JAPAN CENTER FOR INTERNATIONAL EXCHANGE (JCIE/USA)
(米国法人)日本国際交流センター

JAPAN CENTER FOR INTERNATIONAL EXCHANGE
日本国際交流センター

US-Japan Women Leaders Dialogue

Key Takeaways from STEM Working Group Meeting

August 24, 2023

On the evening of August 24 (morning of August 25 in Japan), the Japan Center for International Exchange hosted a private online discussion among a small working group of 12 US and Japanese women experts to discuss steps to empower women in STEM-related fields. The meeting was intended to provide insight and recommendations for our Capitol Hill US-Japan Roundtable on women in STEM, which is being held on September 14 as part of JCIE's US-Japan Women Leaders Dialogue (2017–), co-chaired by Hon. Seiko Noda (former Minister for Internal Affairs and Communications and former Minister in charge of Women's Empowerment and Minister of State for Gender Equality, among other posts) and Rep. Diana DeGette (D-CO).

In particular, the working group was intended to build on the findings of the 2022 Dialogue, which pointed to STEM as an area offering the greatest room for growth for women in terms of good-paying and flexible jobs. In that Dialogue, the participants called for greater efforts by the two countries to increase women's interest in and access to STEM, starting at the K-12 education level through to higher education, the workforce, and C suites. The following is a summary, compiled by Prof. Rie Kijima with the assistance of JCIE staff, of the working group's recommendations on how to achieve these goals and areas for US-Japan collaboration.

Part 1. Promoting girls' STEM engagement in K–12 education: Support teachers, parents, and community to build a social foundation for children and youths

1) Increase student confidence and self-efficacy

- Work to increase confidence/self-efficacy of girls looking to get into STEM through inclusive messaging.
- Increase presence of female STEM role models for girls through mentorship programs, guest lecturers, career fairs, etc. to enable youths to be able to imagine what it's like to pursue STEM.

2) Empower teachers and diversity educational resources

- Encourage the building of teacher capacity and retention and support them through strong partnerships between schools and nonprofits/corporations to incorporate more hands-on, inquiry-based STEM learning in and outside of classrooms.
- Provide more teacher-led, hands-on opportunities for girls/women to help them better visualize what pursuing STEM means, using videos spotlighting women in STEM, manga, a day in the life, virtual shows, etc., especially at a young age (around 11-15 years old) when interest begins developing.
- Develop more STEM education resources and programs targeting underrepresented populations and areas; ready-to-go resources (e.g., STEM kits) and lesson plans to aid overstretched teachers.

3) Inform parents/caregivers on the benefits STEM Education

- A study conducted by Hayashi and Kunii (2015) show that mother's occupation in STEM is positively correlated with children's aspirations to pursue STEM. Mothers are influential in their child(ren)'s decision to pursue STEM careers.
- Engage parents—especially non-STEM mothers—in STEM through joint workshops to empower them to provide career guidance and encouragement to youths.

4) Strengthen community involvement to expand opportunities for experiential learning in STEM fields

- Example of NPO-School program: Career Girls' "ready-to-go" curriculum which teachers can utilize in their classrooms.
- Example of Corporate program: Abbot's "Family Science Day" and internships for high school and college students
- Example of University-K12-Corporate program: SKY Labo's partnership with: 1) Hitachi, Panasonic, and Uniqlo's STEAM women (e.g. engineers and designers) who inspired girls to pursue STEAM subjects; PwC Japan on the design thinking and STEAM program for girls from different prefectures; OIST to empower girl youths in Okinawa.

K-12 level: Potential areas for US-Japan collaboration

- Increase opportunities for students living in Japan and the US interested in STEM to interact online or through in-person exchanges to build a sense of belonging to a community across countries.
- Provide American and Japanese public-school teachers with resources and opportunities to learn from peers implementing effective active learning and inquiry-based learning in their classrooms (in-person or virtual exchanges).

Part 2. Higher education and academic careers for women in STEM: Reforms at institutional levels

1) Reform institutional norms through revisiting hiring policies and practices

- Universities should have clearly articulated, systematic plans and policies to improve diversity, inclusion, recruitment, and retention of female faculty and students.
- In the hiring process, cast a wider net in candidate searches (an article from Harvard Business Review reveal that if pool of finalists for a job is <50% female, the chance of hiring a woman for the academic post is zero).
- Include concrete criteria for research and teaching excellence, and address biases that marginalize underrepresented groups.
- Provide support structures, such as mentorship programs, flexible work policies, leadership training, and ensuring work is recognized in relation to career interruptions and milestones.

2) Harness an environment more conducive to mentorships

- Ensure that female professors are provided strong mentorship from more senior women faculty in STEM.

- Create clear standards so that women faculty who are providing mentorship are given credit for performance review/impact of their contribution to the field.
- Develop peer support networks and communities of practice to address isolation faced by women in male-dominated fields.
- Provide mentoring and flexible support for postdocs, recognizing the challenges women may face in terms of family and caregiving responsibilities and encouraging them to ask for what they need to succeed in academia.

3) Build a collaborative ecosystem within and outside of the university

- Foster collaboration between communities (such as venture capital, family systems, faculty, etc.) to help students understand the relevance and importance of STEM and feel and impact on the individual and community-level.

4) Diversify curricula that is more inclusive for all types of learners

- Curricula: Build faculty and future faculty capacity through professional development on student-centered, hands-on pedagogies to support STEM learning and design of inclusive curricula.
- Universities also have an important role to play in training and reskilling women for careers in STEM fields, and particularly for reaching out to women in rural areas, where opportunities are scarcer.

University level: Potential areas for US-Japan collaboration

- Conduct studies of best practices on 1) hiring to recruit and retain women faculty in STEM; and 2) inclusive curriculum in STEM learning for undergraduate/graduate students and recurrent education for women who want to join the STEM workforce.
- Establish international Community of Practice (CoP) to exchange and promote strategies and practices to broaden perspectives and career opportunities in STEM.
- Example: OIST-led efforts to establish structures and peer networks to promote women's leadership trajectories in collaboration with Kyushu University, Tohoku University, and Tokyo University; and an OIST-led initiative with Harvard Medical School to "humanize" the STEM curriculum.

Part 3. Gender equity in STEM business sector and entrepreneurship: Recruiting, retaining, and elevating women in STEM leadership roles

1) Diversify and provide greater networking and mentorship opportunities

- For youths: Encourage experiential opportunities such as internships and fellowships in small companies and startups as well as large companies to help encourage more young women to enter STEM careers.
- For women in the labor market: promote networking and peer support groups for women at different career stages (e.g., Women in Bio offers a peer program).
- For women in STEM industries: 1) provide international assignments and exposure to broaden career perspectives and opportunities; women's participation in the international community can contribute to create pressure to push for more progressive change in Japan; 2) offer mentorship, mentorship programs, and leadership training to attract and retain more women in STEM careers.

2) Identify champions for gender equality

- Encourage men in leadership to champion women by proactively identifying and promoting women within their teams and organizations through projects, advice, and encouragement.

3) Diversify recruitment and retain talents

- Improve diversity in recruitment by re-examining job requirements and skills needed versus defaulting to only hiring those with familiar backgrounds.
- Promote flexible work policies (e.g., work from home)

4) Address conscious and unconscious bias

- Address biases in venture capital/funding systems which disadvantage women-led startups and work to provide alternative sources of earlier-stage capital.

STEM business and entrepreneurship: Potential areas for US-Japan collaboration

- Promote the strategic planning of career paths and roles and share best practices in both countries.
- The White House has been undertaking major workforce initiatives to bring industry and academia together to assess needs and ensure a diverse workforce, so this is an area for US-Japan collaboration to share the findings.
- Given the rapid changes in technology, more opportunities are needed for reskilling programs for women. The US and Japan should collaborate in the areas of recurrent education.
- Convene existing STEM entrepreneurship support organizations for shared learnings and potential partnerships.
- Explore joint alternative funding and access to non-capital resources for women entrepreneurs in STEM fields.
- Convene existing fellowship and internship programs (entrepreneurship and STEM generally) for shared learnings and potential partnerships.