

# Cultures and Computers:

## A review of the concept of culture and its analytical usage

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### 1. Introduction

Our research is aimed at a systematic investigation of phenomena in the nexus of culture, technology and learning. *The basic premise of our research is that social affordances of technologies might vary along cultural dimensions.* The challenge for technological learning environments is that interacting through technology is not unproblematic. First, it makes interaction more difficult (Clark & Brennan, 1991; Olson & Olson, 2002) . Second, it may not mean, feel and afford the same thing to students from different cultures. Designers assume that the online environment is the same for everyone, but do users perceive something different? One of our research objectives is to explore alternative representational contexts for interaction because they may provide resources that are appropriate for different cultural members.

In this paper we will present a brief history of the problems associated with the notion of culture. A summary discussion of the intellectual history of the concept of culture follows. This workshop paper concludes with an overview on the analytical usage of the concept of culture.

### 2. Concepts of Culture

The concept of culture has a checkered intellectual history. Raymond Williams (1983, p. 87) has termed culture “*one of the two or three most complicated words in the English language.*” Williams attributes this complexity of the concept to its complicated historical development in many European languages and its subsequent adoption in to a plurality of academic disciplines. The further complications with the concept of culture arise from the slippage of meaning between the academic usages of the term and the popular usages of the term like in “high culture” vs. “pop culture.” As Williams (1977, p. 11) puts it “*the concept at once fuses and confuses the radically different experiences and tendencies of its formation.*”

#### 2.1 Definitions of Culture

The Victorian Ethnologist, Edward Tylor, is widely credited for providing the first definition of culture in anthropology. According to Tylor (1903/1988, p. 64), “*culture or civilization, taken in its wide ethnographic sense, is that complex whole which includes knowledge, belief, art, morals, law, custom, and other capabilities and habits acquired by man as a member of society.*”

A compiled list of over 200 different definitions of culture can be found in Kroeber and Kluckhohn’s (1952) critical review of the concept of culture. Tracing the intellectual evolution of notion of culture from the German “*kultur*” and its tensions with the notion of civilization, Kroeber and Kluckhohn categorize the different definitions of cultures into 6 groups: *descriptive, historical, normative, psychological, structural and genetic.* Table 1, generated from Kroeber and Kluckhohn’s (1952), summarizes the different analytical emphases of different definitions of culture.

Culture Definitions Groups	Definition Emphasis
<b>Descriptive</b>	“Enumeration of content” (p.81)
<b>Historical</b>	“Social heritage or tradition” (p.89)
<b>Normative</b>	“Rule or way” (p.95)
<b>Psychological</b>	“Culture as a problem solving device” (p.105)
<b>Structural</b>	“Patterning or organization of culture” (p.118)
<b>Genetic</b>	“Culture as a product or artifact” (p.125)

Table 1: Definition groups of the concept of culture. Table generated from generated from Kroeber and Kluckhohn’s (1952)

The psychological definitions of culture have “emphasis on adjustment, on culture as a problem-solving device” (Kroeber & Kluckhohn, 1952, p. 105) and also have an emphasis on culture as learning. Psychological definitions also emphasize the adaptiveness implicit in the notion of culture and the importance of culture as an active notion and not a passive one. Culture conceived of as adaptations to the environmental demands towards some instrumental ends has been a feature of cultural ecology strands of anthropology. For example, according to White (1943/1996, p.339), “*all life is a struggle for free energy*” and culture is a means in that struggle toward the ends of survival.

Geert Hofstede’s definition of culture has been influential in the organizational communications and business literature. According to Hofstede (1997, p. 5) culture is “*the collective programming of the mind which distinguishes the members of one group or category of people from another.*” The emphasis in Hofstede’s definition is that culture is learnt in nurture and not inherited by human nature. The “*collective programming of the mind*” highlights culture as a collective activity that is to be conceived as a dynamic process rather than a passive state. The other part of the definition “*which distinguishes the members of one group or category of people from another*” points out the individual and group identity formation and sustenance aspects of enculturation in social institutions like family, school and work. Culture comes from similarity of individuals within a cohort group (be it a linguistic community, an ethnic group or a scientific community) and in that sense it is collective. This similarity is not intended to be exact; neither does it imply essentialist homogeneity. In a multicultural society culture is about collective particularity.

Hofstede’s definition is best interpreted from the Vygotskian socio-cultural perspective of the “*social formation of the mind*” (Wertsch, 1985). “*Collective programming*” is not to be understood as an external imposition but an active social composition in which the particular individual plays the protagonist. Taken together, “social formation” and “collective programming” of the mind indicate a cognitive schema. Culture is operationalized as a cognitive schema in this research.

In our own research (Vatrapu, 2002, 2006; Vatrapu & Pérez-Quñones, 2006; Vatrapu & Suthers, to appear) the concept of culture is deployed as an independent variable in the form of a cognitive schema. Cognitive sciences have highlighted the role of schemas and models in the mundane activities of everyday life. Culture in this proposal is operationalized in this cognitive scientific sense. Cultural schemas are putative structures; they are properties of an individual’s mind. Cultural schemas are not things; neither are they substances. They are properties of an individual’s biography. This biography includes the interactive effects of that individual’s upbringing (ecology) and the formative experiences of his/her life (history).

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