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Interdisciplinarity as activism against the tyranny of disciplines

Diana Pritchard

University of Bedfordshire, Luton, United Kingdom

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Abstract

Given the intensification of climatic, environmental, social and technological shocks and disruptions, graduates will increasingly encounter myriad 'wicked problems' in their work, organisations and communities. Interdisciplinarity features centrally amongst the educational practices advocated by practitioners and scholars to develop relevant competences so that graduates can identify solutions to these complex challenges and create new forms of social and environmental value.

Yet, despite historical shifts in discipline boundaries and inroads for interdisciplinary research, interdisciplinary learning and teaching is limited and marginal before an Academe which remains resolutely discipline-siloed.

This paper - drawing on findings obtained from a systematic review of educational practices being adopted in higher education institutions across the globe – nurtures a view that before the "tyranny of disciplines", and the organisational, administrative and promotional barriers that secure these regimes, interdisciplinary practices comprise hopeful "acts of rebellion" in the creation of a future oriented education.

Full paper

Before the multiple, interconnected and worsening challenges of climate chaos, environmental degradation, forced migration, public health crises and technological advancements (WEF, 2024), education practitioners across the globe identify the relevant of implementing interdisciplinary learning and teaching. This paper establishes the pedagogical lineage of interdisciplinarity, its significance in the context of global shocks and disruptions and the barriers to its wider adoption. It draws on selected findings of the author's two systematic reviews of studies conducted on higher education practices that aimed to prepare graduates for 21st challenges. The author invites readers to consider the significance of interdisciplinary practices as educational activism against an entrenched discipline-siloed higher education paradigm.

Interdisciplinarity integrates distinct disciplinary theories, concepts and data, methods and tools to nurture holistic understandings of complex issues, questions or problems (Wagner et al., 2011: 16). The pedagogical roots of its approach to education establish its importance in ensuring that learners can

understand and create solutions to social issues. Dewey (1916) asserted the importance of a curriculum grounded in authentic social problems which required students to draw simultaneously on knowledge and methods from multiple disciplines in an interconnected manner. Further, extensive research has evidenced integrated learning as a "high impact educational practice" that develops relevant 21st capabilities (Kuh, 2008).

Given the proliferation of "wicked problems", characterized by "high levels of complexity, ambiguity, controversy and uncertainty" (Lotz-Sisitka et al. 2015: 73), advocates for education for sustainability urge the transgressing of disciplines (Howlett et al, 2016). Combining perspectives from the arts and humanities, sciences, social sciences and applied sciences can nurture knowledge and understandings of "the interdependence of environmental integrity, social justice and economic prosperity" and of the foundation provided by the environment for society and economy (QAA and Advance HE, 2021; Sterling, 2024). Since it can create new understandings, foster creativity, critical thinking and innovation, UNESCO called for such "holistic" education to achieve societal transformation (UNESCO, 2019).

The systematic literature reviews conducted by this author established that interdisciplinarity features amongst the top educational practices implemented by practitioners in higher education institutions in diverse cultural and resource contexts as a means to establish futures-oriented learning (Pritchard, forthcoming). The perspectives and experiences of practitioners reported in studies from countries across the globe, provide valuable insights on their commitments and the barriers to interdisciplinarity.

Many practices were designed recognising that "only those who have knowledge and skills to deal with and adjust to new situations can succeed" (Mwangi and Ingado, 2020), and that rapidly changing job markets required graduates who possessed real-world skills needed by corporations and were able to create services and products with new social and environmental value. Those based in applied sciences, saw that the increasing diversity of communities and precarity of habitats, meant that engineers and medical staff needed a complementary set of social and environmental knowledge and capabilities to deal effectively with human vulnerability and environmental risks (Odongo and Talbert-Slagle 2019).

While there are some institutional arrangement that embody the notion that the future is interdisciplinary (see the Futures Institute at Edinburgh University, the London Interdisciplinary School and interdisciplinary study programmes in various universities), elsewhere efforts are limited in scale, typically confined to creating small learning and assessment opportunities.

Despite the inroads for interdisciplinary funding and practice in research (Wagner *et al*., 2011), numerous obstacles restrict the wider adoption of interdisciplinary learning. Practitioners point to entrenched academic structures and cultures that comprise discipline silos, perpetuated by academic identity and career progression criteria. The lack of resources and administrative burdens render it difficult for students and academics to establish approaches which integrate discipline perspectives meaningfully.

While interdisciplinary practices remain marginal they are perhaps hopeful. Historically, discipline boundaries have changed and been crossed (Wagner et al., 2011) by example, in response to specific requirements, such as for colonial administration (anthropology) and corporate development (business studies), or in response to technological developments (digital technologies). Likewise disciplines have fractured into sub-disciplines (e.g. mechanical engineering) in response to paradigm shifts (ecology and circular economy). Given the value of interdisciplinarity and its activist practitioners, it will remain a

dormant potential until there is a serious “re-thinking of our education system” (Sterling, 2024) which many consider is not yet fit enough to secure our futures.

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