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Disrupted Medical Education:
Nothing is Impossible, Start from the Pedagogy, Evaluate Everything

<u>Abstract:</u>

Education was already being disrupted before 2020, largely through new technologies, including MOOCs, virtual reality, adaptive tutoring, and data analytics. Then came Covid-19, and schools, colleges and universities struggled to convert their courses for online delivery. The results have been both creative and negative – creative because educators have applied great ingenuity in adapting a patchwork of office and entertainment technologies, such as Zoom, PowerPoint and YouTube, to support their teaching at a distance; negative because this new online learning has generally widened inequalities and exposed students to ineffective methods of teaching. My talk introduces pedagogy-led design: applying the science of teaching, learning and assessment to inform design of new courses and platforms for medical education. The messages are: 'Nothing is impossible'; 'Start from the pedagogy'; 'Evaluate everything'. I shall give two examples to illustrate these themes: the online MSc in Surgical Sciences from the University of Edinburgh, and the Anatomy Massive Open Online Course (MOOC) on the FutureLearn platform from the University of Leeds. Both courses treat students as active learners, making choices about their progress and method of study. Their pedagogies include goal setting, competency-based learning, feedback on performance, problem-based learning, simulation and social learning. The courses are designed to blend online learning with medical practice. Evaluation shows how disruptions to education pose challenges for quality and access. They also offer opportunities to design new forms of medical education that are resilient, global, ethical and effective.