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

doi: 10.7821/naer.2018.7.271

Introduction

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

A lower number of women are present in STEM programs, courses, degrees or universities in STEM fields in the United States. A lower number of women are present in STEM careers, such as those located in the fields of engineering, science, mathematics and technology, compared with men, with positions that are traditionally more attractive for women.

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

Method

Qualitative methodology through a systematic review of the comments found in the current literature. The selection of studies is based on the theories associated with the gender gap and the strategies to engage girls in the STEM field at a young age.

Results

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

Theories explaining the gender gap

– The stereotypes and socialization practices prevail 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

– The 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 can only improve by providing STEM experiences on an ongoing basis, showing female students relevant role models and engaging men about the potential of applications and professions of STEM-trained women within STEM careers.

Conclusions

The ultimate goal must be to eliminate the gender gap and create a gender parity in all possible directions.