, nomophobia and dataholic (Leung, 2008)
- too much inappropriate and harmful contents such as pornographic, violent and sedition contents that could influence human psychology and behavioral to the unacceptable norms in the society (Mesch, 2009)
- the deterioration of health and wellbeing in relation to technology and internet usage such as insomnia, copper tunnel and overeating (Brown et al., 2011).

By understanding these perspectives of internet threats that may expose to their children, the concerned parents would probably choose the right parenting styles and implementing the appropriate solutions - technological-based, human-based or both solution to these threats. Therefore, the practical strategies for the concerned parents to combine the parenting styles in digital culture, five different perspectives of internet threats and

appropriate solutions implementation are highly desirable in raising up mobile and web generation.

THE 5 STRATEGIES TO EFFECTIVE CYBERPARENTING

There are many researches on parenting styles in literatures (Livingstone, 2008; Livingstone et al., 2012; Maccoby & Martin, 1983 and Baumrind, 2005). However, the previous researchers examined on the parenting dimensions that focuses on demandingness and responsiveness in the parent-children relationship against the effect of their children's technology and internet usage. Therefore there are gaps need to be further discussed in order to combine the parenting styles in the digital culture, five different perspectives of internet threats and appropriate solutions implementation to these internet threats. As a result, the 5 Strategies to Effective Cyberparenting is introduced as shown in Figure 3.

The 5 Strategies to Effective Cyberparenting

Choose the Right Mindset	Explore Use of Technology	Increase Our Awareness	Secure the Technology	Secure the Meatware
ACT ON ME FIRST	EMBRACE TECHNOLOGY	CONFRONT WITH BRUTAL FACTS	TECHNOLOGY SECURITY	HUMAN SECURITY

Figure 3: The 5 Strategies to Effective Cyberparenting

There are five different strategies that fall into three different implementation plans i.e.

- first implementation plan - cyberparenting competencies development
- second implementation plan - finding appropriate solution
- third implementation plan - establishing parent-children relationship

1. First implementation plan - cyberparenting competencies development

The term, cyberparenting, refers to proficiency in digital literacy and digital citizenship while demonstrating the appropriate parenting styles in digital culture. In the view of creating the cyberparents, there are three strategies: Choose the right mindset, Explore use of technology and Increase our awareness.

Strategy 1 - Choose the right mindset

The first strategy focuses on the parenting styles in the digital culture. The concerned parents must identify which types of parents they are by considering two dimensions: (parenting literacy) and (digital literacy and digital citizenship) as shown in Figure 4.

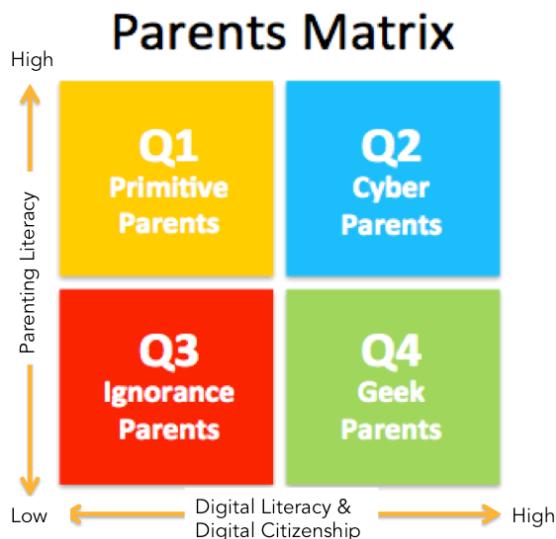


Figure 4: The Parents Matrix

The concerned parents can be one of four different types of parents in the digital culture i.e.

- *primitive parents* if the concerned parents possess high parenting literacy but low digital literacy and digital citizenship - usually they ignore on technology and internet usage
- *cyberparents* if the concerned parents possess both high parenting literacy and digital literacy and digital citizenship - the desirable parenting styles in digital culture
- *ignorance parents* if the concerned parents possess both low parenting literacy and digital literacy and digital citizenship - the irresponsible parents
- *geek parents* if the concerned parents possess low parenting literacy but high digital literacy and digital citizenship - usually they have minimal or no relationship with their children.

In reality, the concerned parents may have different background in term of religious beliefs and practices, cultural values, economics, age and profession. Therefore the parents matrix provides an opportunity for the concerned parents to identify themselves what type of parents they are in the

digital culture and the type of literacy improvement they need in order to become cyberparents.

Strategy 2 - Explore use of technology

Once the parenting styles in digital culture have been identified, the second strategy focuses on the participation in digital literacy and digital citizenship. This strategy is aimed to highlight the positive use of the technology and internet usage as educational tools, productivity tools and useful social platforms for their children. The concerned parents need to explore the use of technology in order to experience the digital culture as children adopted in their social life. Hence, the concerned parents would understand the technology and internet usage, online social networking, information retrieval and sharing and many more.

This strategy also includes the nine elements of digital citizenship i.e. digital access, digital commerce, digital communication, digital literacy, digital etiquette, digital law, digital rights and responsibilities, digital health and wellbeing and digital security. Ultimately, this strategy will produce the concerned parents that have the knowledge and skills in digital culture and confidence to establish the communication with their children about technology and internet usage.

Strategy 3 - Increase our awareness

On the other hand, this strategy focuses on to the dark side of technology and internet usage. These include technology and internet flaws that can be manipulated by cybercriminals, privacy concerns, psychological and behavioral impacts, health and wellbeing concerns and inappropriate contents. It aims to increase security awareness among the concerned parents that the participation of their children in digital culture do have potential threats.

However these threats are manageable if the concerned parents acknowledge the root causes of these threats. It is not sufficient just to have the digital literacy and digital citizenship education. Therefore, the concerned parents should actively and constantly involve in increasing their security awareness in technology and internet usage.

2. Second implementation plan - finding the appropriate solution

Parenting in the digital culture is not limited to the two dimensions i.e. demandingness and responsiveness as discussed in the previous literature (Maccoby & Martin, 1983; Baumrind, 2005; Livingstone, 2008 and Park, 2013). It requires the understanding of finding the appropriate solution to the internet threats. Furthermore, the internet threats have five different perspectives (see Internet Threats and Parenting Styles) that may potentially harmful to the children in digital culture if the appropriate solution is not considered. Hence the second implementation plan comprises two strategies: (Secure the technology) and (Secure the meatware). Without participation in digital literacy and digital citizenship education, the concerned parents would not able to recognize these strategies.

Strategy 4 - Secure the technology

In the previous literatures (Livingstone, 2008; Livingstone et al., 2012; Ribble, 2012 and Park, 2013), only examines that the technology and internet usage. In contrast, this strategy focuses on the technology-related security perimeters i.e. end user devices (computer, tablet, smartphone), operating system (computer programs that runs the end user devices), software applications (computer programs that provide specific tasks to the end users), internet services (social networking, emails, online storage) and end user data.

Fortunately, these perimeters can be secured by technology-based solutions such as password management, patch management and antivirus software. However the concerned parents must enforce to their children so that these technology-based security solutions would be implemented. Therefore it is not sufficient to protect the children in digital culture by just monitoring their technology and internet usage.

Strategy 5 - Secure the meatware

A part of securing the technology (hardware and software), securing the meatware is equally important. The term, meatware, refers to the end user (children). Even though the technology-related security perimeters have been implemented, the end users are still potentially exposed to

- malicious manipulation by cybercriminals and commercial exploitation
- online engagement with other misbehaved end users such as cyberbully, pedophiles and cyberstalkers

- the deterioration of health and wellbeing due to inappropriate technology and internet usage
- self misbehaviour in technology and internet usage

This strategy focuses on raising awareness on the norms and appropriate behaviours in technology and internet usage. It complements the physical world parenting that stresses on common sense, cultural values and religious beliefs so that the concerned parents will apply the similar parenting styles in the digital culture. However the knowledge and skills in digital literacy and digital citizenship are also required in securing the meatware (end users).

In short, it is essential to educate the concerned parents about security solution implementation for both technology and end users in order to overcome the internet threats. Bear in mind that the technology-based solutions implementation would not offer the total protection in creating family online safety environment. The end users also need to be protected as the technology-based security solution do not have protection mechanism for end user's mistakes and misbehaviour in the digital culture.

3. Third implementation plan - establishing parent-children relationship

These strategies have been extended to the establishing the parent-children relationship as illustrated in Figure 5. The first implementation plan (Choose the right mindset, Explore use of technology and Increase our awareness) focuses on the parenting competencies development for the concerned parents is shown on the left hand side of Figure 5, the second implementation plan (Secure the technology and Secure the meatware) focuses on finding the appropriate solutions to the internet threats is shown on the right hand side of Figure 5 and third implementation plan focuses on building the effective communication between the concerned parents and children is shown at the centre of Figure 5.

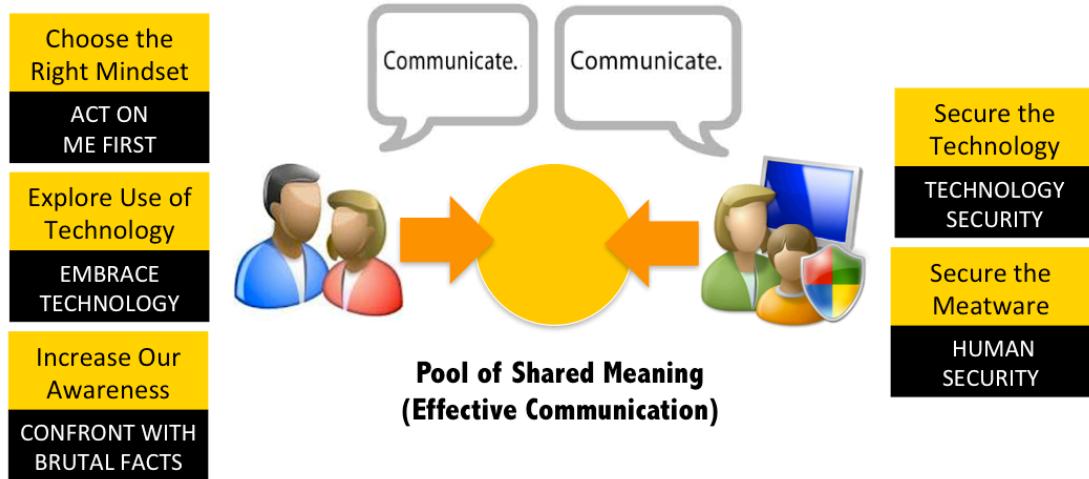


Figure 5: The parent-children relationship

The effective communication is established through the pool of shared meaning between the concerned parents and children. The pool of shared meaning refers to the empathetic behaviour demonstrated by the concerned parents in digital culture where the parenting competencies development (first implementation plan) and knowing the appropriate solution (second implementation plan) are acknowledged. Therefore, the parent-children relationship will be strengthened when the concerned parents recognize the norms of appropriate and responsible behaviour in relation to technology and internet usage. Hence, a good rapport with their children will be built in order to create family online safety environment.

CONCLUSION

In summary, this conceptual paper attempted to propose the practical strategies for the concerned parents to face challenges in raising up mobile and web generation. The parenting styles in digital culture may differ from the real word parenting styles due to it requires additional two critical dimensions: (parenting literacy) and (digital literacy and digital citizenship). Furthermore, the *5 Strategies to Effective Cyberparenting* outlines six crucial questions to the concerned parents i.e.

- [Strategy 1] Do I have the right parenting style in the digital culture?
- [Strategy 2] How do I participate in digital culture?
- [Strategy 3] What are my perspectives towards internet threats?
- [Strategy 4] How do I secure from technology-based threats?
- [Strategy 5] How do I secure from human-based threats?
- [Additional] How do I establish parent-children relationship?

The benefits of applying these strategies are the concerned parents would be able to change their mindsets and adapting their parenting styles in digital culture, participating in digital literacy and digital citizenship education, knowing five different perspectives of internet threats, providing appropriate solution to these threats and establishing good parent-children communication about technology and internet usage.

REFERENCES

- Baumrind, D. (2005). Patterns of parental authority and adolescent autonomy. *New directions for child and adolescent development*, 2005(108), 61-69.
- Brown, J. D., & Bobkowski, P. S. (2011). Older and Newer Media: Patterns of Use and Effects on Adolescents' Health and Well - Being. *Journal of Research on Adolescence*, 21(1), 95-113.
- Choo, K. K. R. (2011). The cyber threat landscape: Challenges and future research directions. *Computers & Security*, 30(8), 719-731.
- Kaffash, H.R., Z.A. Kargiban, S.A. Kargiban, & M.T. Ramezani, (2010). *A close look in to role of ICT in education*. *International Journal of Instruction*, 3(2): 63-82.
- Leung, L. (2008), *Leisure boredom, sensation seeking, self-esteem, and addiction: Symptoms and patterns of cell phone use*. In Konijn EA, Utz S, Tanis M and Barnes SB (eds) *Mediated Interpersonal Communication*. New York: Routledge, 359–381.
- Livingstone, S. (2008), *Parental mediation of children's Internet use*. *Journal of Broadcasting and Electronic Media* 52(4): 581–599.
- Livingstone, S., Ólafsson, K., O'Neill, B., & Donoso, V. (2012), *Towards a better internet for children: findings and recommendations from EU Kids Online to inform the CEO coalition*.
- Maccoby, E. E., & Martin, J. A. (1983). *Socialization in the context of the family: Parent-child interaction*. *Handbook of child psychology*, 4, 1-101.
- Malecki, E.J., 2003. *Digital development in rural areas: potentials and pitfalls*. *Journal of Rural Studies*, 19(2): 201-214.

Mesch, G. S. (2009). Social bonds and Internet pornographic exposure among adolescents. *Journal of Adolescence*, 32(3), 601-618.

Meneses, J., & Momino, J. M. (2010). *Putting digital literacy in practice: How schools contribute to digital inclusion in the network society*. *The information society*, 26(3), 197-208.

Mitchell, K. J., Finkelhor, D., Jones, L. M., & Wolak, J. (2010). *Use of Social Networking Sites in Online Sex Crimes Against Minors: An examination of national incidence and means of utilization*. *Journal of Adolescent Health*, 47(2), 183-190.

Mohamed, H., Judi, H. M., Nor, S. F. M., & Yusof, Z. M. (2012). *Bridging Digital Divide: A Study on ICT Literacy among Students in Malaysian Rural Areas*. *Australian Journal of Basic and Applied Sciences*, 6(7), 39-45.

Ohler, J. (2012). *Digital Citizenship Means Character Education for the Digital Age*. *Education Digest: Essential Readings Condensed for Quick Review*, 77(8), 14-17.

Olphert, C. W., Damodaran, L., & May, A. J. (2005). *Towards digital inclusion—engaging older people in the 'digital world'*. In Accessible Design in the Digital World Conference (pp. 23-25).

O'Hara, K. (2013). *Welcome to (and from) the Digital Citizen*. *Internet Computing*, IEEE, 17(1), 92-95.

Palfrey, J. and Gasser, U. (2008), *Born Digital: Understanding the First Generation of Digital Natives*. New York: Basic Books.

Park, Y. J. (2013). *Digital literacy and privacy behavior online*. *Communication Research*, 40(2), 215-236.

Ribble, M. (2012), *Digital Citizenship for Educational Change*. *Kappa Delta Pi Record*, 48(4), 148-151.

Serenko, A., Detlor, B., Julien, H., & Booker, L. D. (2012). *A model of student learning outcomes of information literacy instruction in a business school*. *Journal of the American Society for Information Science and Technology*, 63(4), 671-686.

Skuse, A., Fildes, J., Tacchi, J. A., Martin, K., & Baulch, E. (2007). *Poverty and digital inclusion: preliminary findings of Finding a Voice project*. UNESCO.

Subrahmanyam, K. & Greenfield, P. (2008), *Online communication and adolescent relationships*. The Future of Children, 18(1), 119-146.