

Peer Review Report

Review Report on The Equator Project Research School and Mentoring Network: evaluated interventions to improve equity in geoscience research

Original Research, Earth Sci. Syst. Soc.

Reviewer: Rocío Caballero-Gill

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EVALUATION

Q 1 Please summarize the main findings of the study.

This study documents the evidence-based, ring-fenced, fully remunerated interventions co-created by the team and participants of The Equator Project. Equator's aim is to increase participation and retention of UK-domiciled Black, Asian and minority ethnic students in Geography, Earth and Environmental Sciences (GEES). This manuscript describes the evaluation of two main interventions part of the Equator Project: (1) the research school and (2) the mentoring network. The evaluation data presented indicates each intervention fulfilled their original goals. For the research school, they facilitated broader networks, improved awareness and perceptions of GEES research careers, increased sense of belonging, and improved confidence in moving forward into GEES research. For the mentoring network, evaluation data indicates they facilitated networking; improved sense of belonging and inclusion for Black, Asian and minority ethnic students in GEES, built a body of experienced mentors to support future students within the field, and improved confidence in moving forward into GEES research.

Q 2 Please highlight the limitations and strengths.

This reviewer finds very few limitations. As the authors describe throughout the text, tracking the response through time in an individualized form could have facilitated comparisons of the impact per participant. This information could have been further analyzed to compare the impact per ethnic group, which likely would have some differences due to intersectionality. One recommendation would be to include (1) number of years living in the UK and (2) whether English is the participant's native language (perhaps as a subquestion when demographic data is collected). Culture and language can be both "superpowers" as well as barriers, impacting sense of belonging and career progression, both directly related to Equator's aim of increasing participation and retention of UK-domiciled Black, Asian and minority ethnic students in GEES. (Amano et al., 2023; Rodriguez et al., 2024). This suggestion could be folded into the longitudinal study as well, as the team sees fit.

As for the (many) strengths of this work, the recommendations provided by the authors are not only applicable to other contexts, but they are also a well explained roadmap to follow with accompanying rich resources. It was truly a pleasure to read this manuscript and I commend the authors for being so thorough in the text. Additionally, I hope the Equator authors and participants know they are inspiring and their work and energy will most definitely contribute to changes within GEES and beyond.

Amano T, Ramírez-Castañeda V, Berdejo-Espinola V, Borokini I, Chowdhury S, Golivets M, et al. (2023) The manifold costs of being a non-native English speaker in science. *PLoS Biol* 21(7): e3002184.

doi:10.1371/journal.pbio.3002184

Rodriguez, M., Roman, B. Z., Mohamed, M., & Barthelemy, R. (2024). Social and Cultural Barriers Reported by STEM International Graduate Students of Color. *Journal of International Students*, 14(3), 276–302. doi:

<https://doi.org/10.32674/jis.v14i3.6694>

Q 3 Please comment on the methods, results and data interpretation. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.

The methods are well explained as well as the results, and this reviewer thinks their conclusions are well supported. One minor suggestion would be to archive the supplementary data in an additional space, as accessing that information from the university proved unsuccessful for this reviewer.

Q 4 Check List

Is the English language of sufficient quality?

Yes.

Is the quality of the figures and tables satisfactory?

Yes.

Does the reference list cover the relevant literature adequately and in an unbiased manner?

Yes.

Are the statistical methods valid and correctly applied? (e.g. sample size, choice of test)

Yes.

If relevant, are the methods sufficiently documented to allow replication studies?

Yes.

Are the data underlying the study available in either the article, supplement, or deposited in a repository? (Sequence/expression data, protein/molecule characterizations, annotations, and taxonomy data are required to be deposited in public repositories prior to publication)

Not Applicable.

Does the study adhere to ethical standards including ethics committee approval and consent procedure?

Yes.

If relevant, have standard biosecurity and institutional safety procedures been adhered to?

Not Applicable.

Q 5 Please provide your detailed review report to the editor and authors (including any comments on the Q4 Check List):

As mentioned above, it was truly a pleasure to read this manuscript and I commend the authors for being so thorough in the text. I find the authors were successful in presenting sound evidence not only for the results from implementing these types of programs, but also for the “how”, which is many times critical for buy-in. This manuscript presents a recipe that will hopefully guide institutions and organizations as they contribute to the collective action we need to foster inclusive excellence in our fields. Lastly, I hope the Equator authors and participants know they are inspiring and their work and energy will most definitely contribute to changes within GEES and beyond. Thank you Equator team for all your efforts!

*I marked “not applicable” for the data available in a supplement because while available, I did not find it to have easy access. I get a “wrong username or password” message every time I try to log in the university website/link provided for the supplementary data.

**Tiny detail: for figure 2, under “example assumptions” box, item #2 reads “that mentors and mentors”, likely one of those words can be replaced by “mentees”.

Q 6	Originality	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
Q 7	Rigor	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
Q 8	Significance to the field	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
Q 9	Interest to a general audience	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
Q 10	Quality of the writing	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
Q 11	Overall quality of the study	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>