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# Understanding new media literacy: The development of a measuring instrument



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#### ABSTRACT

The rapid development of mobile technology have proliferated new media to most aspects of our daily life. This new way of consuming and creating information is in particular attractive to youths as a platform and space for activities not passible in the face-to-face context. This highlights the importance for educators and policy makers to understand where our youths are in terms of their capabilities to participate in the new media ecology. This capability can be conceptualized as new media literacy (NML) that has been theorized into four quadrants with ten fine-tuned indicators. However, existing instruments have yet to explore the prosuming aspect of NML. Therefore, the purpose of this study is to develop an instrument to measure youth's NML. This paper reports the development and validation of this instrument can be used for further studies, contributing to theory building of NML and assessing students' NML for informing practice in schools. Data were collected from 574 Singapore students range from grade 4 to grade 11 (age 10–17). Results suggest that the instrument is reliable and valid.

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## 1. Introduction

Recent development of highly immersed media-rich environments (Lim & Nekmat, 2008; Phang & Schaefer, 2009; Potter, 2011) and the rapid adoption of tablet computers and smart phones have proliferated new media to most aspects of our daily life. It is now possible to use Google Maps to check for direction while traveling in a foreign country. People use their smart phones to check Facebook while waiting for a bus to stay connected with their friends. Connectivity has become an important part of our social life. Jenkins, Purushotma, Clinton, Weigel, and Robison (2006) called this networked public giving birth to a participatory culture. This new way of consuming and creating information, or new media is in particular attractive to youth (Ito, et al., 2008) as a platform and space for activities not passible in the face-to-face context. For example, they are able to experiment with their online identities and there are amble opportunities for them to peruse their interested-driven causes to become experts. These new media activities by youth are mostly found in the out-of-school context (Ito et al., 2008). A recent study in Singapore showed that there is an increasing trend of school taking advantage of the new media affordances (Lim, Chen, & Liang, 2013). This highlights the importance for educators and policy makers to understand where our youths are in terms of their capabilities to participate in the new media ecology. This capability can be conceptualized as new media literacy (NML) (Chen, Wu, & Wang, 2011).

The purpose of this study is to develop an instrument to measure youth's NML based on the NML framework proposed by Lin, Li, Deng, and Lee (2013). This framework is adopted because it is the most comprehensive framework to our knowledge. In addition, it differentiates Web 1.0 from Web 2.0 which gives the developed instrument to assess NML to a finer granularity.

This paper first introduces the concept of NML and existing instruments. This is followed by a description of the development and validation of the instrument. Results show that the developed instrument is reliable and valid ready for subsequent data collection and comparative studies. Finally the discussion highlights unique contributions of this study. Directions for future studies are recommended.

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#### 2. NML: definitions and existing instruments

In this section, we first introduce what NML is and discuss the development of the adopted conceptual framework of NML for this study. A review of existing instruments is followed and their features are analyzed.

### 2.1. Defining NML

Literature reveals that the concept of literacy evolves with the development of media, which started with the introduction of the classical written alphabet, printing media (books, newspaper), traditional media (telephone, film, radio, television), and extended to digital media including computer, internet and smart phone. Each medium is unique and its characteristics typify various forms, genres, rules (Pungente, 1989; Pungente, Duncan, & Anderson, 2005), conventions and symbol systems of communication (Aufderheide, 1997; Aufderheide & Firestone, 1993). The term NML has been defined as including classic literacy, audiovisual literacy, digital literacy, and information literacy (Universitat Autònoma de Barcelona, 2007).

Earlier attempts to characterizing new media seem to suffer from the way how conventional media are approached. These attempts, however, stress overly on its technical affordance of interactivity. In the past few years, researchers have increasingly emphasized the social affordance of new media. For example, Knobel and Lankshear (2007) drew more attention on the participative, collaborative, and distributed culture enabled by new media. Meanwhile, as Thoman and Jolls (2008, p. 42) summarized, "Media no longer just influence our culture. They are our culture". From the above literature, the importance of the social-ness in the study of new media is made explicit. Furthermore, Lankshear and Knobel (2007) suggested that the new technology is turning the consumption of popular culture into active production. Through the easily accessed new media technology, the production and distribution of media content becomes popular with a very low entrance threshold. It resonates of the turn to production in the discussion of media literacy emerging in the 1990s when the handheld video camera was firstly in mass production (Buckingham, Grahame, & Sefton-Green, 1995).

Consequently, we argue that NML involves essential process skills, including access, analysis, evaluation, critique, production and/or participation with media content. Such interaction with media content can be categorized as media "consuming" and "prosuming" based on the Toffler's (1981) conception of "prosumer". Furthermore, Buckingham (2003) differentiated functional and critical literacies. Functional literacies refer to the capabilities of knowing how. Usually, they are related to skills and knowledge. Critical literacies focus on the capabilities of meaning making as well as judging the credibility and usefulness of the message at hand. Putting these two considerations together, Chen et al. (2011) proposed a conceptual framework for NML consisted of (a) functional consuming, (b) functional prosuming, (c) critical consuming and (d) critical prosuming literacies. Specifically, the functional consuming literacy refers to the ability to gain access to created new media and understand what is being conveyed. The critical consuming literacy refers to media consumers' ability to study the social economic, political and cultural contexts of the media content. Functional prosuming literacy involves ability to participate in the creation of media content, while critical prosuming literacy focuses on individuals' contextual interpretation of the media content during their media participation activities.

However, Lin et al. (2013) argued that there are two major limitations of the above-mentioned framework by Chen et al. (2011). Firstly, the framework seemed to characterize the four types of NML in a relatively coarse way. Secondly, the framework did not distinguish Web 1.0 from Web 2.0, when Web2.0 plays a pivotal role in shaping a distinct participatory culture of media (Berger & McDougall, 2010; Gee, 2001; Jenkins et al., 2006; Thoman & Jolls, 2008). To address the above two limitations, a refined framework was proposed (see Fig. 1) together with ten indicators to further unpack NML (refer to Table 1 for respective definitions).

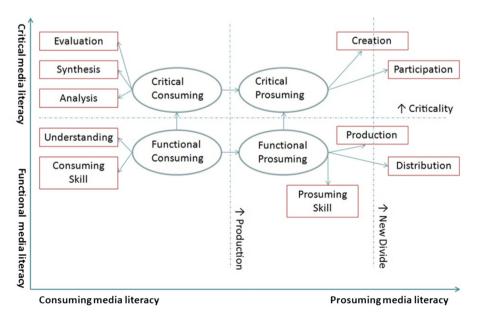


Fig. 1. A refined framework of New Media Literacy. Adapted from "Understanding new media literacy: An explorative theoretical framework," by T.-B. Lin, J.-Y. Li, F. Deng, & L. Lee, 2013, Journal of Educational Technology & Society, 16(4), p. 163. Copyright 2013 by International Forum of Educational Technology & Society.

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