

Co-creating futures together within INSPIRA, a mentoring program for women in Informatics

Sunny, K. O, Miranda

PhD in Informatics Engineering, University of Coimbra, sunnymiranda@dei.uc.pt

Paula Alexandra, Silva

Centre for Informatics and Systems of the University of Coimbra, paulasilva@dei.uc.pt

FRANCISCA, SOUSA

Department of Computer Engineering, University of Coimbra, francisca.tavares.s@gmail.com

ANA MARGARIDA, FELÍCIO

Department of Computer Engineering, University of Coimbra, margfelicio@gmail.com

CCS CONCEPTS • Social and professional topics → Gender • Social and professional topics → Professional topics → Computing profession

ACM Reference Format:

1 INTRODUCTION

The low rate of women working in technology affects the European economy. According to the McKinsey technical report [1], if the percentage of women in technology jobs doubles by 2027, the GDP of the European Union could increase by up to 600 billion euros. Currently, only 22% of all technology roles in European companies are held by women. Moreover, this problem may be compounded because the graduation rate of women in STEM subjects during higher education is decreasing. For example, only 19% of bachelor's degree students in ICT are women. Isolation is often one of the reasons women drop out of these classes [1].

One of the actions to mitigate this problem is the implementation of mentoring programs for female ICT students. Mentoring has been identified as one of the key factors supporting the access and success of individuals from diverse backgrounds in academia [2]. In addressing drop-off, Packard [3] argues for designing and implementing mentoring initiatives to promote the persistence of underrepresented students in STEM disciplines. To the author, mentoring is "a developmental experience intended to help students develop, increase their capacity to learn, and encourage persistence in the field" [3,p. 29].

Typically, in a mentoring relationship, a more qualified/experienced individual, called a 'Mentor', helps another less experienced person, called a 'mentee', develop their knowledge and skills, promoting personal and professional growth [4]. Four core foundational principles of mentoring practice are intentional, inclusive, relational, and holistic [5]. *Intentional* reflects an agreement between the mentors and mentees with goals and activities to achieve defined goals. *Inclusive* as a space for parties to reveal their best and most authentic selves. *Relational* in which a healthy and productive working relationship between mentor and mentee must be built. *Holistic* is an effective mentoring relationship that recognizes and nurtures the development of the whole person, supporting professional and psychosocial growth. Therefore, developing and implementing effective mentoring practices is necessary to build a supportive, equitable and inclusive community in ICT for women [5].

This article reports on a workshop developed within a mentoring program as a clear example of "Computing Connecting Everyone". The participants engaged in an interactive activity to co-create the future goals of the program, after listening to a panel of four role models who shared their perspectives on attracting and retaining women and girls in ICT areas.

2 MATERIALS AND METHODS

INSPIRA is a mentoring program based at the Department of Informatics Engineering at the University of Coimbra. The aim of the program is to attract, support, and retain female talent in the area of Informatics, from students to researchers and professors. The program does so by supporting the development of their academic and career trajectories, promoting a research and academic environment that is more sensitive, reflective and aware of gender issues, and creating a space for sharing experiences, acquiring skills and accessing mentors who provide training and the promotion of good practices.

The INSPIRA program was launched on the International Girls in ICT Day, on April 28th, 2022. A year into its launch, a workshop was held to revisit the actions of the program going forward. The workshop was held on April 26th, 2023, and consisted of the following activities: (i) a panel with four international role models discussing perspectives for attracting and retaining women and girls in ICT fields; (ii) a hands-on Scrum & Kanban activity for solving practical problems; and (iii) a co-creation activity to define future activities for the INSPIRA program. This work reports on the outcomes of this co-creation activity, which was two-fold: first participants answered seven questions, which were entered into <https://pollev.com>, and then an open discussion took place to collect general feedback, comments, and

suggestions. The seven questions covered themes such as the motivation for choosing the IT area, concerns that may lead to the drop-off of the IT area, and suggestions for future actions and activities that could help participants remain in the IT area for their academic and career path.

3 RESULTS AND DISCUSSION

The workshop had 16 women participate, 6 master's students, 5 PhD students and 5 researchers/professors. Table 1 provides an overview of the participants' answers. In general, workshop participants hope that INSPIRA's upcoming activities will address more topics such as listening to testimonies and experiences of other female role models, learning about strategies to overcome difficulties regarding possible microaggressions and gender stereotypes, and developing a greater understanding of career development and progression. Participants also noted that they value a format that had not been considered before, i.e.: debates.

Table 1: INSPIRA co-creation activity

Questions	Selected Answers
1. What is the unique idea you take away from the workshop?	"The need for a more active intervention in deconstructing stereotypes". "Creating strategies to encourage female participation in STEAM areas". "Inspiration".
2. What brought you and kept you in the field of ICT?	"Personal interest in the area". "Interest in technology". "The continuous challenge". "The job opportunities". "Being able to develop products that can change the world.". "Innovate".
3. What causes you concern or may push you away from ICT?	"Feeling like I don't fit the profile". "Overly complex challenges and frustration". "Technical difficulty, oscillating and volatile environment, possible lack of opportunity". "Toxicity associated with the area". "I find it very difficult to convey my opinion without fear".
4. What could be done to make you feel more integrated in the ICT areas?	"Realize what I can contribute to the area and from my experience". "Have active help that allows future autonomous work". "Technical training, humanized teaching, mentoring".
5. What would you like to see discussed or addressed in one of INSPIRA's future activities?	"Debates about difficulties people go through, and other experiences". "Career development classes". "Strategies to reach a top position in a company". "Inspiring presentations, seeing wonderful women who have achieved what I want to achieve one day". "Strategies to overcome difficulties". "How to recognize microaggressions and defend against them".
6. What would you like to receive support with?	Top rated options: a. understand my career options; b. job interview support; c. help with the transition to the job market; d. progress in my career; e. "launch my company".
7. I want to be part of INSPIRA as a:	Mentee (29%); Mentor and mentee (71%).

With regards to the open discussion, this was mainly dedicated to clarifying the types of activities that can be developed within a mentoring program and who could be a mentor. It was explained that mentoring activities can be individual or group and that the goals each person might have are personal and can therefore be very diverse, which may mean that everyone can be a mentor to someone else, for as long as their needs match those that a mentor can help address.

4 CONCLUSION

When used effectively, mentoring activities can positively impact the organization and its individuals. Mentoring provides a platform for women to connect and share their experiences, help transition into different career stages, and improve soft skills. Through activities like these, INSPIRA strives to empower women to pursue careers in IT.

Acknowledgements

The authors are grateful to all workshop participants, the members of the panel (Barbora Buhnova, Laura Kovacs, Laura Giarre and Karima Boudaoud), EUGAIN COST ACTION CA19122, and the Department of Engineering Informatics of the University of Coimbra.

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