



JOSHA's Critical Review of "PhD Training is no Longer Fit for the Purpose - it Needs Reform Now" by Nature

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Submitted: 24. March 2023
Published: 6. October 2023
Volume: 10
Issue: 5
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Languages: English
Keywords: Academia, Scholars, PhD Training, Reform, Innovation, Interdisciplinary System, Mentoring, Leadership
Categories: News and Views
DOI: 10.17160/josha.10.5.891

Abstract:

The editorial in Nature titled "PhD Training is No Longer Fit for Purpose - It Needs Reform Now" highlights the urgent need for reform in doctoral training, which is failing to meet the expectations of world leaders who consider science crucial for national welfare. Doctoral training has long been troubled, with concerns about inadequate student grants, lack of support, poor quality supervision, and systemic discrimination in academic culture. Additionally, doctoral students are not prepared for the interdisciplinary work and large teams that are characteristic of contemporary science, particularly outside of academic research. The article suggests that the current system of doctoral training, based on a master-apprentice relationship with individual professors, is outdated and inadequate. The editorial calls for a revolution in doctoral training design and funding, similar to the one that occurred when education became open to all. The book "Towards a Global Core Value System in Doctoral Education" provides examples of innovative doctoral

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Abstract

The editorial in *Nature* titled "PhD Training is No Longer Fit for Purpose - It Needs Reform Now" highlights the urgent need for reform in doctoral training, which is failing to meet the expectations of world leaders who consider science crucial for national welfare. Doctoral training has long been troubled, with concerns about inadequate student grants, lack of support, poor quality supervision, and systemic discrimination in academic culture. Additionally, doctoral students are not prepared for the interdisciplinary work and large teams that are characteristic of contemporary science, particularly outside of academic research. The article suggests that the current system of doctoral training, based on a master-apprentice relationship with individual professors, is outdated and inadequate. The editorial calls for a revolution in doctoral training design and funding, similar to the one that occurred when education became open to all. The book "Towards a Global Core Value System in Doctoral Education" provides examples of innovative doctoral education practices. The editorial acknowledges that transforming doctoral education will require significant changes, resources, and planning, and urges leaders to work with researchers to bring it into the twenty-first century. This editorial was first published in *Nature* on January 18, 2023 (doi: <https://doi.org/10.1038/d41586-023-00084-3>).



Nature's editorial "PhD training is no longer fit for purpose - it needs reform now" calls for urgent reform of PhD training, which it claims is no longer fit for purpose. The article cites concerns that doctoral training worldwide is failing to meet the expectations of world leaders who see science as essential to national welfare. Doctoral training has been in trouble for some time, with rising inflation worsening an already meagre student grant, leading to a cost of living crisis. Early career researchers consistently report concerns about a chronic lack of support, poor quality supervision, and systemic racism and discrimination in academic culture in many places. In addition, doctoral students are unprepared for the cross-disciplinary work and large teams that characterise cutting-edge science today, particularly for careers outside academic research.

The article suggests that the current system of doctoral training, tied to individual professors in a master-apprentice relationship, is outdated and inadequate to meet society's needs. The editorial calls for a revolution in the way doctoral training is designed and funded, similar to the one that occurred when education became open to all.

The book 'Towards a Global Core Value System in Doctoral Education' provides snapshots of the situation in different countries and examples of innovation in doctoral education. Some candidates are taught in cohorts with more than one supervisor so that students are less isolated and better protected if a relationship with a single supervisor goes sour. Some take additional courses or have their research progress assessed regularly - the kind of mentoring that is more common in education.

The editorial acknowledges that transforming doctoral education will require major changes, as was the case with the reform of primary, secondary and higher education. It stresses the need for leaders to work with researchers to ensure that doctoral education finally exits the nineteenth century and enters the twenty-first. This will require planning and resources, and the process will be slow, like turning a tanker.

JOSHA's conclusion: The article identifies several key issues plaguing doctoral education, including insufficient financial support, lack of mentorship, systemic discrimination, and a failure to prepare students for interdisciplinary and team-based work. It emphasizes the necessity of a revolutionary shift away from the outdated master-apprentice model towards a more inclusive and innovative



approach. While acknowledging the challenges and the need for time and resources, the editorial asserts that this reform is vital to align doctoral education with the evolving needs of society. Overall, the editorial calls for a bold and concerted effort to reshape doctoral training, ensuring it meets the expectations of global leaders and equips students with the skills needed for successful careers in the modern scientific landscape.

JOSHA's Critical Reviews focus on recent studies and discoveries in medicine and science that may impact patient care. Our editors aim to stimulate thoughts and reflections on new developments and interventions. While our opinions are subjective, we hope this service is helpful. We welcome comments from our readers!

Acknowledgements

ChatGPT May 24 Version was used during the writing process as part of JOSHA's policy of experimentation with new AI tools. However, the authors of this review take full responsibility for its content.

Article Information

“PhD Training Is No Longer Fit for Purpose — It Needs Reform Now.” *Nature*, vol. 613, no. 7944, Jan. 2023, pp. 414–414. *DOI.org* (Crossref), <https://doi.org/10.1038/d41586-023-00084-3>.