

08.7.2026

Author

WALKER, Melanie

Title

Imaging STEM higher education futures : advancing human well-being / Melanie Walker

Publication year

2015

Source/Footnote

In: Higher education. - 70 (2015) 3, S. 417 - 425

Inventory number

38744

Keywords

Wissenschaft : Ingenieurwissenschaften ; Wissenschaft : Mathematik ; Wissenschaft :
Naturwissenschaften ; Studentenschaft : Studienverhalten

Abstract

The paper explores a conceptual approach to the question of what it means to provide a university education that addresses equity, and encourages the formation of STEM graduates oriented to public-good values and with commitments to making professional contributions to society which will advance human well-being. It considers and rejects resource-based and utilitarian approaches to well-being and opts for Amartya Sen and Martha Nussbaum's capabilities approach which involves developing graduates' capabilities and functionings to be and do in ways which they have reason to value. The capabilities approach argues for educational and social development as the expansion of such freedoms. The approach is sensitive also to diversity through the focus on the choice of a plurality of functionings and a wide informational basis for policy, practice and social justice evaluations. It allows an analysis of how different individuals can convert available resources into functionings through attending to conversion factors: personal (internal) conversion factors, social conversion factors and environmental (external) conversion factors. All make a difference to how an

08.7.2026

individual converts her resources into functionings and makes advantage and disadvantage visible. There is a further education-specific issue, that of selecting core valuable capabilities because not any form of science and engineering education will do. Educators need to deliberate and agree which capabilities and corresponding functionings are valuable and so should be supported in policy and practice. In a capabilities-friendly education, education would aim to secure and distribute valuable education capabilities to diverse students (women and men, black and white, rural and urban and so on) paying attention to the social arrangements in education (pedagogies, institutional culture and education policy) and to conversion factors and barriers that might impede the development of opportunities and valued outcomes. (HRK / Abstract übernommen) Walker, Melanie, E-Mail: walkermj@ufs.ac.za