

Preliminary Results on the Experiences of Liberian Women Studying Engineering

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Background

- ❖ A recent ActionAid International study examined the state of Liberian undergraduate women in urban areas and showed that women often face sexual intimidation by faculty and instructors, are excluded from student organizations, and do not feel safe in the university due to low security standards.
- ❖ The situation is even direr for engineering women who comprise less than 5% of engineering students at the University of Liberia.
- ❖ Under a USAID-grant, the past three summers UM has carried out a co-curricular educational program name Summer Start at the University of Liberia for 80 underclass engineering and agriculture students, with an emphasis on female student participation (who comprise 50% of program participants).
- ❖ This program was the backdrop to better understanding the female student experiences and how Summer Start influences those experiences.

Research questions

1. *What are the experiences of female Liberian students studying engineering?*

2. *How does Summer Start affect Liberian female student perceptions of and motivations to persist in engineering, and planned approaches to their continued education?*



- ❖ Their role models are minimal—no female engineering professors and almost no professional female role models. They are “trailblazers” in engineering Liberia for engineering.
- ❖ Other women are sometimes their largest barriers as they compete with each other, do not want to be associated with other women for fear of being lumped into stereotypes, and when they do organize together, are often persecuted by peers and society.
- ❖ While Summer Start works to provide some sort of perspective, respite, and support for the female engineering participants, it can in no way account for the ubiquitous existence of a society that is antagonistic to their success.

Methodology

- ❖ Principle investigator was a former Summer Start instructor (2011, 2012); research assistant was a Summer Start 2011 participant.
- ❖ Researchers lived in dormitory with students throughout duration of Summer Start 2013 program.
- ❖ Semi-structured interviews were carried out with all female engineering Summer Start participants (~20 total).
- ❖ Each interview lasted approximately an hour.
- ❖ Majority of participants were geology students (followed by civil, mining, and then one electrical engineering student); three students had participated in Summer Start for two years.
- ❖ Follow-up interviews carried out with small subset of research participants chosen to broad geographic and economic backgrounds.

Future work

- ❖ Analysis on the influence of Summer Start using conceptual framework of motivation and self-efficacy in higher education.
- ❖ Follow-up interviews will be carried out in Summer 2014 with participants.
- ❖ Leadership camp is in the process of being developed by the Society of Women Engineers at the University of Michigan in partnership with the newly-formed Liberia Society of Women Engineers, and will be carried out for 40 Liberian female engineering students this summer in Liberia.
- ❖ More efforts will be made to understand the influence of a SWE program using the conceptual framework of “psychological sense of community.”

Results

- ❖ Majority of women in the Division of Engineering at the University of Liberia are studying geology. Current hypothesis is that geology is the area of engineering most familiar to the female students, and is a field that has been lauded by the country’s President as vital for its development.
- ❖ Support network for the female students are the immediate family—particularly support for higher education from the father. Oftentimes, they must live with extended family, which are not necessarily supportive of their education.
- ❖ When extended family is unable to contribute to the financial support of Liberian female engineering students, the female students will either work—often in unwelcoming, sexist environments—or postpone their education in order to stay home and take care of the household.
- ❖ Persistence as both professionals and as students is continuously questioned by male peers, who make up over 90% of their daily acquaintances, and are often hostile toward their success. Many of the female students believe that there are very few “safe” men in their lives.

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