

POSTER

Engaging Young Girls in STEM with a MOOC on Machine Learning and Maths

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Abstract

In this poster we will underline first the relevance of the designing phase of a Massive Open Online Course (MOOC) in order to make the resulting content gender conscious in narratives, in the language, and in the use of images. Then, we will pinpoint the Heroine's Learning Journey approach [1], a motivational strategy, that can be used to support participants in MOOCs. Both strategies were developed within the FOSTOWM project (2019-2022) [2], an ERASMUS+ funding project, and showed positive results in the context of rural and marginalized areas in Brazil, targeting young girls. The topic of the MOOC with the embedded Heroine's Learning Journey was Machine Learning with Maths [3], plus some ethical discussions about the algorithms. A high school teacher from the city of Recreio-Minas Gerais, Brazil, supported the FOSTWOM MOOC initiative and facilitated the use of the school computer lab so that students could take the online course using the lab computers. Additionally, to help overcome the technical difficulties imposed by the subject matters of the MOOC, namely Machine Learning algorithms and Maths, a young researcher from the Federal University of Rio de Janeiro, Brazil, set aside one day per week to provide individualised online tutorial support to participants. Furthermore, to improve the personal experience of the group of young participants, the computer researcher created a WhatsApp group dedicated to Q&A on the MOOC's content. From the group of 14 young women who had the opportunity to have the special support of the school and personal tutoring, 11 received the certificate of completion of the MOOC and gave very positive feedback about their willingness to pursue Science, Technology, Engineering and Maths (STEM) studies.

Keywords Gender Balance Design, Maths in STEM, STEM MOOC

References

- [1] Heroine's Learning Journey, <https://heroicjourneys.life/> (accessed May. 08, 2023)
- [2] FOSTWOM - Connecting Women and STEM, <https://fostwom.eu> (accessed May. 08, 2023)
- [3] Machine Learning, Maths & Ethics: Hands-on, <https://courses.elearning.tecnico.ulisboa.pt/courses/course-v1:MOOCs+lematecX+2022/about> (accessed May. 08, 2023)