

Chapter 93

Real-Life Contexts in Learning Games: Towards a New Typology

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ABSTRACT

The use of real contexts in learning has been of central interest to educational developments such as experiential learning, case studies, work placements and simulations. They centre around the benefits of putting students in realistic situations, using real tools to solve real/realistic problems. A growing number of learning games are making use of context in this way: initially focused around serious games (many close in character to simulations) and most recently distilled into immersive and pervasive games, which mix real and imagined contexts for apparently deep learning experiences. This article reviews the existing literature around the use of context in learning, considers the applicability to learning games, and proposes new theoretical developments through the consideration of four models for the integration of context into learning experiences, based on a typology of existing contextual learning experiences and games. To illustrate the models and begin to strengthen the typology, a number of existing case studies are referenced, and further research needs highlighted.

INTRODUCTION

The Latin origins of the word context give a strong clue to its strength within education: *cotexere*, to ‘weave together’. As will be explored in this paper, context draws a number of facets together, and most importantly, gives meaning to the combined facets greater than the sum of their parts: weaving them together, adding colour and texture.

This is not a new revelation, of course: in daily conversation one will hear a request to ‘give me some context’, or an example that begins ‘to put it in context...’ Context adds relevance; relates a concept to some familiar territory or setting. As such, it has enjoyed long and detailed study by psychologists, educators and social scientists across a number of domains and from a range of perspectives.

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By contrast, the role of context in learning games is a potential area of study that, to date, has not drawn focus, despite the fact that the game design process, and games themselves, use context to great effect (immersing players in other worlds, or in deep narratives, or realistic simulations). This paper aims to structure and catalyse research in this area through a study of the types of contextual learning possible within learning games and playful activities.

A Study in Context

In their review of context across a number of domains, Edwards and Miller (2007, p. 266) identified five principle fields engaged in the debate and study of context: socio-cultural psychology, applied linguistics, social anthropology, social studies of science, and organisational studies. Johnson (2002) adds the scientific sphere of neuroscience, drawing on principles from biology and physics. In addition to these core areas, study has been undertaken into context applied specifically to learners and study, known as learning context (and drawn from some of the principles from the core domains).

Linguists study context from two perspectives: the linguistic context (what comes before and after in writing or speech) and the non-linguistic (e.g. social, temporal, locational aspects), and focus on how context is used (and generated) subconsciously during normal conversation: “whatever information listeners (or readers) use to make sense of what is said (or written)” (Mercer 2000, p20) – most importantly, anything not relevant to the conversation is left out: and this may include otherwise substantial elements such as location, time, physical appearance etc. These focused, localised ‘contexts of use’ also vary continually, as each new piece of information within a conversation can add or alter the perceived context (Mercer 2000, pp. 20-21). Ethnographers have also considered context when studying cultural behaviour. Gilbert Ryle (1968) coined the terms thin and thick description to distinguish between an out-of-context and in-context observation by ethnographers (he used the example of a twitch and a wink: whilst they may look the same, the cultural context gives them different meanings to the observer).

In neuroscience, context is used to describe the relationship between different parts: the brain takes new content, “searches for meaning and when it finds it, it learns and remembers” (Johnson 2002, p23) – this searching for meaning is the process of applying a known context to new content (and making connections between them). This is an important principle for education: learning and teaching that helps the brain to make these connections will result in more effective learning.

Biological connections of this nature are known as interdependence in science: there are strong parallels with the study of context in social anthropology, in particular in the way that groups in the same social or work environment or profession build meaning and development through their social connections (and interdependence on each other). This was observed by Wenger in his study of workplace practice (1998), and described in terms of a community of practice - linked by tools, methods, place and other contextual aspects. Within this environment, new members of a group learn about the community by being immersed in the same context (using the same tools or methods in the same place as the existing members). Vygotsky’s earlier study of child development matches this model of learning in context, his zone of proximal development (Vygotsky, 1978) describing this transfer region between beginners and experts. Sharing a strong context will see novice members enter a zone of proximity around ‘elder’ members, and benefit from enhanced and more relevant learning as a result (Lave & Wenger, 1991).

The work of these social anthropologists in what came to be described as situated learning led to a branch of educational research focusing on learner contexts: looking in particular at things that might affect the learner around the learning activity itself; Hansman (2001, p44) neatly summarises: “learning

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