

# Chapter 5

## Digital Literacy and Competence in Students Attending a Faculty of Humanities

**Antonio Cartelli**

*University of Cassino, Italy*

**Angela Di Nuzzo**

*University of Cassino, Italy*

### ABSTRACT

*In this paper the behaviors and tendencies in the use of digital technologies by university students are analyzed. After a short discussion of former studies and the presentation of the model for digital literacy structure and assessment in students attending compulsory school, the investigation carried out by the authors is described and the results obtained from the analysis of the university students' answers is reported. The survey was submitted to 331 students in the Faculty of Humanities at the University of Cassino, Italy, and the students' answers show a contradictory reality: on one side, digital technologies are mainly used to communicate in social networks or to play music and movies, on another side it is evident the students' interest for the most recent aspects of the application of digital technology and for the improvement in the quality of their use.*

### INTRODUCTION

Undoubtedly today society, usually defined *knowledge society*, has significant different features with respect to industrial, post-industrial and information society, which preceded it. Among the various

aspects to be considered for the understanding of the changes affecting today society, those reported below have a special relevance for the effects they have on what follows:

- The gap between “digital natives” and “digital immigrants” (both in learning styles and knowledge development) (Prensky,

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2001), which is the basis for the better relationship between young generations and digital technologies in the management of information, with respect to the elders,

- The skills and competences for lifelong learning, which are considered essential for people to be good citizens in the knowledge society. Digital competences, among them, are especially important for their cross cultural features with respect to language (reading / writing) and calculus (Council of European Parliament, 2005).

Otherwise stated, today more than in the past, knowledge construction and development, and meta-cognitive features, go hand in hand with the development of digital equipments and their effects on mankind, and especially with the ability of human beings to use them as prostheses of their minds, more than of their bodies (de Kerckhove, 2000).

Starting from a research project guided by Calvani (2010), frameworks for the assessment of digital competences have been developed, which recently led (Cartelli et al., 2010; Cartelli, 2010) to hypothesize a model for the structure of digital competences and their development.

Starting point for the construction of the model has been the subject in its evolution, as reported in the psycho-pedagogical literature and in the taxonomies used for its assessment (Anderson & Krathwohl, 2001; Bloom, 1956; Brandhorst, 1976).

The human dimensions especially affected by digital revolution, as reported in the final model are the *cognitive*, the *affective* and the *social-relational* (due to the multiple effects of IT/ICT and virtual worlds on mankind). Cognitive dimension is a special case among them, for the influence of digital world on human languages and intelligences; as a consequence, three sections in this dimension have been identified: technological, verbal-linguistic and logical-mathematical, the last two being inherited by Gardner idea of multiple

intelligences (Gardner, 1993). At last, the same cognitive dimension, has been seen under the umbrella of space, time and causality categories (the ones studied by Piaget in individuals' knowledge construction, for their dependencies from history of science, or, to use Piaget words, for the genetic epistemology underlying subjects' evolution); this last hypothesis is derived from the reality and especially from the effects that virtual environments have on the perception of reality and on the above categories. In Figure 1, the above considerations are synthesized, together with the representation of the affective and the social-relational dimensions, where the *ethical/moral behavior – judgment* is proposed as a meta-category, crossing over the affective and the social-relational dimensions, both affected by digital world and especially by its virtual environments.

When passing to the assessment of digital competences, old taxonomies confirm their value and for each dimension is possible to draw a rising scale. In Table 1 they are shown, side by side, as they appear in the literature.

The above model and the correspondent framework have been positively verified by means of different questionnaires submitted to students in almost all educational levels, from Primary to High School. Some problems, mostly concerning the highest levels of the taxonomies, still remain open, due to the difficulty of finding adequate instruments for the assessment of creativity, wisdom and all human functions not directly connected with the measurement of knowledge and skills. Furthermore, whether the framework structure will be confirmed by deepen analysis, it cannot be immediately deduced that an identical or similar model can be applied to elders and especially to university students.

Main questions guiding the development of the study reported below have been in fact:

- How much the above model is applicable to university students?

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