

# *Design, learning networks and service innovation*

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*This paper has three main aims. It argues that education is a surprisingly neglected sector of activity in research on service design and innovation and that greater attention to education as a service can shed new light on theoretical and methodological issues in service design and innovation research. It shows how a novel reframing of education activity – as networked learning – can enrich some critical areas of thinking about the analysis, design and evolution of co-produced services more generally. Finally, it identifies a family of participatory design approaches that are particularly well-tuned to the needs of service innovation. The paper shows how contemporary ideas on individual, group and network-wide learning can benefit research on services and service innovation.*

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Education plays a vital role in society. When it works well, it is a vehicle for social mobility, social inclusion and cultural reproduction. It provides foundations for the development of a skilled, innovative workforce and is both a major area of public investment and a substantial employer of highly trained workers (OECD, 2016). But education does not always serve everybody well, and in a rapidly-changing world, there are doubts about the ability of education to adapt in timely, evidence-informed ways. In short, education is a crucial but problematic service sector. Education is also an under-explored ‘Cinderella’ sector in many branches of research in the human and social sciences, including in research on organisations, services and design. Its neglect by researchers in these fields is a missed opportunity both for the researchers concerned and for the improvement of education (Furlong, 2012).

In this paper we use some recent research in the field of education and the learning sciences to provide a number of insights that can question, extend or add significant nuances to existing (mainstream) thinking about service design and service innovation. We start by providing a high-level sketch of contemporary education as a site for research on services and service

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innovation (Section 1). We explain that education can be broadly considered to include formal and informal learning, and life-long as well as life-wide learning, and we then summarise established approaches to the design and analysis of educational services (Section 2). We illustrate some of the advantages of analysing educational services as learning networks (Section 3). In Section 4 we introduce Activity Centred Analysis and Design (ACAD). ACAD is an *indirect* approach to design for learning which distinguishes carefully between what can be designed ahead of time and the real-world activity that subsequently emerges. We draw on our experiences of applying the ACAD framework to complex examples of networked learning (Carvalho & Goodyear, 2014; Carvalho, Goodyear & De Laat, 2017) in order to reconsider a selection of salient conceptual issues in (mainstream) research on service design and service innovation (Section 5). We focus on four main areas in Section 5:

- the objects of service design
- the nature of (educational) exchanges between providers and clients, within a learning network
- relationships between learning infrastructures and learning interfaces, and
- the social, digital, material and epistemic entanglements that constitute the service interface – in networked learning and more generally.

Innovation is very unevenly distributed in educational practices (Fullan & Hargreaves, 2009). Some kinds of innovation – particularly where government policies are being mandated – sweep across the whole system, with very variable effects on actual practice. Other kinds of innovation are typically small-scale, locally managed and iterative: often on tight timescales. Successful educational innovation is almost always *participatory* (Bang & Vossoughi, 2016). Indeed, one of the goals of formal education is to help students become autonomous lifelong learners. It turns out that learning how to co-configure one's learning environment is an important part of gaining such autonomy. This can be seen as an interesting special case of co-configuring a service interface (Secomandi & Snelders, 2011, 2013; Secomandi, 2013). So a subsidiary aim of this paper, informing the last part of our text (Sections 6 and 7), is to identify and pull together a cluster of approaches to participatory design that are particularly well-aligned to endogenous (insider-driven) service innovation. This family includes design anthropology, formative intervention, and second order cybernetics (Engeström, Sannino, & Virkkunen, 2014; Gunn, Otto, & Smith, 2013; Sweeting, 2016). In Section 7, we also draw another set of connections between learning and service innovation by focussing on how effective participatory design depends upon fluent articulation of group sense-making and decision-taking processes.

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