

The gender gap in STEM fields: Theories, movements and ideas to engage girls in STEM environments

Reinking, A. & Martin, B. (2018). La brecha de género en los campos STEM: Teorías, movimientos e ideas para involucrar a las chicas en entornos STEM. *Journal of New Approaches in Educational Research*, 7(2), 148-153. doi: 10.7821/naer.2018.7.271

Introduction

Gender gap in the STEM context (Science, Technology, Engineering and Mathematics)

A lower number of women complete degrees, master's degrees or doctorates in STEM fields in the United States.

In jobs linked to STEM contexts, such as those located in the fields of engineering, science, mathematics and technology, men still occupy more work positions than women.

Only one of every five teachers who develop their professional activity in the set of fields delimited by computing, mathematics, engineering and physical sciences is a woman.

It is necessary to analyze why and how this gender gap exists in STEM fields

Objective of the study: investigating and summarizing the current studies dedicated to girls and STEM environments

Method

Qualitative methodology through a summative analysis of the contents found in previous research works regarding theories associated with the gender gap and the strategies to engage girls in the STEM field at a young age.

Articles and relevant information were collected by means of data search websites.

Results

Theories explaining the gender gap

- the stereotypes and socialization practices prevailing in the United States and in other countries revolve around male dominance and female submissiveness
- the role played by peer groups in students' academic experiences
- the stereotypes existing among the professionals who work in STEM fields

Stereotypes and mindsets need to be changed in order not only to engage women in STEM fields but also to significantly increase their feeling of membership.

Several movements and companies carry out initiatives to engage women with science, technology, engineering and mathematics:

- Girls, Inc,
- Engineer Girl
- Lego
- The GoldieBlox Company

Teachers can encourage girls to choose professional careers related to STEM by providing experiences, exposing children to female role models in the STEM field, creating practical and safe environments for exploration, and fighting against social gender stereotypes.

Educators can show and offer information about positive female role models in fields associated with STEM for the purpose of increasing the interest and developing the capacity that a woman has to really take full advantage of her potential.

Discussion

The gender gap in STEM professionals starts in childhood when children are socialized inside their families and with their peers.

Nevertheless, girls have been entering the STEM field at an increasing rate over the last twenty years.

Conclusions

The gender gap can only improve providing STEM experiences on an ongoing basis, showing female professional role models, generating positivity and promoting curiosity about the potential of applications and/or professional careers framed within STEM contexts.

The ultimate goal must be to close the gender gap and not to create a gender gap in the opposite direction.