The social shaping of educational technologies in Saudi Arabia: An examination of how the social fabric shapes the construction and use of technologies

Abdulrahman E.A. Al Lily

King Faisal University, Post Box 346, Al Ahsa, Eastern Province 31982, Saudi Arabia

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ABSTRACT

This article is organised around the research question: To what extent has the social fabric shaped the way in which educational technologies are constructed at the institutional level in a specific social context? This question is addressed through a naturalistic study of a state university in the Eastern Province of Saudi Arabia. Guided by the grounded theory approach, the data analysis demonstrated that Saudi society was committed to many established relationships, structures and identities, a commitment that has resulted in the social shaping of educational technologies.

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1. Introduction

Some social theorists warn that the constitution of educational technologies can be influenced by certain values, which are then carried through the constituted technologies into the places where they are used (see, for example, [1]). Johnson and Wetmore [38] caution that technologies can be intertwined with particular social values, an occurrence which 'is sometimes done deliberately and other times not' (p. 245). Such values, once embedded into day-to-day technologies, go directly to the heart of the way higher education members live and organise their educational or professional environments, experiences and lives [16]. The integration of specific values into educational technologies means they become concrete and 'penetrate the social fabric on a more or less permanent basis' ([73]: 27). Pfaffenberger [56] states that 'technological innovation provides an opportunity to embed political values in technological production and artefacts, which

then diffuse throughout society as a large-scale technological system arises' (pp. 282–283). Thus, Winner [74] warns that, since technologies can be socially configured, they can 'provide a positive content to the arena of life in which they are applied, enhancing certain ends, denying or even destroying others' (p. 29). Furthermore, technologies can 'have politics' [75], politics which are 'wrapped' into the technologies and then pushed into (and, at times, pushed against) the daily professional and educational activities of staff and students. As a result, these people might find themselves compelled to accept these politics as an integrated and integral part of their professional or educational life and practice.

Since social values and cultural customs can be objectified in technologies and therefore conveyed from one generation to another, technological structures can therefore be 'read' as records of certain cultures and historical events, almost in the same way that geologists and archaeologists read landscapes and what remains of ancient societies' buildings, graves, tools and the like (see [63,73]). One might see educational technologies as having 'their own biographies, a history that tells us how they evolved, how they

are used or finally discarded by people when no longer useful' ([19]: 44). In other words, the biography of an educational technology 'reveals the specific and changing cultural dimensions of the environment in which the object lives and, moreover, people's commitment to it' ([19]: 44). Dubos [26] quotes some theorists to the effect that societies are 'expressions of their landscapes' (p. 8), suggesting that the environment 'constitutes a book in which is written the formula of life that they communicate to others and transmit to succeeding generations' (p. 126). Low and Lawrence-Zúñiga [45] place confidence in the belief that technologies can exist as 'inscribed spaces' on which a certain society 'writes' their presence. With these observations in mind, it would be politically naive to attempt to conceptualise educational technologies in isolation from the social values 'inscribed' on them. Indeed, some analysts express concern that to analyse technologies as isolated objects is 'to risk treating them outside of the fabric of history' ([12]: 5). It is, therefore, well worth considering how existing social structures and relations construct an educational technology in a way that reinforces existing social and cultural norms.

Educational technologies, moreover, have anthropological elements. If anthropology is loosely defined as the investigation of the influence of the past on the present, then 'the anthropology of educational technologies' can be said to illustrate the influence of past and existing technological, cultural and organisational structures on subsequent structures. This article, therefore, addresses the influence of existing social relations on the technologies being constituted applying both an anthropological and archaeological framework. Previous criticism of empirical investigations examining the social configuration of educational technologies calls into question bias [4]. For example, such studies can be set up prove the influence of educational technologies on social relationships, neglecting the influences that social relations also have on educational technologies. This criticism is sound, and therefore the current article aims to re-analyse the complex relationship between technology shaping society and the simultaneous social shaping of technology. The specific focus is on identifying the social shaping of educational technologies given the extensive work on the technological shaping of education (cf. [13,49,59]). This investigation specifically addresses the research question: To what extent has the existing social configuration shaped the way in which educational technologies are configured in a specific social context? To address this question here, I first establish a theoretical framework, proceeding to cover the methods of investigation, the findings from the investigation and, finally, the conclusions and recommendations drawn from the findings.

In this article, I focus on the Saudi Arabian norm of gender separation, whereby the physical spaces within which society operates (e.g. universities, workplaces, hospitals, houses, wedding venues, banks, etc.) are divided into separate male and female sections. The investigation zooms in on how society has used technologies to connect the male and female campuses while keeping the two genders physically apart. A key reason for focusing mainly on the connection between the male and female academic

worlds is that gender separation is not only a provocative issue globally, but it is also a complex and fundamental feature that has long differentiated the Saudi context from other contexts [6]. Therefore it is a specific, identifiable element of social relations that can be carefully analysed. What seems to have also made it a relevant focus is not only the shortage of relevant naturalistic literature, but also its organisational, historical, economic and political complexity and sensitivity. This sensitivity seems to explain why this topic has not been explicitly investigated until now, despite its apparent substance. Another reason why the examination of this topic is salient is that Saudi academic and non-academic discourse and literature have become very vocal in warning against the risk of the complete elimination of gender separation, yet demonstrating no explicitly critical awareness of the similar 'risk' (or possibly opportunity) of the partial elimination of this separation through the electronic connection between the two genders [8].

This unique environment further fits the research question because the employment of educational technologies to set up ties between the male and female campuses has reportedly resulted in distinct ways of grouping, engaging and participating that 'came into existence in the Saudi higher education system *solely*' ([52]: 127: emphasis added). This uniqueness must have resulted in distinct issues which might not have been addressed in non-Saudi literature and, consequently, the non-Saudi reader might be interested in knowing about them. The subject of the study is intended to be investigated from an international viewpoint, in order to ensure proper positionality in terms of the Saudi Arabian context. The context and its issues thus benefit from 'foreign' theories, ideas and arguments. The conclusions and recommendations that are drawn from this research, in turn, feed into the global literature. The subject matter of the study is worthy of investigation because it seems important to address how Saudi society has responded to the technological change, a change that has left 'no country on earth' ([30]: 12) untouched. The Saudi context is seen by Al Qator [6] as an 'amazing' (p. 31) arena, wherein politically protected traditions have been grappling with influential liberal values that have come to this context from the outside world through various channels, including information and communications technologies.

2. Literature review

Human society and social systems 'would plainly not exist without human agency' ([32]: 171). Bhaskar [15] agrees that 'society does not exist independently of human agency' (p. 4). Since the time of primordial ooze, human beings have interacted with the environment, attempting to make sense of what they have experienced; 'this is as as natural to humans as breathing' ([39]: iii). It is held that human elements are 'distinguished on the basis of their sense-making proclivities' ([46]: 215). Technological structures are portrayed as products of this 'sense-making' process, a process portrayed as a feature differentiating humans from other animals. Animals other than humans are 'a technical' in the sense that they are 'content with the simple act of living and with what is objectively required