Chapter 11
Meeting Gender Gaps in Information and Communication Technology (ICT): How Can Creativity Make a Difference?

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ABSTRACT

This chapter will bridge theories such as ICT, creativity, learning, and gender in one framework, and particularly focuses on how to meet gender gaps in learning contexts by using ICT and the strategies of developing gender sensitive creativity training programs in developing contexts. In this sense, this chapter contributes to imply both how to encourage more women users and how women can better use ICT for developing contexts in the changes towards creative society. Accordingly, a review on developing ICT-supported educational programs in diverse contexts around the world will be firstly made, which highlights the strategy of learning though ICT is not a new initiative; however, why gender gaps in using ICT are still key issues? This drives this chapter to further discuss gender gaps in developing creativity by ICT from a psychological perspective. Finally, a series of strategies of developing gender sensitive creativity training programs will be discussed in order to facilitate the changes towards a creative society.

INTRODUCTION

The rapid development of Information and Communication Technologies (ICT) in the 21st century is demanding swift action to engage learners to participate in the mainstream of development. ICT encompasses a vast array of technologies that facilitate production, handling and processing of information, as well as technologies that enable the transfer and exchange of information and communication (Zhou, 2016). It has a broad scope of diverse technologies, including radio, television, as well as newer digital

technologies such as computers and the Internet (Tinio, 2003). Because of these multiple powers of
processing and networking of information, ICTs have brought about a global socioeconomic paradigm
shift which was not the case with earlier technologies such as radio and television (UNESCO, 2011).
Now, access to ICT is considered necessary and fundamental for the socioeconomic development of a
society (Zhou, 2016).

The resent research also shows that digital technologies have great potential to develop creativity
(Loveless, 2007; Zhou, Chen, & Luo, 2013). Creativity in general has been understood as the generation
of new and useful ideas (Amabile, 1996). A useful theoretical framework for recognizing and developing
creativity can be described as an interaction between characteristics in people and communities,
creative process, subject domains and wider social and cultural contexts. Thus, the affordances of ICT
can also be part of this creative interaction as people exploit the distinctive features of ICT that enable
digital technologies to act as tools in creative processes (Loveless, Burton, & Turvey, 2006; Zhou, 2016).
Meanwhile, the technological skills are important not only for children at schools but also for lifelong
learning. The different levels of interaction and collaboration characteristics of new technologies facilitate
personalization of learning paths. Learners become active stakeholders, who are empowered to shape
their own learning spaces and resources and collaborative learning processes (Kampylis, Bocconi, &

However, the integration of ICT in all aspects of life is recognized as a developed country. The birth
and the growth of the Internet were in the United Sates, and this has led, in part, to large distortions in
connectivity between the developed and developing nations. But the economics remains the obvious
overarching reason for the continuation of the divide (ICT global). Thus, it requires more attention on
issues of ICT should be paid to the developing contexts. For example, in relation to the discussion on
learners’ ICT literacy in Malaysia, Daud and Zakaria (2012) argued that Web 2.0 is an innovation in the
application of Internet technology that enables users to be more creative, more involved, and easy to
relate to each other. Furthermore, the country’s education system should be able to provide the younger
generation, who are able to face the possibilities for people facing the industry, global economic fluc-
tuations, the influx of new technologies, the use of computers as a daily business need, and the wealth
of information worldwide.

In particular to the literature on ICT in developing contexts, gender issues have been mentioned in
recent studies (Purushothaman, 2013), especially from a creativity approach, for example, in Zhou and
Purushothaman (2014). However, according to Stoltzfus and his colleagues (2011), the relationship
between gender role and creativity is clearly influenced by gender. Future research design to identify
personal characteristics, other than general role, that may explain gender differences in creativity, for
example, self-esteem and self-image – would be most helpful in increasing the knowledge about how
creativity is developed and expressed in men and women. Such information could potentially be valuable
in the development of learning experiences designed to enhance creativity in women and men. This also
directs for further research on women learners’ psychological issues such as Technophobia, in experiences
of using ICT related to creativity development. ‘Technophobia’ involves women’s basic psychological
issues including attitudes and confidence of approaching to new technologies; while ‘self-efficacy’
involves issues related to methods of using ICT. There are also other a series of factors discussed in the
literature, such as beliefs, identity (Masunaga, 2011), and confidence (Drury, 2011), etc.

Following the above lines, this chapter will bridge theories such as ICT, creativity and gender in one
framework, and particularly focuses on how to meet gender gaps in learning by ICT and the strategies of
developing gender sensitive creativity training programmes. In other words, this chapter contributes to