

### JOURNAL OF MARITIME RESEARCH

Vol XXII. No. II (2025) pp 368-377

ISSN: 1697-4840, www.jmr.unican.es



# Professional equity in the maritime sector: technical culture, leadership and training proposal from a mixed analysis in the Canary Islands

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ARTICLE INFO

#### ABSTRACT

#### Article history:

Received 16 Nov 2024; in revised from 20 Nov 2024; accepted 05 Dec 2024.

#### Keywords:

gender, maritime training, professionalism, leadership, technical culture, inequality, equity. Advances in the maritime sector are a palpable reality: improvements in sustainability, automation, safety and working conditions have marked the evolution of the professional environment. However, despite this progress, there are still significant differences between men and women in terms of professional integration. This article explores whether quality integration for women on board is really possible. Although the number of female graduates has grown, many still face questions about their ability, the pressure to adopt masculine leadership styles and a constant pressure to prove their worth. Faced with this scenario, several key questions arise: How are these differences perceived within crews? What do women on board feel and experience? What actions are underway to reduce the professional gap and transform the culture of the sector? Are educational institutions developing effective tools to prepare future professionals in terms of equity? Even today, many young women are still unaware that these careers exist, and commemorative events, although well-intentioned, do not always generate deep reflection or real change.

This paper analyses this professional difference through a mixed methodology, with surveys of professionals in the sector and in-depth interviews with women in the bridge and engine departments. From their accounts, multiple micro-injustices and symbolic obstacles are identified. However, rather than focusing on denunciation, the aim is to explore possible ways of improvement through training. A didactic day is proposed, oriented towards creating experiences between students and professionals, including debates, invisible theatre and simulated situations based on real cases.

Today more than ever, training competent technicians also requires integrating an ethical and empathetic mindset o perspective. And in this aspect, universities have the responsibility to act as an engine of change, to promote a more conscious, fair and inclusive maritime culture, and to improve human quality and sustainability in the professional environment.

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#### 1. Introduction.

The integration of women in the maritime sector has been a long and constantly evolving process, marked to a large extent by the maritime culture itself, a harsh, hierarchical, hostile and traditionally masculine environment. Although the presence of women on board is not a novelty, for decades their participation has been relegated to non-technical roles and away from command positions.

Today, the incorporation of women in the maritime sector is an undeniable reality. Although their presence is still a minority, there is a constant and at times increasing number of women graduates in degrees such as Nautical and Maritime Transport or Marine Technologies, as well as a greater number of women in operational and responsible positions. The presence of female pilots, captains, officers and chief engineer officers is timidly beginning to become normalised in maritime culture.

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These advances represent an important step towards professional equality, but they force us to think beyond the numbers. Integration cannot be measured by quantity alone; the quality of that integration is equally relevant. The question is not only how many women enter the sector, but under what conditions they do so. Is there a truly equitable, respectful and progressive professional culture? The evidence gathered in this paper casts doubt on this.

The maritime environment, more than just a workplace, represents for many people a way of life and a culture with its own codes. Within these codes there are prejudices, stereotypes and normalised dynamics that can hinder women's professional practice. Women who enter technical or leadership positions must not only demonstrate their professional competencies, but also face additional pressure to display emotional resilience, adaptation to masculinised models of authority and resistance to various forms of symbolic micro injustice.

This text is not constructed from the claim of homogeneous equality because we are not equal, and that need not be a problem, but from the yearning for real equality, where the diversity in styles, presence and leadership approaches is recognised as part of a fairer, more mature and humane technical culture. This is the aim of this work: to understand and make visible the barriers that are still present and to propose ways of improvement based on training, ethical awareness and cultural transformation in the maritime sector.

To this end, research has been carried out using a mixed approach, combining the analysis of institutional data, surveys of professionals in the sector and interviews with women in the field. Finally, different activities with a more experiential methodology are proposed with the aim of being implemented in universities and also for possible pre- university levels, with the motivation of helping to generate a more conscious, equity-sensitive and respectful training.

#### 2. Review and Background.

Equity in the maritime sector cannot be understood in isolation, as its roots come from a broader historical process of inequality that has conditioned women's access to the technical world of work. Although in recent decades, equality has advanced significantly, there is still both structural and symbolic resistance that hinders real integration. This situation is especially intensified in sectors such as the maritime sector, where tradition, hierarchy and cultural masculinisation have for decades established both the work dynamics and the image of who belongs in this environment.

#### 2.1. The evolution of women in the technical workplace.

Women's access to employment has been characterised by normative, social and cultural constraints. In technical sectors, this access has been even more complex, due to the association between the technical and the masculine. Although there have been important legal and political advances since the mid-20th

century, such as the ILO recommendations on equal opportunities or the United Nations 2030 Agenda for Sustainable Development, these frameworks have not achieved real equality in practice. (1) (2)

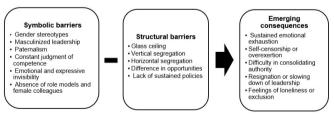
In technical and industrial sectors, women continue to face barriers such as the glass ceiling, the opportunity gap, masculinised leadership, among others. Despite the increase in the number of women graduates in STEM (Science, Technology, Engineering and Mathematics), the reports of the Women's Institute in Spain warn of the persistence of barriers to achieving equality, even in countries considered advanced in terms of equality. (3)

## 2.2. Structural and symbolic differences between men and women.

Beyond the quantifiable data, there are more subtle differences, sometimes more difficult to identify, which sustain the professional distinction between men and women. The constant need to demonstrate competence, the penalisation of leadership styles or the emotional demand to adapt to traditionally male models are just some examples of these symbolic inequalities. These dynamics generate what can be called the emotional cost of integration, which not only affects women's mental health, but also has a direct impact on their permanence, motivation and career advancement.

This information is contained in a study focusing on the fishing sector, whose experiences can offer elements comparable to other technical environments linked to the maritime field. In a complementary way, another report with a broader view of the technical and technological world points out that, beyond the advances in female presence, invisible barriers persist: cultural biases, lack of professional recognition and structures that still penalise forms of leadership that differ from the dominant pattern. (4) (5)

Figure 1: Structural and symbolic barriers to women's professional development.



Source: Authors (4).

### 2.3. Evolution and current situation of women in the maritime sector.

Women's professional access to the Spanish Merchant Navy was limited until the 1990s. Although Carmen Riu qualified as a deck officers in 1919, she was unable to embark due to legal and cultural restrictions. It was not until 1984 that the first female students did practical training on board, following the opening of nautical schools to women in the late 1970s. This process was backed up years later by Organic Law 3/2007,

which consolidated the right to equal access to employment, training and professional promotion in all sectors, including those traditionally masculinised. (6)

Since then, pioneering figures have emerged such as Ma Ángeles Rodríguez Bernabeu, considered the first qualified captain in 1992, or Belén Crespo Pérez, one of the first women to obtain the title of Chief Engineer, with a career in companies such as Trasmediterránea. However, access to the engine department continues to be the most resistant to female integration, both due to cultural factors and the persistence of gender stereotypes in technical environments. (7) (8)

Globally, the IMO reports that women represent approximately 1.2 % of shipboard personnel, with an even smaller presence in technical areas such as bridge and machinery. In the Spanish sector, the joint IMO-WISTA survey on women in maritime sector estimates that they account for barely 1 % of operational personnel with key responsibilities on board. (9)(10)

#### 2.4. Regulatory framework for equality in the maritime sector.

Gender equality in the maritime sector is underpinned by international and national regulatory frameworks. The International Maritime Organisation (IMO) has been promoting women's access to the sector since the 1990s through programmes such as Women in Maritime, while the International Labour Organisation (ILO) has been a pioneer in establishing principles of non-discrimination through conventions such as C111 on equal opportunities and more recently C190 on violence and harassment at work, also applicable to the maritime environment (9) (11) (12)

In the European and Spanish context, although directives and laws such as 2006/54/EC and Organic Law 3/2007 have consolidated the legal framework for equality at work. However, they have identified that their application in the maritime environment still presents important challenges. Sector-specific regulations, such as Royal Decree 2062/1999 and Law 14/2014 on Maritime Navigation, removed formal barriers to access to qualifications and embarkation, but do not provide for proactive measures to ensure real equality on board or protocols against harassment. (13)(14)(15)(16)

The entry into force of the amendments to the Maritime Labour Convention (MLC 2006), together with the planned revision of the STCW Code in 2026, which will incorporate mandatory equality and harassment prevention training, represents a key step towards a regulatory transformation more in line with the real challenges faced by women officers in traditionally masculinised environments. (17)(18)

#### 2.5. Key studies on gender and maritime professional identity.

Numerous international studies have delved into the experience of women seafarers, highlighting not only the external obstacles, but also the internal conflicts arising from a constantly negotiating professional identity. Kitada, in her doctoral thesis Women Seafarers and their Identities, collects testimonies that reveal the dilemma of many women between fulfilling the expectations of the professional role, conceived under male parameters, and remaining faithful to their personal values. Along

these lines, Turnbull points out that formal equality does not necessarily imply real equality, as invisible glass ceilings persist, as well as resistance to female leadership and a worrying lack of disaggregated data in official reports. (19) (1)

In the Spanish context, the work of Itsaso Ibáñez has stood out for documenting the incorporation of women in the Merchant Navy. Her study on the students of the Higher Technical School of Nautical and Naval Machinery of the UPV/EHU showed the need for adaptation and resistance strategies in an environment marked by scepticism, paternalism and the demand for constant excellence. Years later, the article "Y ellas, ¿qué opinan?", also signed by Ibáñez together with Díaz, Esperanza and Fernández Martínez, Luis María, recovered the voices of these women after three decades of experience, showing how professional recognition continued to be conditioned by gender, even in the higher ranks. Along the same lines, Leire Abad Zuluaga pointed out the scarce representation of women in leadership positions, the lack of references and the invisibility of their trajectories in the sector's institutional discourses. (20)(21)(22)

Taken together, these studies allow us to understand that professional equity in the maritime field cannot be achieved only through normative advances. A profound transformation of the organisational culture, of leadership styles and of the dynamics of belonging and recognition on board is required so that women not only have access to the sea, but can fully exercise their professional identity there.

#### 2.6. Ongoing institutional actions and programmes.

Various initiatives have been set up by different institutions to promote equity in the maritime sector. The IMO, through the Women in Maritime programme, promotes regional networks of professional women, mentoring programmes and visibility activities at congresses and technical forums. In the European context, projects such as EGERA or GenderTime have been committed to integrating the gender approach in STEM careers, providing strategies to reduce unconscious bias and strengthen the presence of women in leadership. (9) (23) (24)

Although well-intentioned, many of these programmes struggle to generate a real and sustained impact in technical training or professional environments. They tend to rely on specific actions, such as talks, conferences or awareness campaigns, which, although they generate some awareness, do not always manage to transform what really matters: the way of looking at, living together or valuing within the sector. The maritime sector still lacks training strategies specifically adapted to its operational dynamics, internal codes and cultural realities. This observation is not intended to blame the institutions, but rather to highlight the need to complement current initiatives with educational tools that are linked to real professional experience and sustainable over time.

#### 2.7. Educational proposals with a transformative approach.

Education has a key role to play as a strategic tool for transforming the cultural models that maintain inequality. Authors such as Paulo Freire have argued that all educational practice,

Table 1: Institutional initiatives for gender equity in the maritime and STEM sector.

Initiative	Year	Region	Linkage	Main focus
WISTA International	1974	Global	Women's International Shipping Association	Training, networking and professional visibility
SheFigures	2003	Europe	Directorate-General for Research and Innovation (European Commission)	Data and monitoring of women in research and technology
Women in Maritime	2004	Global (7 regions)	International Maritime Organization	Leadership, mentoring, professional networks
GenderTime	2013	Europe	European project (FP7 - Science in Society)	Gender mainstreaming in technical and scientific careers
EGERA	2014	Europe	European University Consortium (Horizon 2020)	Equality plans in academic institutions
Maritime Women	2015	International	World Maritime University	Case studies, leadership, visibility
EMSA Gender Equality Strategy	2021	Europe	European Maritime Safety Agency (EMSA)	Institutional equality in the maritime-administrative field
Women in Maritime Survey	2021/ 2024	Global	International Maritime Organization + WISTA	Disaggregated data on women's participation in the maritime industry

Source: Authors (25)(26)(9)(23)(24)(27)(28)(29).

whether we want it to be or not, is an ethical and political act that can reinforce or challenge the social order. From this perspective, applying methodologies that invite critical reflection, empathetic experience and the questioning of traditional roles can become a key factor in the construction of more inclusive professional environments. (30)

In this line, the experiential learning proposed by David Kolb is presented as a solid and coherent way forward. By placing the experience at the centre, a deeper engagement with the subject matter is generated, which facilitates not only learning, but also a possible transformation of beliefs, attitudes and ways of relating. This way of learning makes even more sense in sectors where changes are not only technical, but deeply cultural and emotional. (31)

For this reason, the design of contextualised training proposals that incorporate experiential dynamics, shared narratives, spaces for critical analysis and real dialogue can help to break exclusionary patterns and open up spaces for mutual recognition. Training should not be limited to teaching technical skills, but should pave the way for each professional to inhabit his or her role with authenticity and a true sense of belonging.

# 2.8. Justification of the training proposal in the Canarian context.

Despite the advances and good practices promoted in the maritime sector, it is true that no training proposals specifically aimed at gender equality in maritime technical qualifications have been identified in the Canary Islands. This does not imply inaction, but rather that there is still a lack of methodologies adapted to the environment and connected with the real experience of students and technical teachers.

The proposal "Navigate in Equity" was born from this deficiency, which arises from the cross between the teaching practice in a nautical school and the professional career in the sector, which allows the design of a viable pedagogical tool, adjusted to the context and with a strong emotional component. Its aim is to contribute to the cultural transformation of the sector from its own foundations, generating educational spaces where equity is not an added value, but a structural principle.

#### 3. Material and Methodology.

This project is based on a combination of three complementary research methodologies: the collection of institutional statistical data, direct consultation with professionals in the sector and in-depth interviews with women in the field. In addition, an innovative training proposal is added, based on the experience of those who have been through three key roles in the maritime field: students, professionals and teacher-researchers.

The research has a mixed approach, combining quantitative and qualitative techniques with the aim of gaining a complete, deep and real understanding of women in the maritime technical sector. The variety of sources and tools makes it possible to analyse the phenomena from different points of view, favouring a more conscious and contextualised reading of the problem.

It is important to note that the results presented in this article are part, as a brushstroke, of a wider and ongoing research. This first publication allows us to share relevant findings without exhausting the originality and novelty of the project, which will be analysed in greater depth in future academic publications.

#### 1. Institutional data

Data provided by the Analysis and Planning Office (GAP) of the University of La Laguna (ULL) have been requested and analysed, where the evolution of the student body over 10 years, divided by gender and degree, can be visualised. These data have been represented by means of graphs elaborated in spread-sheets (Excel), which facilitates their critical and comparative interpretation. This information provides the background context for the rest of the study.

#### • Surveys of maritime professionals.

A survey was created and distributed to maritime professionals (crews, students, technical staff and teachers), with questions in a variety of formats (closed-ended, rating scales and open-ended). The survey was designed and disseminated using Google Forms. The most significant questions have been selected for this article. The sample, made up of 79 people, allows us to visualise the perceptions and experiences from a diversity of profiles in terms of age, professional rank and work environment.

#### • Interviews with women in the maritime field.

A specific interview script was designed for female profiles in the sector. Women from the Canary Islands maritime environment were identified and contacted, either because they had studied or were studying for a degree in Nautical and Maritime Transport or Marine Technologies, or because they were currently working on the islands. The interviews were semi-structured and conducted online using the Google Meet platform. They addressed various topics related to leadership, access to opportunities, and the emotional impact of the work environment. For this article, the most relevant questions

were selected. To date, 15 interviews have been conducted with the aim of identifying common patterns, experiences, and feelings.

#### • Training proposal

Through the data and the experience accumulated by the authors, a concern is generated that leads to the design of a more practical and realistic proposal to train future professionals in a key aspect for the emotional and professional sustainability of the maritime environment: gender equity.

The proposal consists of a training day which, instead of merely commemorating the figure of women in the maritime sector, proposes a conscious and transformative educational experience. The methodology is based on the recreation of real situations, on dialogue with women who currently work in the sector and on the creation of experiential spaces where students can understand and reflect on the challenges that many professionals still face. The aim is to foster, from the training stage, a more empathetic, critical and committed culture of equality.

This day is conceived as an active awareness-raising experience, through first- person testimonies, the analysis of cases, participatory dynamics and techniques such as invisible theatre or the simulation of real working environments, in order to have a lasting impact on the perception and attitude of the students.

#### 4. Results.

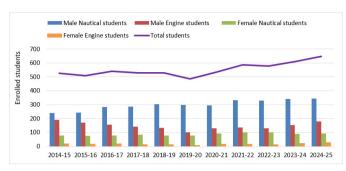
The data obtained through the methodologies outlined above are presented below. The purpose of this set of results is to present the phenomenon objectively, but with the depth and sensitivity that only people close to the sector and sensitised to this reality can provide.

They highlight perceptions, symbolic barriers and symptoms of the phenomenon. The aim is that these findings not only describe a reality, but also serve as an impulse to transform the professional integration of women and contribute to a fairer and friendlier future within the sector.

# 4.1. Evolution of the female presence in technical degrees in the university maritime sector.

The statistical data provided by the Analysis and Planning Office of the ULL allows us to observe the evolution of students enrolled in the Higher Polytechnic School of Engineering - Nautical, Machinery and Radioelectronics Section, in the degrees of Nautical and Maritime Transport and Marine Technologies, from the 2014-2015 academic year, until 2024-2025. This information, broken down by speciality and gender, allows us to detect significant trends during the period analysed.

Figure 2: Evolution of the student body in Nautical and Engine (2014-2025).



Source: Authors (32).

The graph shows a sustained growth in the total number of students, especially from the 2020-2021 academic year onwards, where a significant upward trend can be seen. However, there is also clear evidence of persistent gender inequality in both specialisations.

Generally speaking, and considering the average enrolment in the 2014-2015 and 2024-2025 academic years as a whole, 70.1% of students are enrolled in the Nautical and Maritime Transport degree, while 29.9% are enrolled in the Marine Technologies degree. The specific breakdown by gender and degree is as follows:

Table 2: Distribution of enrolment by gender and degree.

Profile	Average enrolment (%)
Male Nautical students	54.3%
Male Engine students	26.8%
Female Nautical students	15.8%
Female Engine students	3.1%

Source: Authors (32).

These data allow us to identify several key aspects. Firstly, the demand for the Nautical and Maritime Transport degree is significantly higher. Secondly, the male presence is considerably higher in both degrees, which is evidence of a persistent gender gap.

Finally, although in absolute terms the presence of women in Nautical degree is low, their representation in Marine Engine is even lower. The proportion of women in Nautical is more than double that of Engine, even taking into account that the total volume of Nautical students is also higher. This difference suggests the existence of specific barriers, possibly related to factors of perception, vocational orientation or cultural beliefs, which influence women's decisions to enter, choose and remain in technical degrees in the maritime sector.

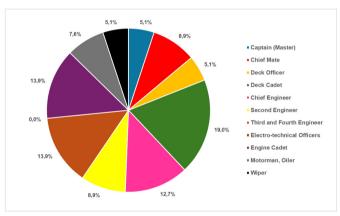
# 4.2. Perceptions and experiences of the professional environment.

The quantitative analysis began with the design and dissemination of an anonymous survey through the Google Forms platform, with the aim of collecting the opinion and perception of the professional environment. Although it was initially aimed

at analysing the role of women in the engine department, many of the questions addressed professional dynamics common to the entire technical sector. For this reason, and after comparing it with some of the people surveyed, it was considered appropriate to extrapolate the results to the maritime sector as a whole, including the deck department.

The survey was distributed among students through the institutional network and among professionals in the sector through direct contacts. Seventy-eight people took part, although the research is still active. It is worth highlighting the diversity of professional profiles represented in the sample, as can be seen in the following illustration, with the participation of captains, chief engineers and seamen, among others.

Figure 3: Percentage of participants by professional certification.



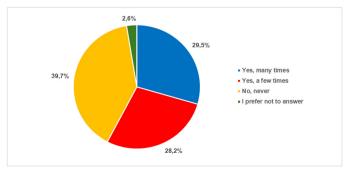
Source: Authors.

Next, three representative questions were selected from the total survey, with the aim of addressing three relevant blocks in the analysis of the professional environment: treatment, recognition and leadership.

#### • Treatment.

Have you experienced or witnessed situations in which female colleagues in the machinery sector were treated with a paternalistic tone, as if they needed to be guided or cared for, rather than respected as a professional?

Figure 4: Perception of paternalistic attitudes.



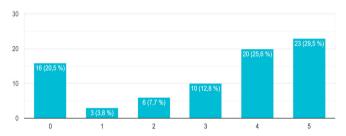
Source: Authors.

As can be seen in the graph, 29.5% of respondents say they have experienced or witnessed this type of situation on many occasions, and 28.2% on a few occasions. This indicates that more than half have detected paternalistic attitudes towards women in the sector, revealing a condescending pattern that is still present. Although it is not identified as the main obstacle to integration, it does represent a subtle but persistent form of inequality that deserves attention in professional maritime environments.

#### • Recognition.

Do you feel that, all things being equal, a woman's work usually requires more effort to be valued or recognised in this department?  $(0 \rightarrow Don't agree at all; 5 \rightarrow Strongly agree)$ 

Figure 5: Female professional recognition.



Source: Authors.

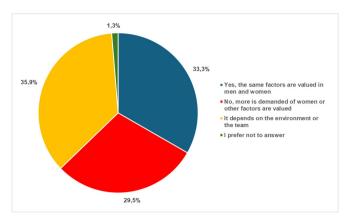
As can be seen in the graph, 29.5% of those surveyed totally agree that women should make more effort to be valued, and 25.6% perceive this to be true to a great extent. This implies that more than half identify a difference in the criteria for professional recognition. This perception, in addition to being evidence of a structural barrier, points to the need to review the evaluation mechanisms within the environment in order to ensure fairer and more objective conditions. Avoiding this type of bias not only favours equity, but also helps to reduce the emotional exhaustion and the feeling of being under constant scrutiny that many women experience.

#### · Leadership.

Do you think the same factors are being valued to respect leadership when it is exercised by a woman?

As the graph shows, 29.5% of those surveyed consider that the same factors are not valued when leadership is exercised by a woman, while 35.9% believe that this depends on the environment or the team. These results reflect a context still marked by a lack of clear and objective criteria for recognising and respecting female leadership, which may hinder the consolidation of female role models and favour phenomena such as the glass ceiling or the questioning of authority. It is also worth noting that 33.3% say that they are valued equally, which can be interpreted as a change in progress, or, on the contrary, as a lack of awareness of subtle inequalities that are still

Figure 6: Perception of female leadership.



Source: Authors.

present. In both cases, the need for further awarenessraising, training and critical analysis within the sector is highlighted.

Overall, the data collected reflect a professional perception marked by certain symbolic barriers which, although partially recognised, continue to affect the development and consolidation of female referents. This reality is examined in depth below through direct testimonies, which provide a more intimate, situated and emotional view of the phenomenon.

#### 4.3. First-person experiences of women in the sector.

Complementing the qualitative approach, and in order to obtain a deeper, more realistic and nuanced perception of women's integration, semi-structured interviews are being carried out with professionals in different ranks and positions within the Merchant Navy: from women cadet to captains, inspectors, among others. These interviews, organised by thematic blocks, have given rise to responses full of experience and reflection, which offer an intimate and valuable insight into invisible barriers, subtle resistance, and also into the advances that are beginning to become visible in the sector. For this article, two of them have been selected as a sample, with the aim of providing relevant, close and emotionally powerful content.

# • What do you think is the general perception of women in the maritime sector, and does it vary according to the department to which they belong?

The interviewees agree that the general perception of women in the sector is based on surprise. Their presence often generates astonishment, especially in the engine department, where they continue to be seen as exceptional. After this initial bewilderment, there is a mixture of compassion and admiration: it is recognised that it must be hard, but they are also valued for being strong and courageous. Some point out that, although integration on the bridge is starting to become slightly more normalised thanks to a greater presence, stereotypes and views conditioned by gender roles persist in both departments.

#### Do you think that this difference can or has affected the mental or emotional health of women in each department?

Although many of the interviewees have not experienced this extreme situation first hand, the general answer is a resounding yes. Perceived inequality often translates into emotional exhaustion, frustration, excessive self-criticism and a constant need to demonstrate competence. This sustained pressure often forces them to appear ruder or more distant, to hold back expressions of closeness or humour, and to mould their personalities to project an image of unwavering authority and professionalism. A silent demand that, far from being anecdotal, has a real impact on the emotional and mental health of many women in the sector.

These first-person experiences not only reveal invisible barriers, but also allow us to understand the emotional impact they generate and the urgency of promoting changes in the mentality and current reality of the sector. In fact, as a result of one of the questions posed in the interviews, not only the need arises, but above all the inspiration to build didactic proposals that are not limited to informing or celebrating, but that aspire to transform. This is the subject of the following section.

# 4.4. Didactic proposal for the transformation of the professional environment.

From the data and testimonies collected, the need arises to go beyond diagnosis to actively intervene in the transformation of the maritime sector. The training environment should not limit itself to observing or celebrating progress, but should take on a proactive role in the construction of more inclusive contexts.

This proposal is born out of confidence for change and professional trajectory. The experience accumulated, as a companion, emotional support, leader and, in some cases, a reference within the crew, has allowed us to understand in depth both the training dynamics and the cultural and emotional challenges that affect female integration.

From this real perspective, a participative didactic training day is proposed, in which professionals from the sector, especially women, act as close references to share their experiences, reflect in groups and activate a critical conscience in the students. Through dialogue and experience, this proposal seeks to connect technical training with values of equity and respect for future professionals.

This activity has not yet been implemented; it is proposed as a pilot tool, where its objective is not to offer a closed solution, but to open up paths of transformation from the training stage, promoting spaces for listening, reflection and commitment towards a fairer and more sustainable maritime environment.

#### Conclusions.

Progress towards professional equity in the maritime field cannot be focused solely on the number of female graduates or

Table 3: Pilot didactic project "Navigate in Equity".

Navigate in Equity						
Description						
Participatory activity aimed at students of nautical and marine engineer.						
Objective						
То	To encourage critical reflection, empathy and commitment to gender equality in the maritime sector.					
	Justification					
	This proposal takes into account the data and testimonies collected, and seeks to generate a space for					
analysis on inequality, and to promote a more inclusive professional culture from the training stage.						
		Target group				
Students of Nautical, Marine Engineer or technical qualifications in the maritime field.						
Methodology						
Participatory activity, divided into three phases: round table, group dynamics and symbolic closure. The teachers are						
the moderators; if necessary, a brief training						
session can be added beforehand.						
	Round table	Meeting with professionals sensitised to gender equality in the				
		maritime sector, who share their experiences related to the subject.				
	What would you do?  Shared silences	Real situations from the research are presented so that students can react to the question "What would you do in this situation?" and participate in a group debate.				
Training day						
		Ethical responses are worked on, and real alternatives to sexist, normalised or invisible behaviour are analysed.				
ing		Experiences lived or witnessed in relation to inequality or silence are shared on an				
äi		anonymous mural. If they consider it				
E		appropriate, some of them can be read out loud.				
		appropriate, some of arom can be read out load.				
	Symbolic	Personal or group commitments in writing, symbolising the start				
	closure	of a more equitable culture. These can be added to the collective mural.				
	Evaluation					
Mixed system		Retroalimentación del alumnado y profesor tras la jornada (cuestionarios, reflexiones).				
		Feedback from tutors or people in charge on the ships where they embark afterwards.				
Expected results		Increased awareness of gender inequalities in the maritime Sector.				
		Development of emotional, ethical and communication skills.				
		Empowerment of students as future agents of change.				
		Production of realistic, transferable and sustainable proposals.				

Source: Authors.

the formal inclusion of women in crews. While it is true that visible progress has been made, it is clear from the results of this research that dynamics persist that continue to place women in unequal positions, especially in technical departments. These differences are not always perceptible; they often manifest themselves in subtle forms of unequal treatment, such as assistance that goes beyond the professional and borders on paternalism, promotions that depend on informal intermediaries who insist on worth or capacity, orders questioned by gender, and institutional silences that directly affect the emotional and mental health of those who perceive or receive the phenomenon.

Learning to identify these situations, naming them and addressing them is essential for real transformation. It is not a question of questioning women's capacity to face the challenges of the sector, but of ceasing to normalise permanent overexertion as a form of professional validation, i.e. reducing constant resilience, assumed as standard.

The transformation towards greater equity requires critically reviewing the concepts of professionalism and leadership traditionally established in the sector, and abandoning the idea that equity means homogeneity. Committing to different models of professional coexistence implies recognising and integrating competencies such as emotional management, empathic communication or a collective approach that does not detract from authority, but rather broadens the capacity for technical leadership. There are many valid ways of exercising the professional role, and each crew member contributes with his or her own abilities and also faces his or her own difficulties. Recognising this diversity as an added value strengthens the team as a whole.

Within this framework, the proposed didactic proposal is conceived as a space for critical reflection and the construction of professional awareness, not only technical. Its aim is not to offer closed answers, but to open up educational possibilities that connect with the reality of those who are being trained and that can become flexible tools, adaptable to other contexts if there is institutional commitment and pedagogical will.

This research is based on the premise that equity must be integrated as a structural principle and not as an exception within the maritime environment. True professionalism does not lie in the ability to withstand everything, but in the possibility of forming teams where all people can exercise their vocation without giving up their mental health, emotional integrity and authenticity. A truly sustainable professional environment is built collectively, recognising and valuing the diversity of forms of participation and leadership present in technical teams.

#### References.

- 1. Turnbull, Peter. International Labour Organization (OIT). Promoting the employment of women in the transport sector Obstacles and policy options. [En línea] 2013. file:///C:/Users/-Usuario/Downloads/wcms\_234880%20(2).pdf.
- 2. Organización de las Naciones Unidas (ONU). Objetivo de Desarrollo Sostenible: Agenda 2030. [En línea] 2015. https://www.un.org/sustainabledevelopment/es/objetivos-de-desarrollosostenible/.

- 3. EsadeEcPol. Esade Center for Economic Policy. Mujeres en STEM. [En línea] 2024. https://www.esade.edu/ecpol/wpcontent/uploads/2024/03/Mujeres-en-STEM-2024-1.pdf.
- 4. Instituto de la Mujer. Ministerio de Igualdad. Gobierno de España. Diagnóstico del liderazgo y la representación femenina en los órganos de gobierno y desición del sector pesquero. [En línea] 2022. https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed\_dialogue/@sector/documents/publication/wcms\_234880.pdf.
- 5. Dos Santos Dias, Tayrine y Ruiz de Alda, Thais. Digitalfems. Mujeres tecnólogas en España. [En línea] 2022. https://digitalfems.org/wp-content/uploads/2022/11/MujeresTecnologas.pdf.
- 6. Boletín Oficial del Estado (BOE). Agencia Estatal. Gobierno de España. Ley Orgánica 3/2007, de 22 de marzo, para la igualdad efectiva de mujeres y hombres. [En línea] https://www.boe.es/eli/es/lo/2007/03/22/3.
- 7. Caro, Raúl Villa. Exponav Fundación. Mª Ángeles Rodríguez Bernabeu: Primera mujer piloto de la marina mercante. [En línea] https://exponav.org/blog/historia-naval/ma-angeles-rodriguez-bernabeu-primera-mujer-piloto-de-la-marina—-mercante/.
- 8. Revista General de la Marina. [En línea] 2020. https://www.gii.udc.es/img/gii/files/Art.Primeras%20mujeres%20con%20mando%20Raul%20Villa%20rgm\_278\_3\_abril\_2020.pdf.
- 9. International Maritime Organization (OMI). Women in Maritime. [En línea] 2020. https://www.imo.org/en/ourwork/technicalcooperation/pages/womeninmaritime.aspx.
- 10. Asociación Internacional de Mujeres del Transporte Marítimo y Comercial (WISTA). Encuesta OMI-WISTA sobre mujeres en el sector marítimo. [En línea] 2024. https://www.imo.org/en/ourwork/technicalcooperation/pages/imo-wista-women-in-maritime-survey-2024.aspx?.
- 11. Organización Internacional del Trabajo. Convenio sobre la discriminación (empleo y ocupación) (C111). [En línea] 1958. file:///C:/Users/Usuario/Downloads/wcms\_decl\_fs\_108\_es%20(2).pdf.
- 12. Organización Internacional del Trabajo. Convenio sobre la violencia y el acoso (C190). [En línea] 2019. https://norm-lex.ilo.org/dyn/nrmlx\_es/f?p=NORMLEXPUB:12100:0::NO::-P12100\_ILO\_CODE:C190.
- 13. Boletín Oficial del Estado (BOE). Agencia Estatal. Gobierno de España. Directiva 2006/54/CE del Parlamento Europeo y del Consejo, de 5 de julio de 2006, relativa a la aplicación del principio de igualdad de oportunidades e igualdad de trato entre hombres y mujeres en asuntos de empleo y ocupación (refundición). [En línea] 2006. https://www.boe.es/buscar/doc.php?id=DOUE-L-2006-81416.
- 14. Boletín Oficial del Estado. Agencia Estatal. Gobierno de España. Ley Orgánica 3/2007, de 22 de marzo, para la igualdad efectiva de mujeres y hombres. [En línea] 2007. https://www.boe.es/buscar/act.php?id=BOE-A-2007-6115.
- 15. Gobierno de España. Real Decreto 2062/1999, de 30 de diciembre, por el que se regula el nivel mínimo de formación en profesiones marítimas. [En línea] https://www.boe.es/buscar/doc.php?id=BOE-A-2000-1282.

- 16. Gobierno de España. Ley 14/2014, de 24 de julio, de Navegación Marítima. [En línea] 2014. https://www.boe.es/bus-car/act.php?id=BOE-A-2014-7877.
- 17. Organización Internacional del Trabajo. Convenio sobre el trabajo marítimo (MLC,2006). [En línea] 2013. https://normlex.ilo.org/dyn/nrmlx\_en/f?p=NORMLEXPUB:91:0::NO::P-91\_ILO\_CODE:C186.
- 18. International Maritime Organization (OMI). Comité de Seguridad Marítima 108.ª sesión (MSC 108), 15-24 de mayo de 2024. [En línea] 2023. https://www.imo.org/en/mediacentre/meetingsummaries/pages/msc-107th-session.aspx.
- 19. Momoko, Kitada. Worl Maritime University. Women Seafarers and their Identities. [En línea] 2013. https://orca.cardiff.ac.uk/id/eprint/54387/1/U584488.pdf.
- 20. Ibáñez Fernández, Itsaso y Díaz Tajada, Esperanza. ETS de Náutica y Máquinas Navales. Universidad del País Vasco. Incorporación de la mujer a la Marina Mercante. El caso de la Escuela Técnica Superior de Náutica y Máquinas Navales de la UPV/EHU, 1979-1989. [En línea] 2010. https://www.eus-ko-ikaskuntza.eus/PDFAnlt/zainak/33/33233259.pdf.
- 21. Ibáñez Fernández, Itsaso; Díaz, Esperanza; Fernández Martínez, Luis María. Itsas memoria. Y ellas ¿que opinan? 30 años después de la incorporación de la mujer a la Marina Mercante. [En línea] 2012. https://itsasmuseoa.eus/wp-content/up-loads/pdf/ITSASMEMORIA\_7.pdf.
- 22. Zuluaga, Leire Abad. Itsas memoria. El progreso de las mujeres en la Marina Mercante. [En línea] 2016. https://itsasmuseoa.eus/wp-content/uploads/pdf/ITSASMEMORIA\_8.pdf.
- 23. GenderTime. Unión Europea. Transferring, Implementing, Monitoring Equality. [En línea] 2013-2016. https://gendertime.org/ https://cordis.europa.eu/project/id/321491.
- 24. EGERA. Unión Europea. Effective Gender Equality in Research and Academia. [En línea] 2014-2017. https://cordis.eu-

- ropa.eu/project/id/612413/es.
- 25. WISTA International. [En línea] 1974. https://wistainternational.com/who-is-wista/.
- 26. She Figures. Investigación e innovación. Unión Europea. [En línea] 2003. https://www.csic.es/es/el-csic/ciencia-enigualdad/comision-de-mujeres-y-ciencia/documentos-de-la-cm-yc/she-figures. https://projects.research-and-innovation.ec.europa.eu/en/knowledge-publications-tools-and-data/interactive-reports/she-figures-2024.
- 27. Maritime Women. World Maritime University. [En línea] 2015. https://www.wmu.se/news/empowering-women-maritime-community-feature.
- 28. EMSA . Gender Equality Strategy. [En línea] 2021. https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/gender-equality/gender-equality-strategy\_en.
- 29. Organización Marítima Internacional y WISTA. Women In Maritime Survey 2024. [En línea] 2021-2024. https://www.cd-n.imo.org/localresources/en/MediaCentre/Documents/IMO-%2-0WISTA%20Women%20in%20Maritime%20Survey%202024-%20report\_FINAL.pdf.
- 30. Freire, Paulo. Pedagogía del oprimido. Siglo XXI Editores. [En línea] 1970. https://www.servicioskoinonia.org/biblioteca/general/FreirePedagogiadelOprimido.pdf.
- 31. Kolb, David A. Experiential Learning: Experience as the Source of Learning and Development. Prentice Hall. [En línea] 1984. https://www.fullerton.edu/cice/\_resources/pdfs/sl\_-documents/Experiential%20Learning%20-%20Experience%20-As%20The%20Source%20Of%20Learning%20and%20Development.pdf.
- 32. Gabinete de Análisis y Planificación (GAP). Universidad de La Laguna. [En línea] https://www.ull.es/servicios/gabinete-de-analisis-y-planificacion/. ganpla@ull.es.