

Use of Astronomy as a tool to improve gender balance in Tertiary Institutions

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Abstract

The number of women in the science discipline is still low in Uganda. In the case of Mbarara University of Science and Technology (MUST), the percentage of bachelor degrees going to ladies in physics and mathematics is about 7%, while for chemistry and biology it is close to 15%. This is a very small percentage which needs to be increased. There is evidence that culture has a large influence on the participation of women in Sciences. In order to change this perspective about pursuing science careers, we organised a number of activities, which included visits to selected secondary schools, Universities and other institutions to investigate the climate for girls/women, to catalogue the problems that they face, and to suggest improvements that could be made. We present our findings in this paper.

Introduction

Gender has become a major concern, particular the female gender. Of particular interest is the numbers of female students pursuing postgraduate programmes at MUST. In MUST it has been observed that the number of students that enrol for science related programmes at undergraduate level is increasing, but the number of female students is still low. The low enrolment of females at Undergraduate level has a direct effect on the number of students at post-graduate level. In order to improve the gender issue in tertiary institutions, very female students is given extra 1.5 points for admission into tertiary institutions. This has not improved the gender balance in tertiary institutions, particularly in MUST



Figure 1: Sharon Aol talking to girls.

Current Challenges

- There is a believe that particular jobs or professions (e.g., engineering) are meant only for men, although this is gradually changing
- Women are more interested in activities and jobs that have some emotional attachment to them e.g. being a social worker and addressing the issues of the community, being a counsellor to help solve peoples dilemmas, etc.
- This eventually affects their attitudes and beliefs, given that most people consider science to be abstract.
- This may not be of concern because even with Science one can achieve emotional satisfaction. “Whatever the mind can conceive and believe, it can achieve”.
- Some of the challenges women face in choosing Science based careers may include:

Socio-cultural challenges

- (a) Poor mentor-ship of girls right from home
- (b) Lack of mentors and career guidance for the young girls
- (c) Bias from the society
- (d) Social responsibilities e.g. Marriage
- (e) Environment

Economic

- (a) In adequate funds for girls. More preference given to boys that girls
- (b) Girls have more financial needs than boys and fail to catch up
- (c) Girls do not have equal opportunities to generate money compared to boys
- (d) Some parents prefer to bay fees for boys that girls

Outreach Programmes

Before organising outreach programmes to selected girls secondary schools, a survey was done to establish the feelings and thoughts of girls about Sciences. It was found that: (i) About 95% believed that the role of a woman is to take care of the family and bring up children. (ii) Negative influence from the environment about girls involvement in science related careers. (iii) Some of the concepts in science look to be abstract and most textbooks used mainly have examples that depict men doing sciences. (iv) Lack of role models or mentors. (v) Cultural influence, where girls are brought up with the mentality that the most important aspect for them is marriage. After the survey, outreach programmes were organised to change these beliefs and also used astronomy to motivate and interest girls into science. In addition, career guidance facilitated by Female Scientists from different fields were organised.



Figure 2: MUST-WIST group during one of the visits. Priscilla Muheki talking to girls.

Conclusion

There is need to change the current feeling and attitude of female students in science and science related career. An appropriate understanding of science and a more positive engagement of the girl child must be developed. Curriculum related issues should be appropriately addressed in order to bring on board the girl child during curriculum design and development at all levels.



Figure 3: MUST-WIST group during one of the visits. Elizabeth a visiting Professor from USA talking to girls.

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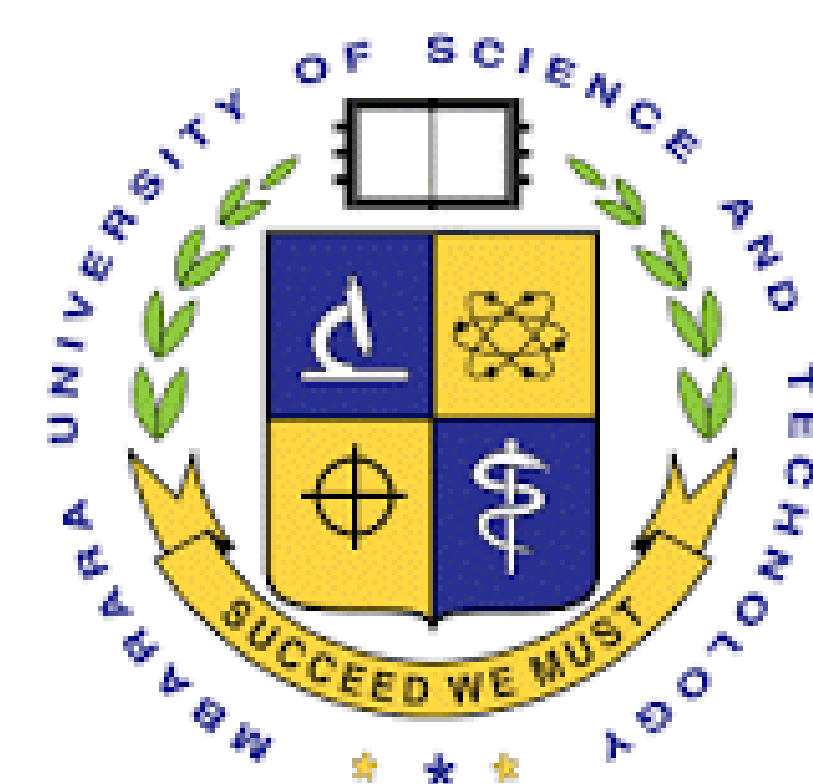
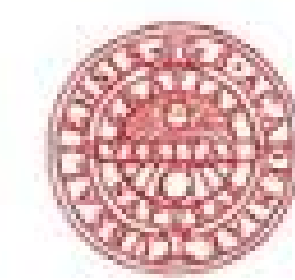
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What can be done

In order to increase the number of women working in science and technology, there is need to:

- Increase the number of women entering science related programs at the BSc level.
- Increase the number of women who continue to study in the fields of science at postgraduate level.
- Increase the number of women working in the field of science and technology.



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