

W-STEM: Building the future of Latin America: engaging women into STEM

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EVALUATION WORKSHOP REPORT

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1. Introduction

During the W-STEM [1-6] ERASMUS + Capacity-building in Higher Education European Project (Ref. 598923-EPP-1-2018-1-ES-EPPKA2-CBHE-JP) meeting at Universidad del Norte in Barranquilla and after the two days meeting in Cartagena (Universidad Tecnológica de Bolívar), Columbus Association developed a workshop with consortium's partners and invited leaders from each partner institution to capture three main dimensions of the project: **progress, improvement opportunities and needs**.

The objective of the exercise was to collectively evaluate the progress made by the consortium in the first year of the project, and to create a space to jointly propose timely measures to face difficulties and improve project management for further phases. The exercise was framed by three guiding questions in which participants wrote notes in cards and facilitators visually classified them in order to guide a structured conversation around key aspects.

2. Results and progress

According to the participants the main results and progress in the first year of the W-STEM project could be summarized into five main aspects: Institutional synergies, data and knowledge about the real situation of STEM (Science, Technology, Engineering and Mathematics) [7] programs, Work-Packages outputs and deliverables, pilot activities and network building.

2.1. Institutional synergies

The project has been useful in several institutions to make visible the challenge of the participation of women in STEM fields at institutional level and make synergies with other units at the university. Some comments underline this aspect as a progress, such as:

- *To formally connect with Human Dignity Recognition Center as a department focused on gender issues among other areas.*
- *Coordination and articulation of the Project W-STEM with other existing premises at the University, such as commission for attraction and retention.*
- *Visualization of the W-STEM group in the faculty and the University.*
- *As an institution we have expanded our internal networks. We also have plans and dreams for more internal projects regarding the same aims of gender equity in STEM.*
- *To identify internal stakeholders interested in STEM and gender initiatives.*
- *Raising awareness of the importance of W-STEM amongst the staff.*
- *The acknowledgment at USM of the importance of the participation of Women in STEM fields.*
- *The project helps to justify at institutional level, the initiative in W-STEM that need to be coordinated.*
- *Articulation of the Project with key unities at University.*
- *To begin with the dissemination of the topic with governing staff.*

2.2. Data and knowledge about the real situation of STEM programs

One of the first activities of the project was to design a self-assessment tool that allow to measure the situation of the participation of young women in STEM programs at participant Higher Education Institutions and link this with the internal mapping process of attraction, recruitment and retention. One interesting finding is that this data collection is taking place at both regions, allowing for comparisons among Latin-American and European partners.

According to the participants this first activity of the project has already shown results such as:

- *Getting to know the actual state of our university regarding the enrollment of women in STEM programs.*
- *To better know the complete process of attraction, access, guidance and retention process that we have.*
- *Process mapping and self-assessment as a starting point.*
- *We have a clear idea of the level of the institution in terms of inclusion, equality and opportunities and how much we have to improve.*
- *More knowledge about the internal status regarding gender and STEM issues at institutional level.*
- *Clear diagnosis, to get to know the real situation, the people involved in key process and to detect the most critical situation.*
- *The lack of institutional initiatives and policies for attracting Women into STEM.*
- *Lack of government policies and institutional clarity.*
- *Opportunity to develop a serious work of self-evaluation at University, that didn't exist before.*
- *To raise awareness on the real situation of the institution related to the participation of Women in STEM.*

2.3. Work-Packages outputs and deliverables

The partners stressed the main results directly linked to the Work-Packages progress:

- *Self-assessment tool for the participation of Women in STEM.*
- *The definition and testing of a way to collect and analyze information about the gender gap in our institution.*
- *First results and analysis of self-assessment tool.*
- *Process mapping for each institution.*
- *Digital and branding resources.*
- *Dissemination plan: webpage, social media brand, development of protocols for activities.*
- *Dissemination work has created a strong focus on the main initiatives under development across the universities that through sharing will raise awareness and improvements.*
- *Profiling tool first proposal.*

2.4. Pilot actions

Although the campaign actions and specific activities towards WSTEM promotion are planned for the coming years of the project some teams are already working in piloting activities such as:

- *Campaigns with schools.*
- *Research groups for encouraging the participation of Women in Science and Engineering scientific careers with undergraduate students.*
- *Activities such as: workshops, open discussions and video recordings for promoting the participation of Women in STEM fields*
- *More academic and social activities with the academic clubs where women participate.*

2.5. Network building

Partners identified as key result of the project the opportunity to build a network with partner universities. Discussions allowed to conclude that this is due to a fluid exchange mainly between Work-Package leaders that have achieved to create a rich virtual environment of exchanges. The meeting in Colombia allowed to reinforce such ties and through a first benchmarking round the exchanges about practices that work at different universities.

- *Getting an opportunity of international collaboration with HEIs that show the same passion for STEM.*
- *Network building and finding common and complementary areas for collaboration.*
- *Find each other's = networking.*
- *Connection with all the partners and shared points of view.*
- *As a consortium we have developed a great synergy that helped us work in an organized and creative way.*
- *Strengthening of an International network of collaboration.*
- *To know different realities and experiences in the field of STEM.*

3. Improvement opportunities for further phases

Two main axes for improvement were identified, at internal level in which institutions and teams can do better to achieve foreseen results and at project level. The first is related mainly with a request for more focused actions and coordination within the teams at each partner institution; and the second is mainly related with the improvement of management and communication process that require the involvement of all partners.

3.1. Institutional coordination and involvement

- *To improve coordination with internal units and external agents to develop actions and campaigns.*
- *We need to make noise and make more visible all the efforts we have been doing.*
- *There is always room for improvement. I would like to see my institutional team more involved to make our objectives happen.*

- *Disseminate plans and actions within the university and find allies.*
- *Internally we need to work harder with our institution to better inform what we are aiming with this project.*
- *To work on institutional action plans.*
- *To empower teaching manager staff and Students from STEM careers.*
- *To include strategic alliances.*
- *Formulate new projects for international collaboration (find funding), as there is a lack of resources to execute more strategic actions and attraction campaigns.*
- *To better design the attraction strategies to involve not only students from schools but their families and other stakeholders.*
- *To make happen the dissemination plan for the promotion of STEM careers.*
- *To design support, tutoring for retention at STEM programs.*
- *Centralization of the data and completing the self-assessment. The main challenge was the collection of the information, we had to knock someone's doors. If we are doing the self-assessment again it will be great if my university could start working on having a data center.*

3.2. More focus and action plans

- *Focus on future/feasible activities in the framework of the project: be realistic!*
- *To land ideas and plan actions for campaigns.*
- *To include the measurement of results and impact internally.*
- *To reinforce the monitoring process so it's feasible to identify changes of access and recruitment.*

The activity in Barranquilla could in a way channel such requests through the action plan definition workshop that allowed that internal teams meet and define objectives, actions and results, taking into advantage the opportunity that most universities had to have leaders participating in this exercise. It is recommended to produce timely feedback to such action plans in order to help teams to align with W-STEM project expectations and real possibilities to progress.

3.3. Project management and Communication

- *Communication is always the main problem in projects. We should improve our level of communication both internally within our institutional teams and also interinstitutional we have the tools we have to use them better.*
- *Improve the level of communication among the teams in committees.*
- *Improve communication between members.*
- *We have the channels so any issue / questions should be shared.*
- *Dissemination of W-STEM to society.*
- *The call for fulfillment of the deadlines by all members.*
- *Participation of all members in the meetings and activities.*
- *More clear outcomes scope: Outcomes expected from profiling tool versus role model interviews need to be more clearly documented.*
- *Expectations should be discussed, define and adhered to, rather than changed during the meetings.*
- *Clearer outcomes for meeting and work packages.*

- *More involvement of the teams that are not formally called in the work package/any activities that are happening right now.*
- *Clarification for instructions and deadlines.*
- *More coordination in the request of documents to avoid overlapping.*
- *Clarification of the partner roles (Europe and Latin America).*
- *Which ethic aspects should be considered during the campaigns?*
- *Systematize better the management of the project.*
- *Dedicate more time to follow up the project.*
- *Use a unique agenda or calendar where everybody can see the progress.*
- *Compromise from the partners regarding the deliverables.*

From this item discussion four specific improvement measures could help to communicate and manage better:

1. To have a summary of the project with key milestones and expected contribution from all partners.
2. To have an updated calendar of meetings.
3. To include feedback and Q&A moments at the end of each meeting to have clarity of commitments and responsibilities.
4. To encourage the use of the communication channels, mainly the webpage.

4. Needs for further phases

Participants stressed some needs that are important for ensuring the progress and results at the next phases of the project.

At project level there is a shared call for reinforcing the exchanges of practices and a more transversal collaboration among partners that enhance international collaboration and take advantage of the international partnership, with Europe and Latin-America:

- *Continue providing support for networking, lobbying and good practices.*
- *Specific information on good practices for promoting access and retain Women in STEM.*
- *Work as a team by region.*
- *Set up meetings with European universities to learn from their experiences.*
- *Need of more closed monitoring from Work-Packages leaders.*

From Institutional point of view, participant need:

- *More support and acknowledgment from decision-makers at institutional level.*
- *Compromise from the people belonging to the University.*
- *More dissemination and visibility efforts.*
- *Establishment of gender equity policies.*
- *Show results and concrete actions with institutional impact.*
- *The need to apply for other sources of funding to support W STEM activities.*

W-STEM project should clearly identify the cases where the lack of support from institutional leadership might limit the results of the action plans and try to give extra support in order to create strategies to involve them thus overcoming risks.

5. Conclusions and Recommendations

The evaluation workshop was useful to collectively identify progress in the first year of the project at institutional level and at a project level. The achieved progress is aligned with the initial expectations of the proposal for the first year: *self-assessment, identification of key actors, creation of smart teams, getting institutional leadership support, branding and dissemination, as well as the delivered outputs.*

The challenge ahead is to be able to channel the efforts towards very focused and strategic actions that allow partners to produce improvement at the three main key process: attraction, recruitment and retention of young women in STEM programs. One of the main considerations shared by facilitators during the meeting is the perceived risk that universities continue doing what they are already doing. In this sense the project should be able to ensure that partners move forward from the initial state at the beginning of the Erasmus+ Project and have a real impact on the most critical STEM programs in order to achieve measurable results.

To this end the activity in Barranquilla provided a space for action plan definition where the internal teams met and defined objectives, actions and responsible staff taking into advantage that most universities had leaders participating in this exercise. It is recommended to coordinators and Work-Package leaders to produce timely feedback to such action plans in order to help teams to align with W-STEM project expectations and real possibilities to progress.

In the same way, W-STEM project should clearly identify the cases where the lack of support from institutional leadership might limit the results of the action plans and try to give extra support overcoming potential risks.

External evaluators could also help to produce an external revision of such plans in order to assess in which way they accomplish the expectations and commitments made with the European Commission.

There are several recommendations that could be taken by project coordination in order to improve communication, management as well as network building, particularly:

- *To have a summary of the project with key milestones and expected contribution from all partners.*
- *To have an updated calendar of meetings.*
- *To include feedback and Q&A moments at the end of each meeting to have clarity of commitments and responsibilities. English language could be in some cases an obstacle for some partners, so it is important to make sure that there is enough clarity, at least in the key actions.*
- *To encourage the use of the communication channels, mainly the webpage*
- *To encourage a more horizontal collaboration and potentiate the benchmarking rounds.*

- *To involve more actively the partners that are not taking leading roles in world-packages.*

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