

SHARED RESOURCES

Workshop: Mentorship, Well-being, and Professional Development in STEMM — Addressing the "Knowing-Doing Gap"

Washington, DC and Online

PRIMARY RESOURCE

- [1] Pfeffer, Jeffrey, and Robert I. Sutton. 2000. The knowing-doing gap: How smart companies turn knowledge into action. Harvard Business Press.
- [2] Pfeffer, J., & Sutton, R. I. (1999). Knowing “what” to do is not enough: Turning knowledge into action. *California Management Review*, 42(1), 83-108.
<https://cmr.berkeley.edu/1999/11/42-1-knowing-what-to-do-is-not-enough-turning-knowledge-into-action/>

“KNOWING” RESOURCES

- [3] National Academies of Sciences, Engineering, and Medicine. 2019. *The Science of Effective Mentorship in STEMM*. Washington, DC: The National Academies Press.
<https://doi.org/10.17226/25568>
- [4] Jolly, Brian. “Faculty development for organizational change.” In *Faculty development in the health professions: a focus on research and practice*, pp. 119-137. Dordrecht: Springer Netherlands, 2013.
https://link.springer.com/chapter/10.1007/978-94-007-7612-8_6
- [5] Kezar, Adrianna. “Understanding and facilitating organizational change in the 21st century: Recent research and conceptualizations: ASHE-ERIC higher education report, volume 28, number 4.” (2001). <https://eric.ed.gov/?id=ED457711>
- [6] López, N., Morgan, D.L., Hutchings, Q.R. *et al.* Revisiting critical STEM interventions: a literature review of STEM organizational learning. *IJ STEM Ed* 9, 39 (2022).
<https://stemeducationjournal.springeropen.com/articles/10.1186/s40594-022-00357-9>

BOARD ON HIGHER EDUCATION AND WORKFORCE

- [7] National Academies of Sciences, Engineering, and Medicine. 2021. *Mental Health, Substance Use, and Wellbeing in Higher Education: Supporting the Whole Student*. Washington, DC: The National Academies Press.
<https://doi.org/10.17226/26015>
- [8] National Academies of Sciences, Engineering, and Medicine. 2023. *Advancing Antiracism, Diversity, Equity, and Inclusion in STEMM Organizations: Beyond Broadening Participation*. Washington, DC: The National Academies Press.
<https://doi.org/10.17226/26803>
- [9] Griffin, Kimberly A. "Institutional barriers, strategies, and benefits to increasing the representation of women and men of color in the professoriate: looking beyond the pipeline." *Higher Education: Handbook of Theory and Research: Volume 35* (2019): 1-73. https://link.springer.com/referenceworkentry/10.1007/978-3-030-11743-6_4-1
- [10] de Brey, C., Musu, L., McFarland, J., Wilkinson-Flicker, S., Diliberti, M., Zhang, A., Branstetter, C., and Wang, X. (2019). *Status and Trends in the Education of Racial and Ethnic Groups 2018* (NCES 2019-038). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
<https://files.eric.ed.gov/fulltext/ED592833.pdf>
- [11] St Amour, Madeline. "As times and students change, can faculty change too." *Inside High Educ* (2020).
<https://www.insidehighered.com/news/2020/04/03/faculty-face-uphill-battle-adapting-needs-todays-students>
- [12] Susan Elrod & Adrianna Kezar (2017) Increasing Student Success in STEM: Summary of A Guide to Systemic Institutional Change, *Change: The Magazine of Higher Learning*, 49(4), 26-34, [doi:10.1080/00091383.2017.1357097](https://doi.org/10.1080/00091383.2017.1357097)
- [13] Gehrke, Sean, and Adrianna Kezar. "The roles of STEM faculty communities of practice in institutional and departmental reform in higher education." *American Educational Research Journal* 54, no. 5 (2017): 803-833.
<https://journals.sagepub.com/doi/10.3102/0002831217706736>
- [14] Reinholz, D.L., Apkarian, N. Four frames for systemic change in STEM departments. *IJ STEM Ed* 5, 3 (2018). doi.org/10.1186/s40594-018-0103-x
- [15] Schein, Edgar H. *Organizational culture and leadership*. 4th Ed. Jossey-Bass, 2010. San Francisco

BOARD ON HIGHER EDUCATION AND WORKFORCE

- [16] National Center for Science and Engineering Statistics (NCSES). 2023. *Diversity and STEM: Women, Minorities, and Persons with Disabilities 2023*. Special Report NSF 23-315. Alexandria, VA: National Science Foundation.
<http://ncses.nsf.gov/pubs/nsf23315/assets/nsf23315-report.pdf>
- [17] National Center for Science and Engineering Statistics (2021). *Academic careers: Women, minorities, and persons with disabilities in science and engineering*.
<https://ncses.nsf.gov/pubs/nsf21321/report/academic-careers>
- [18] National Academies of Sciences, Engineering, and Medicine. 2018. *Graduate STEM Education for the 21st Century*. Washington, DC: The National Academies Press. doi.org/10.17226/25038
- [19] National Academies of Sciences, Engineering, and Medicine. 2020. *Re-envisioning Promotion and Advancement for STEM Faculty: Proceedings of a Workshop—in Brief*. Washington, DC: The National Academies Press. doi.org/10.17226/25742
- [20] National Academies of Sciences, Engineering, and Medicine. 2021. *Undergraduate and Graduate STEM Students' Experiences During COVID-19: Proceedings of a Virtual Workshop Series*. Washington, DC: The National Academies Press.
<https://doi.org/10.17226/26024>
- [21] Recordings of the Undergraduate and Graduate STEM Students' Experiences During COVID-19 sessions and Information about the project can be found at <https://www.nationalacademies.org/our-work/response-of-higher-education-to-covid-19-virtual-workshops-on-graduate-and-undergraduate-education>
- [22] National Academies of Sciences, Engineering, and Medicine. (2024). *Disrupting Ableism and Advancing STEMM Promoting the Success of People with Disabilities in the STEM Workforce: Proceedings of a Workshop Series*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/27245>
- [23] Recordings of the Disrupting Ableism and Advancing STEM Conference Series and Information about the project can be found at <https://www.nationalacademies.org/event/06-05-2023/disrupting-ableism-and-advancing-stem-a-national-leadership-summit>
- [24] Rycroft-Smith, L. (2022). Knowledge brokering to bridge the research-practice gap in education: Where are we now?. *Review of Education*, 10(1), e3341. <https://bera-journals.onlinelibrary.wiley.com/doi/10.1002/rev3.3341>

BOARD ON HIGHER EDUCATION AND WORKFORCE

“DOING” RESOURCES

- [25] Montgomery, Beronda L., Fátima Sancheznieto, and Maria Lund Dahlberg. “Academic Mentorship Needs a More Scientific Approach.” *Issues in Science and Technology* 38, no. 4 (Summer 2022): 84–87. <https://issues.org/academic-mentorship-scientific-approach-montgomery-sancheznieto-dahlberg/>
- [26] National Academies of Sciences, Engineering, and Medicine. 2020. *Promising Practices for Addressing the Underrepresentation of Women in Science, Engineering, and Medicine: Opening Doors*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25585>
- [27] Bragg, Debra D., Pamela L. Eddy, Ellen R. Iverson, Yi Hao, and Kristin O'Connell. “Lessons from research and evaluation on faculty as change agents of teaching and campus reform.” *New Directions for Community Colleges* 2022, no. 199 (2022): 215-228. <http://dx.doi.org/10.1002/cc.20535>
- [28] Recordings of the Re-envisioning Promotion and Advancement for STEM Faculty: Aligning Incentives with Values sessions and Information about the project can be found at <https://www.nationalacademies.org/our-work/promotion-and-tenure-policies-and-incentives-in-higher-education-a-workshop>
- [29] Gutierrez S, Seuferer JA, Guerrero AM, Carrasco Y, Bibbins-Domingo K, Nguyen T, Márquez-Magaña L, Nystul T, Morris MD. Evaluation of a mentorship matchmaking event at an academic research institution to reinforce the scientific workforce pathway for underrepresented minority groups. *BMC Med Educ*. 2025 Jan 20;25(1):95. doi: 10.1186/s12909-024-06410-1. PMID: 39833781; PMCID: PMC11744948. <https://doi.org/10.1186/s12909-024-06410-1>
- [30] Lee N, Nelson A, Svihla V. Refining a Summer Biomedical Research Training Program for American Indian and Alaska Native (AIAN) Students. *Int J Des Learn*. 2018 Jun 18;9(1):88-97. doi: 10.14434/ijdl.v9i1.23049. Epub 2018 May 9. PMID: 30283725; PMCID: PMC6166885. <https://pubmed.ncbi.nlm.nih.gov/30283725/>
- [31] White, G. E., Proulx, C. N., Morone, N. E., Murrell, A. J., & Rubio, D. M. (2021). Recruiting underrepresented individuals in a double pandemic: Lessons learned in a randomized control trial. *Journal of Clinical and Translational Science*, 5(1), e185. <https://pmc.ncbi.nlm.nih.gov/articles/PMC8596076/>

BOARD ON HIGHER EDUCATION AND WORKFORCE

- [32] Thakar, M. S., Rubio, D. M., Murrell, A. J., Morone, N. E., Miland, C. M., & White, G. E. (2024). The impact of inclusive mentoring and identity work on self-efficacy in career advancement and career commitment among underrepresented early-career faculty and post-doctoral fellows. *Journal of Clinical and Translational Science*, 8(1), e61. <https://pubmed.ncbi.nlm.nih.gov/38655454/>
- [33] Muir D, Orlando C, Newton B. Impact of summer programmes on the outcomes of disadvantaged or 'at risk' young people: A systematic review. *Campbell Syst Rev*. 2024 Jun 13;20(2):e1406. doi: 10.1002/cl2.1406. PMID: 38873396; PMCID: PMC11170337. <https://pubmed.ncbi.nlm.nih.gov/38873396/>