

Using technology to open up learning and teaching through improvisation: Case studies with micro-blogs and short message service communications



Patrick Dillon^{a,*}, RuoLan Wang^b, Mikko Vesisenaho^{a,1}, Teemu Valtonen^a, Sari Havu-Nuutinen^a

^a Philosophical Faculty, University of Eastern Finland, PO Box 111, 80101 Joensuu, Finland

^b Visual Learning Lab, Dearing Building, University of Nottingham, Jubilee Campus, Wollaton Road, Nottingham, NG8 1BB, UK

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ABSTRACT

This paper models learning environments as cultural ecologies and reports two case studies where technological resources are introduced into the cultural ecology to investigate the extent to which improvisation in learning arises out of the processes of collaboration facilitated by the technology. A student-oriented study investigated how 34 Master's students shared lecture notes in an online educational community. A lecturer-orientated study investigated the use of short message service communications in a lecture. Data were collected through the respective technological resources and through interviews. Results from both studies suggest that little improvisation occurs of its own accord; rather it requires interventions in the cultural ecology that promote an awareness of possibilities and develop the conditions to support them. Organisational, technological and pedagogical conditions that might support improvisation are discussed.

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1. Introduction

Improvisation is commonly associated with jazz and theatre performance (King, 1997; Martin, Leberman, & Neill, 2002) but is also widely applied in the fields of management and business (Brown & Duguid, 1991; Crossan & Sorrenti, 1997; Pasmore, 1998) and also in music and drama education (e.g. Bolton, 1979; Dickinson, Neelands, & School, 2006; Heathcote & Bolton, 1995; Jackson, 1993; Robinson, 1980). Improvisation is generally taken to be the coincidence of creative, emergent and collaborative activities but a more formal definition is 'the ability to combine new experiences with existing elements and put them together in new combinations for a purpose' (Coker, 1964). In this paper we are working broadly within the frame of Coker (1964), focusing on processes of 'opening up' learning and teaching to make them more amenable to improvisation and on how the processes are facilitated. Space does not permit an exploration of the relationships between improvisation and creativity generally, nor the links between improvisations and for example self-regulated learning.

'Opening up' learning through improvisation allows for questioning and challenging existing ideas and practically applying knowledge in new and innovative combinations. By this we mean arriving at outcomes that are additional to meeting the objectives of a given task, or allowing objectives to be met in unconventional ways. There is intellectual value in thinking

* Corresponding author. Tel.: +44 01395 232522; fax: +44 01395 232522.

E-mail addresses: patrick.dillon@uef.fi, P.J.Dillon@exeter.ac.uk (P. Dillon), wruolan@yahoo.com (R. Wang), mikko.vesisenaho@jyu.fi (M. Vesisenaho), teemu.valtonen@uef.fi (T. Valtonen), sari.havu-nuutinen@uef.fi (S. Havu-Nuutinen).

¹ Present Address: Agora Center, University of Jyväskylä, P.O.Box 35, 40014 Jyväskylä, Finland.

about tasks and problems in different ways: new ways of doing things often may offer more user-orientated or logistically effective solutions. Examples of opening up learning through improvisation include ways of provoking improvisations, i.e. moving out of set piece routines, opening up new beginnings and new possibilities, drawing out difference from within the same, capturing interconnections between ideas, and comparing and contrasting possibilities. These characteristics are derived from the detailed philosophical analysis of improvisation offered by Peters (2009).

Collaboration in learning and teaching is important if improvisation is to happen. In the jazz analogy, although individual moments of 'shining' in a performance are most commonly associated with improvisation, the collective endeavour drawn from the simultaneous imaginings of all the musicians (and the audience) is equally important, so too in learning and teaching where 'simultaneous imaginings' equate with 'in the moment' ideas which emerge out of the collective activity.

The emergent possibilities of improvisation may be represented though learning modelled as 'cultural ecology', the dynamic interactions between learners and learning environments (Dillon & Loi, 2008; Loi & Dillon, 2006). Through these interactions there is a constant interplay between an individual's immediate experiences and how he/she knows the world. The moment an individual experiences something he/she makes connections with what he/she already knows and feels, i.e. the relational constructs and emotions that define the individual's personal history. Immediate, 'in the moment' experiences and the understanding developed from prior learning are constantly reconstructing each other.

In most structured learning situations – schools, universities, museums, workplaces etc., experiences are managed in favour of particular outcomes e.g. through curricula, pedagogies, curatorial strategies, workplace routines. Typically these objective-orientated managerial processes 'select' certain 'in the moment' experiences and consolidate them in pursuit of educational or workplace goals. This is both a strength of education as a managed process and a weakness. The weakness is in the lost creative and imaginative potential of experiences not pursued.

In Fig. 1 below, the symbol with a star in an oval represents the relational constructs that characterise learning in formal situations. The inverted triangle symbol represents 'in the moment' experiences. The central arrow represents a learning trajectory. The left hand diagram represents a typical learning trajectory in a formal situation: 'in the moment' experiences are consolidated within the relational constructs that define the goals of the learning activity. This is goal-directed or objective-orientated learning. It is essentially a 'closed' system. The right hand diagram shows a similar learning trajectory but in this case some of the 'in the moment' experiences are allowed to break away from the main trajectory and open up the system to new possibilities. These break away experiences equate with improvisations; they typically involve nonlinear and non-standard thinking, developing new associations between existing ideas or concepts and the exploration and generation of new knowledge, ideas and concepts. By 'new' we mean associations, ideas and concepts that are additional to or alternative to the content offered through the goals of the learning activity.

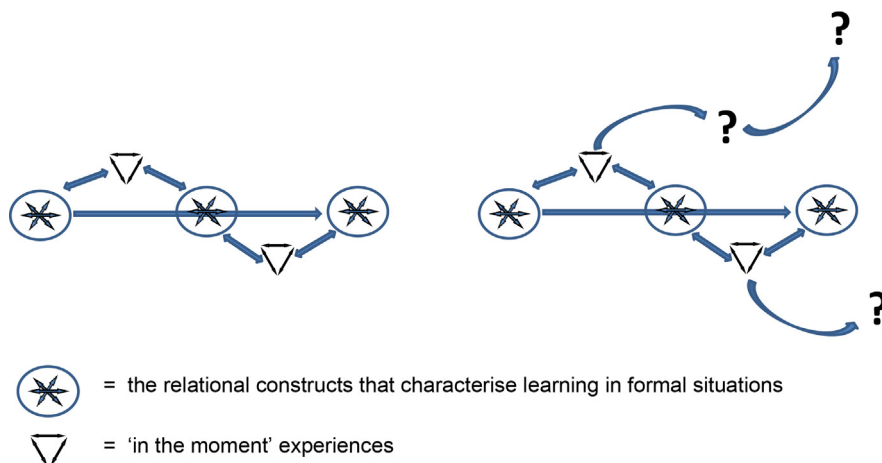


Fig. 1. Learning trajectories: left hand side objective orientated closed system; right hand side trajectory open to the possibilities of improvisation. Adapted from Dillon, 2012

Cultural ecology describes human social activities generally in relation to the environments in which they are a part. Activities within those environments are mediated by technologies. In learning environments, 'technology' can be any resource or tool that mediates learning and thus all learning situations are in some way mediated by technologies. The introduction of a new resource to the technological mix in a learning environment provides new possibilities for social action, including both collaboration and improvisation. In this paper, we use the term 'technology' to mean information and communication technologies such as social software and short message service (SMS) systems. In the research described below, social software and SMS were technological *additions* to the learning situations under investigation. We recognise that these technologies may be used by students in different contexts, although a survey of existing practices did not form part of the research reported.

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