

# Considering Complexity in Simple Solutions: What's So Complicated About Skype?

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## ABSTRACT

*Video-based communications technologies are not new. However, with increasing drivers for efficiency and cost-effectiveness in higher education, the use of this technology is being explored for what have traditionally been face-to-face activities. This article conceptualises the intricacies of influencing factors affecting the performance of video-based communications in student support activities. Considering video-based communication within student support as a complex adaptive system, the author aims to illustrate how a multitude of intrinsic and extrinsic variables interact and impact upon individual experiences. Using an illustrative diagram, the article explores how psychology and behavioural aspects integrate with communications theory, technological experience, task objectives and social presence theory to necessitate careful consideration of individual need and purpose when planning for technological implementation.*

*Keywords:* Communication, Complex Adaptive Systems, Student Support, Technology, Video Communication

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## INTRODUCTION

In an environment of increasing reliance upon technology, financial and environmental drivers are leading technological initiatives aimed at increased efficiency and performance (Dos Santos & Sussman, 2000). LEAN principles are commonly being used to investigate improve efficiency of large scale practice (Kouzmin & Korac-Kakabadse, 2000). However, though commonly, a one size fits all approach appears to apply to technological implementation it is felt that individuals' perceptions of new technologies vary considerably.

Whilst technological implementation would seem on face value to be relatively straightforward, it has been found that many assumptions made at the initial outset are often erroneous (Taylor, 2009). Within higher education it is felt that assumptions are made about the abilities and amenability of students to such initiatives. Assuming a uniform audience for a technological initiative ignores the complexities associated with human nature. For example, the myth of the "millennial" child, growing up with technology assumes literacy in all things technological (Oblinger, 2003). However, whilst children are taught to use computers

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as part of the national curriculum, this does not necessarily translate to competence with the tools. Mortimore (1999) uses the concept of the “cognitive apprentice” to illustrate the importance of situation in skills development; demonstrating that transference to a different context is not always possible. In addition, Mortimore recognises the role of relevance to the individual in motivating learning. Whilst young people may be highly adept at the use of Face book for social networking, translation to more formal use may not occur where relevance is unclear. The question is raised as to how often these assumptions underpin implementation policy without thorough investigation.

Whilst not intended to be the focus of this article, empirical research undertaken by the author illustrates how common assumptions negate the complexities of working with individuals (Taylor, 2009, 2011; 2012). In responding to institutional drivers, for decreased costs in the support of individual, placement-based students the author undertook a three-phase action research project aimed at establishing the fitness for purpose of video-based communications. It was assumed that the experience could be made equitable to a face-to-face interaction. However, with previous champions of video communications decreasing their reliance upon the technology (The Open University, 2013) perhaps the question “why” should have been more obvious.

The study aimed to establish the feasibility, purpose and role, and difference between face-to-face and video-based dialogue. In support of earlier work investigating student support via video link (Abbot et al., 1993; Berger, 2009; Collins et al., 1999), project findings indicated the majority of participants found using the medium discomfiting and expressed a preference for face-to-face interaction. In particular participants raised concerns over use of the medium for the support of failing placements (where the student is at risk of failing the placement assessment), highlighting the emotive nature of such dialogue (Taylor, 2012). Participant responses, and the concerns raised highlighted the complexity of individual need impacting

upon technological implementation. Combined with exploration of wide ranging theoretical influences, from communications theory, to psychology and sociology, the breadth of influencing factors became clear. This article aims to conceptualise the diversity of theoretical influences impacting upon individuals’ perceptions of video-based communications technologies (as illustrated in Figure 1). Whilst originally centred in Physiotherapy, the complexities associated with applying this technology are felt to be equally relevant to wider contexts and technologies.

Figure 1 demonstrates the need to consider technological implementation in the context of a complex adaptive system (CAS). Considering video-based communications as a CAS, mirrors work by Beckner et al (2009); exploring the complexity of language and highlights the following key features:

- The system integrates multiple factors that integrate with one another.
- The system is adaptive in that meaningful dialogue between participants is based upon past interactions and adapts in response to context and need, thus, feeding forward into future behaviour.
- An individual’s response to video-based technologies is the consequence of wide ranging competing factors (Beckner et al., 2009), from sociological and psychological influences, to behavioural characteristics and communications strategies.

Drawing parallels with adult learning theory (Knowles et al., 2011), implementing technology into education involves acknowledging the influence of psychology and behaviour on core components. A conceptual diagram (see Figure 2) aims to simplify the “mess” of theoretical influences seen in Figure 1; illustrating how central core components of purpose, communications, social presence and technological experience interact and are integrated with wider psychological and behavioural concepts.

Due to the diverse nature of the theories underpinning this conceptual diagram, it is not

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