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Digital Transformation as Science Communication: Reframing the Redesign of Engineering Education

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Abstract

Digital transformation in higher education is often framed in terms of technologies, platforms and new modes of delivery. Yet transforming an engineering programme for digital environments also involves transforming how disciplinary knowledge is represented, organised and communicated. This paper examines a project at Lodz University of Technology in which principles associated with science communication have informed the digital transformation of engineering courses. The project focuses on the design of diverse digital and multimodal resources, including interactive materials, visual resources, video and other forms of digital content. This process raises questions familiar from science communication: how complex technical information can be made clear and accessible without oversimplification; how visual and verbal modes can work together effectively; how communication should respond to different audiences and contexts; how to build credibility and trust, especially in the era of AI; and how to encourage learner engagement and participation. The paper argues that digital transformation involves more than transferring existing content into new formats: these communicative concerns form an integral part of the transformation process. Science communication therefore offers both a conceptual lens and a practical design perspective for understanding this dimension of digital transformation and for developing more coherent, accessible, engaging and pedagogically purposeful digital learning environments.

Keywords: Digital Learning; Higher Education; Instructional Design; Pedagogy; Teaching Materials