Debate: Response to "Should academics collaborate with digital companies to improve young people's mental health"

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Debate: Response to "Should academics collaborate with digital companies to improve young people's mental health"

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Much of the debate about academic collaboration with digital companies (see Livingstone, Orben & Odgers, 2022) has surrounded commercial use of data and children's mental health. The debate has also spilled into the educational value of technologies and academic collaboration with companies to improve their learning design. Given the close relationship between learning and mental health, the evaluation of digital companies' impact should focus on both their emotional and educational effects. The collaborative models used by educational researchers provide a source of inspiration for transparent evaluations and evidence-based recommendations for holistic interventions that target children's learning and mental health.

Keywords: Large data; social factors; teachers

In their article 'Should academics collaborate with digital companies to improve young people's mental health?' Livingstone et al. (2022) call for a debate on a pertinent issue: under what conditions should academics collaborate with digital companies?

Xiao (2023), on the other hand, argues for a consideration of *whether* academics should collaborate with digital companies and highlights the need for a combination of collaborative and noncollaborative research. The need for the latter, as acknowledged also by Livingstone et al. (2022), is justified by the industry's noncompliance with researchers' data requests, which impedes the objectivity and quality of research.

As Thabrew and Gega (2023) point out in their recent Editorial, the relationship between technology and mental health is complex and bidirectional and as such requires a nuanced understanding of the conditions that lead to beneficial or harmful interactions. Considerable attention has been dedicated to the use of technologies by young people, but another key condition is the extent to which the technology design follows the principles of learning sciences. Empirical research shows a very close relationship between children's mental health and learning, especially in terms of learning and behavioural and emotional problems (see Mundy et al., 2022). It follows that technologies that are designed to effectively promote children's learning carry a significant potential to positively affect children's mental health.

Educational Technologies (EdTech) are widely popular in schools and home learning environments worldwide, with more than 500,000 apps advertised as "educational" and the EdTech market estimated to reach over 230 Billion U.S. dollars by 2028 (https://reports.valuates.com/). The potential for EdTech to positively impact the children's and adolescents mental health is thus unprecedented. The current evidence, however, shows that many apps popular among young children are of inadequate design, with manipulative features (Radesky et al., 2022) and activities that are misaligned with the principles of learning sciences (Meyer et al., 2021). In specific learning areas, such as for example literacy, meta-analytical evidence (Furenes, Kucirkova, & Bus, 2021) shows that e-books and apps with distracting features harm children's story comprehension and vocabulary learning.

With accumulated knowledge of which design adds value to children's learning and which does not, researchers have called for a greater integration of scientific evidence and equitable principles of participation with EdTech design see GEM Report Blog, 2022). The Edtech Evidence agenda is driven by the consensus that EdTech has to be based on evidence – independent proof that EdTech works as intended and that it improves children's learning. The success of initiatives, such as the LEAP (Leveraging Evidence for Action to Promote change) initiative by the Jacobs Foundation and MIT Solve (see here), illustrates the power of collective expertise of researchers and social entrepreneurs to inject science and evidence into educational solutions.

Although the EdTech research-industry collaboration is ongoing in various research projects, specific learning subjects (e.g. literacy and the see LINK International Collective of Children's Digital Books) and university labs, it often lacks national coordination. In the aftermath of the pandemic, reports showing the inadequate design of EdTech for online learning (e.g., Han, 2022) have renewed policy commitments to the EdTech evidence agenda in several countries. Government reports on the state of EdTech evidence (e.g. LINK UK's Department for Education report) and demands for demonstration of EdTech's efficacy (e.g. the LINK ESSA standards in USA) mobilised the market for evidence services and research consultancy companies (e.g. LearnPlatform offers Evidence as a Service).

The demand for evidence has also strengthened academia-industry partnerships in the form of university accelerators (e.g. Penn Catalyst) and sandbox and testbed collaborations for developing and evaluating emerging ideas and prototypes (e.g. SwedishEdTest and EdTech Hub). In effective academia-industry-practice collaborations, data are discussed and shared by researchers, practitioners and developers to arrive at a shared goal (Kucirkova, 2017).

With evidence regarded as a marker of quality and trust, companies are keen to display an evidence kitemark, or seal of approval, on their products. A stamp of approval in the form of achieving a certification (e.g. LINK ISTE standards) or transparent third-party assessment on aggregator platforms (e.g. LINK EdTech Impact) demonstrates an EdTech's commitment to the evidence agenda. In my experience of evaluating EdTech companies' evidence portfolio and market readiness, providers are willing to share data and all the information they have available, including their internal and external studies, testing results, surveys or user reviews. This is because companies seek a holistic assessment of their evidence base and use the evidence assessment for marketing purposes, communication to funders and greater transparency when presenting their products to procurement teams.

The EdTech evidence evaluations offer considerable potential to be extended with assessments of technology's impact on children's mental health. When assessing a company's evidence base, researchers would then not only focus on evidence of learning impact but also mental health impact. Given that academic and emotional problems go hand in hand (Riglin, Petrides, Frederickson, & Rice, 2014), assessment rubrics and criteria could be integrated into a joint framework. Such collaborative assessment could be the basis on which researchers develop interventions to improve young people's mental health.

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