Entretextos - Artículos/Articles/Aküjialu'u
Entretextos. Revista de Estudios Interculturales desde Latinoamérica y el Caribe
Facultad Ciencias de la Educación. Universidad de La Guajira. Colombia
ISSN: 0123-9333 / e-ISSN 2805-6159, Año: 20 N.º 41 (septiembre-diciembre), 2026, pp. 241-269
Para citar utilice este ARK: https://n2t.net/ark:/47886/21612384
Este trabajo fue depositado en Zenodo: DOI: https://doi.org/10.5281/zenodo.21612384
Licencia CC BY NC ND 4.0 / Derechos de autor: autores / Derechos de publicación: revista
Recibido: 01-02-2026 · Evaluado: 10-03-2026 · Aceptado: 10-04-2026 · Publicado: 01-09-2026

From the Factory to the Academy and Back: a Salvadoran Ingeniera's Popular Education Praxis

De la fábrica a la academia y de regreso: la praxis de educación popular de una ingeniera salvadoreña

Chaje'ewat tü a'yatawaapaleekat sulu'u ekirajiipalee laülaasü otta alekeejawaa: tü jukuwa'ipa ekirajawaa namüin na wayuukana sa'akajee wane ingeniera chayaa El Salvador

Cydni Meredith Robertson
https://orcid.org/0000-0002-2601-3382
cymerobe@iu.edu
Indiana University, Bloomington, USA

Patricia Betsabe Quintana Pacheco
https://orcid.org/0009-0005-0212-8643
patricia.quintana@catolica.edu.sv
Universidad Católica de El Salvador, Santa Ana, El Salvador

Abstract

This article examines the professional trajectory of Patricia Betsabe Quintana Pacheco, a Salvadoran industrial engineer, former maquila employee, and full-time faculty member at the Universidad Católica de El Salvador. Using Hammond's (1998) framework of popular education in El Salvador as the central theoretical lens, the study analyzes how factory-floor knowledge can be transformed into pedagogical practice, institutional programming, and inclusive international higher education. Drawing on narrative inquiry, collaborative autoethnography, duoethnography, and participatory action research, the article traces Quintana Pacheco's movement from the apparel factory to the academy and back through her development of Ingenieros en Acción and Hilos de Amistad. The findings suggest that popular education offers a contextually grounded framework for understanding how working-class women's labor knowledge can become a foundation for student mentorship, industry accountability, and community-centered higher education. Rather than presenting this single case as universally generalizable, the article offers it as an analytical contribution for future comparative research on women's labor, popular education, and international higher education in Global South contexts.

Keywords: global apparel supply chains, popular education, international higher education, El Salvador, maquila labor, inclusive education, experiential learning.

Resumen

Este artículo examina la trayectoria profesional de Patricia Betsabé Quintana Pacheco, ingeniera industrial salvadoreña, extrabajadora de la industria maquiladora y docente de tiempo completo en la Universidad Católica de El Salvador. A partir del marco teórico de Hammond (1998) sobre la educación popular en El Salvador, asumido como eje central del análisis, el estudio examina cómo los conocimientos adquiridos en el entorno fabril pueden transformarse en prácticas pedagógicas, programas institucionales y experiencias inclusivas de educación superior internacional. Mediante la investigación narrativa, la autoetnografía colaborativa, la duoetnografía y la investigación-acción participativa, el artículo reconstruye el tránsito de Quintana Pacheco desde la fábrica de confecciones hacia la academia y su posterior retorno al ámbito industrial, a través del desarrollo de las iniciativas Ingenieros en Acción e Hilos de Amistad. Los hallazgos sugieren que la educación popular ofrece un marco contextualizado para comprender cómo los conocimientos laborales de las mujeres de clase trabajadora pueden convertirse en una base para la mentoría estudiantil, la responsabilidad de la industria y una educación superior centrada en la comunidad. En lugar de presentar este caso particular como universalmente generalizable, el artículo lo propone como una contribución analítica para futuras investigaciones comparativas sobre el trabajo de las mujeres, la educación popular y la educación superior internacional en contextos del Sur Global.

Palabras clave: cadenas globales de suministro de la industria de la confección, educación popular, educación superior internacional, El Salvador, trabajo en la maquila, educación inclusiva, aprendizaje experiencial.

Jüküjia palitpütchiru'u

Sulu'u tü ashajajkat pütchi yaa, waashajain sünain jukuwa'ipa a'yatawaa mmaipaa nüka Patricia Betsabé Quintana Pacheco, wane ingeniera chayaa El Salvador, a'yataashi mmaipaa sulu'u piia a'yatawaa maquila otta ekirajüshi sulu'u ekirajiipalee Universidad Católica de El Salvador. Süka tü pütchikat Hammond (1998) sa'akajee ekirajawaa namüin na wayuukana chayaa El Salvador, eitaasü sulu'u achajawaa pütchi, tü achajawaakat pütchi e'raajashi jukuwa'ipa tü achajawaakat pütchi sulu'u a'yatawaapalee eesü süpüla wanajaain jukuwa'ipa ekirajawaa, a'yatawaa eitaasü mmaipaa otta ekirajawaa ewiichikana sulu'u mma wattapünaa joolu'u.Süka tü jukuwa'ipa achajawaa pütchi autoetnografía otta investigación-acción, tü ashajajkat pütchi yaa e'raajashi jukuwa'ipa Quintana Pacheco chaje'ewat tü a'yatawaapaleekat sulu'u ekirajiipalee laülaasü, otta alekeejawaa sulu'u a'yatawaapalee süka tü a'yatawaakat Ingenieros en Acción otta Hilos de Amistad. Tü achajawaakat pütchi e'raajashi sünainchoo ekirajawaa namüin na wayuukana e'raajashi wane jukuwa'ipa anasü süpüla laülaain saa'in wamüin jukuwa'ipa na jieyuukana a'yataashiikana süpüla pa'anapajirawaa pütchi namüin na ekirajaanakana, a'yatawaa laülaasü otta ekirajawaa ewiichikana sa'aka mma pütchiru'u. Tü ashajajkat pütchi yaa nnojotsü eitaasüin waneesia pütchi ewiichikana, shia wane pütchi katsuinsükat süpüla achajawaa pütchi jukuwa'ipa a'yatawaa na jieyuukana chayaa Sur Global joolu'u.

Pütchi katsuinsükat: Pütchi katsuinsükat: a'yatawaa maquila, ekirajawaa namüin na wayuukana, ekirajawaa chayaa mma wattapünaa, El Salvador, a'yatawaa, ekirajawaa ewiichikana, ekirajawaa sa'akajee a'yatawaa.

1. Introduction

1.1 Women as the Backbone of Inclusive International Education

A Ghanaian proverb states, "If you educate a man, you educate an individual. But if you educate a woman, you educate a family, a nation" (Opare, 2025). For women born in the Global South under conditions of structural economic exclusion, attaining higher education is not only a pathway to self-actualization, but an act of community liberation. Women leaders such as Nobel Peace Prize recipient Malala Yousafzai (Khurshid, 2015), fighting for girls to have

access to basic education in Pakistan, cooperative and community organizer Ela Bhatt of the Self-Employed Women's Association of India advocating for women's labor rights (Bhatt, 2006; Datta & Gailey, 2012), and additional Nobel Peace Prize recipient Wangari Maathai of Kenya's Green Belt Movement who organized women in rural communities to plant over 10 million trees for environmental conservation and the political protection of community land (Irungu, 2017) exemplify this principle. These women returned to the communities that shaped them to build systems of support for the next generation.

These initiatives are necessary because communal growth and well-being are often constrained by oppressive governments, exclusionary institutions, and educational systems that reproduce inequality. Santos (2018) frames educational exclusion as epistemicide which represents the systematic destruction of alternative knowledge systems through the imposition of singular Northern frameworks as universal. Chipindi et al. (2023) document decolonial practices in Global South higher education that make visible knowledges, languages, and perspectives traditionally excluded from universities. Fuñez-Flores (2024) provides the bridge to curriculum design, arguing that higher education curriculum reproduces colonial knowledge hierarchies even when colonial language has been formally abandoned. Due to the impact of these historical events, restoration of communal knowledge systems, application of cultural memory, and community-driven education practices based on the knowledge of previous generations becomes critical to the advancement and protection or iterations of said community.

The Akan principle Sankofa, translated as "go back and fetch it," or “it is never wrong to go back and claim what was lost” references the practice of returning to lived and ancestral knowledge as the foundation for moving communities forward (Temple, 2010). This study documents the return of Patricia Betsabe Quintana Pacheco, a Salvadoran industrial engineer, nine-year maquila employee, and full-time faculty member at the Universidad Católica de El Salvador (UNICAES), as she moves from the factory floor to the academy and back to the factories through her work with students and apparel manufacturing partners. Her trajectory offers an opportunity to explore how popular education may operate within and beyond formal higher education, particularly when labor experience, community responsibility, and university teaching intersect. Rather than approaching her career only as an individual success story, this article examines how her factory-floor experience and later educational programs, including Ingenieros en Acción and Hilos de Amistad, can be understood through Hammond's framework of popular education in El Salvador.

1.2 El Salvador and the Global Apparel Supply Chain

Santa Ana, El Salvador is the country's second-largest city, with a population of approximately 270,000, of which roughly 53% identify as female, a pattern partly attributed to significant male migration (DIGESTYC, 2017). Since the implementation of CAFTA-DR in 2006, the textile and apparel sector has expanded into one of the country's primary export engines (McAndrews & Ha-Brookshire,

2022), representing approximately 35% of total exported goods. Elson and Pearson (1981) argue that the mass employment of women in Global South manufacturing has historically relied on gendered assumptions that position women's labor as inexpensive, flexible, and controllable, thereby contributing to the feminization of labor-intensive industries (Kucera & Tejani, 2014). Initially structured around U.S. Customs Code Section 807, the maquila system facilitated export-oriented production models that transferred value northward while maintaining low labor costs for Southern women workers (Gobierno de El Salvador, 2023). The transition under CAFTA-DR to *paquete completo*, translated as the "complete package" model, expanded skill demands within the sector without corresponding changes to wages or occupational classification structures. Robertson and Ha-Brookshire (2025) document this trade agreement's relationship to persistent gender inequality across five key development indicators in El Salvador. Against this backdrop, Quintana Pacheco's trajectory should not be read solely as an individual success story, but as a form of structural navigation within an economic system that has historically constrained working-class women's mobility.

1.3 Intersectionality and Critical Interculturality in Global Education and Labor Systems

This study prioritizes gender and class as primary axes of identity and inequality, as El Salvador is characterized by a dominant mestizo national identity that renders race less analytically central than in North American contexts. Crenshaw's 1989 theory of intersectionality argues that dominant conceptions of discrimination condition us to think about subordination as occurring under a single categorical axis, erasing persons who exist at the convergence of multiple marginalized identities. Her framework is directly applicable to Quintana Pacheco's journey as a working-class Salvadoran woman navigating the apparel factory and the university systems in which gender, class, and colonial labor organization are interlocking rather than separable forces.

Furthermore, women have been leading the practical and theoretical charge on exploring and actualizing intersectionality and interculturality within labor and education systems over the past few decades. For example, Maria Lugones (2010), an Argentine philosopher and professor of Comparative Literature, further explores the notion that maquila's devaluation of women's labor is not simply gender discrimination but it is also a continuation of colonial logics determining whose knowledge counts, whose work is called skilled, and whose bodies are classified as instruments rather than as sources of knowledge. Catherine Walsh (2010), Professor and thought-leader in Latin American Cultural Studies, observes interculturalidad critica as a structural reworking of institutions from the knowledge systems of those traditionally excluded.

In practice, Brasilian author and activist Lelia Gonzalez (1988) advocated for recognition of intersectional identities within Latin America, establishing the concept of amefricanidade as a radical epistemological intervention that centered the experiences of African descendants and Indigenous people, challenging the unified

Anglo-centric Latin identity (Barreto, 2020). Chicana scholar, activist, and theorist Gloria Evangelina Anzaldúa's (1987) concept of conocimiento or an inner knowing of embodied, relational, transformative knowledge forged at social and cultural borders has inspired scholars in higher education to reform their participatory frameworks both in the classroom and in the community. Anzaldúa's work conceptualizes as third-space of an identity that forms from being on the psychological, physical, and cultural margins (see: borders) of mainstream society, hence requiring her coined seven stages of conocimiento/knowing which leads to effective active resistance on interpersonal and communal levels.These narratives are directly applicable to Quintana Pacheco, whose intersectional identities of being a woman and in the lower-level of the Salvador working class have historically excluded her voice from being heard and valued. In Quintana Pacheco's journey, she has exercised her *conocimiento* in manner that serves as both a marker of healing and forward progress for her students, but for herself as well.

1.4 Women's Labor, Knowledge, and Intersectionality in the Maquila

While CAFTA-DR made formal employment more accessible for many women in El Salvador, it did not eliminate the structural inequalities that shape their labor conditions and opportunities for advancement. Domínguez et al. (2010) question whether maquila work represents a dignified alternative to agricultural and domestic labor or whether it functions as a stylized form of exploitation. This question requires an intersectional analysis, as gender and class operate as converging structures in women's lived experiences. This study examines how these intersecting structures shaped Quintana Pacheco's career trajectory and the trajectories of others. It analyzes how factory-derived knowledge was transformed into inclusive pedagogical capital and argues that working-class Salvadoran women's knowledge systems constitute a legitimate and necessary foundation for transformative inclusive higher education.

Existing research on women's labor in export manufacturing shows that women's incorporation into global apparel production has often depended on gendered assumptions about labor, skill, and disposability. Elson and Pearson's foundational study of women in Third World export manufacturing argues that employers often construct women as naturally suited for repetitive, disciplined, and low-cost factory labor through the “nimble fingers” myth (Elson & Pearson, 1981). Salzinger's ethnographic work on Mexico's global factories similarly demonstrates that gender is actively produced inside export manufacturing sites, where managers, supervisors, and workers participate in making certain forms of femininity appear appropriate for particular types of factory labor (Salzinger, 2003). Wright's study of maquiladora labor further shows how global capitalism constructs women workers as disposable, relying on their labor while devaluing their long-term worth, mobility, and institutional recognition (Wright, 2006). Global commodity chain scholarship adds a broader structural dimension by showing that apparel production is organized through unequal international networks in which lower-wage countries often remain concentrated in assembly and export-oriented production while higher-value activities such as design, sourcing, logistics, and retail are controlled elsewhere

(Gereffi, 1999; Bair, 2005). In this system, countries such as El Salvador may gain formal employment opportunities through export manufacturing while remaining structurally dependent on foreign investment, external buyers, and competitive labor costs. Together, these studies situate Salvadoran maquila labor within a gendered international division of labor and provide the political-economic context for examining how women's factory knowledge is produced, constrained, and potentially redirected through popular education.

1.5 Feminist Political Economy as Intersectionality

Feminist political economy (FPE) analyzes the relationship between gender, economics, and social structures, establishing itself as an intersectional theory by design. At its core, FPE examines access to and the distribution of wealth and power, for whom and by whom, and how these structures directly impact women (Cantillon et al., 2023). FPE has been widely adopted in policy-driven literature by organizations advocating for global women's empowerment (UN Women, 2024) and is increasingly applied across global apparel supply chain research (Azhar & Ali, 2026). Acker's (2006) concept of inequality regimes addresses how gender, class, and race are institutionally organized within workplaces, mirroring power-driven hierarchies of compensation, authority, and recognition. In the Salvadoran apparel sector, this regime is actualized when management roles are predominantly male and the production floor remains predominantly female. McDowell's (1991) research further establishes that workplace skills are not neutral measures of task complexity, but socially constructed categories aimed at maintaining structures of power-imbalance that classify feminized labor as low-skill regardless of its actual demands.

2. Literature Review

2.1 Sustainable Development Goals 4, 5, and 8 in El Salvador's Maquilas and Universities

Three United Nations Sustainable Development Goals frame this study's structural analysis. **SDG 4, Quality Education**, calls for inclusive and equitable education by 2030, with particular attention to access to technical and vocational training, skills for decent employment, and the reduction of gender disparities in education. In El Salvador, these goals remain urgent. UNESCO's SDG 4 country profile for El Salvador (2024) reports that only 7.6% of primary students achieved minimum proficiency in mathematics, while ONEC (2023) data indicate that only 15.7% of university-age Salvadorans participate in higher education. These figures situate higher education access as a central structural constraint for working-class Salvadoran women. **SDG 5, Gender Equality**, addresses the elimination of discrimination, gender-based violence, unpaid care and domestic labor, and women's equal participation in leadership. Globally, women hold only 28.2% of management positions despite comprising nearly 40% of total employment, a disparity that reflects what Acker (2006) describes as inequality regimes. In El Salvador, gender inequality is further shaped by conditions of interpersonal and structural violence.

Navarro-Mantas et al. (2022) document that approximately 41.2% of women experience controlling violence from partners. From a decolonial feminist perspective, Udenigwe et al. (2024) caution that gender equality initiatives in the Global South often adapt to, rather than dismantle, racist, capitalist, and patriarchal systems (Pons Cardoso & Castillo Espinosa, 2022).

SDG 8, Decent Work and Economic Growth, addresses women's labor force participation, equal pay, and the protection of workers' rights in precarious employment. El Salvador's apparel sector generates $2.75 billion in annual exports (Gobierno de El Salvador, 2023), yet the maquila minimum wage of $359.16 per month remains among the lowest in Central America and is frequently positioned as a competitive advantage for foreign investment. Persistent gender prejudices, financial disparities, and women's underrepresentation in management continue to obstruct the full realization of SDG 8 (Chigbu & Nekhwevha, 2023). Together, these SDGs illuminate the convergence of educational exclusion, gender inequality, and precarious labor within El Salvador's apparel manufacturing sector.

2.2 Women, Labor, and Access to Education in Salvadoran Maquilas

According to the OECD (2025), women represent only 22% of ICT higher education graduates and 35% of engineering graduates across Latin America and the Caribbean. Quintana Pacheco's dual position as full-time UNICAES faculty and former full-time apparel factory employee is itself a form of inclusive educational intervention. She is a role model in a discipline where women's representation remains structurally obscure. McAndrews and Ha-Brookshire (2013) and Domínguez Reyes and Quintero Ramírez (2019) document that women educators in the textile and apparel discipline navigate multiple social identities simultaneously, and that this navigation is not an individual challenge but a structural feature of a discipline spanning feminized labor and professional knowledge. Quintana Pacheco's narrative affirms this double navigation, and her pedagogical programs formalize the institutional response to what it produces.

3. Theoretical Framework

3.1 Hammond's Perspective on Popular Education and Experiential Learning in El Salvador

Popular Education

John L. Hammond's (1998) work, much of which is derived from Paulo Freire's (1970) perspectives on the “Pedagogy of the Oppressed” in *Toward a Sociology of Education*, defines popular education as “education of, by, and for the pueblo –organized by people in their own community outside of the control of the official education system.” (Hammond, 1998, p.103). His examination of El Salvador's popular education movement establishes the principle that those who had little education taught those who had none, and that communal knowledge is transformative. Between 1979 and 1992, during the time of El Salvador's civil war,

the formal education system crumbled due to lack of basic supplies and infrastructure as government funding and foreign direct investment came to a halt. However, during times of struggle for economic justice and dignity, the people within those communities operated from a position of innovation and opportunity and began creating systems of learning amongst themselves, inspiring popular education theorists for generations. According to Hammond, these systems of learning were most effective due to the practitioners of these system's commitment to tailor the learning experience for those experiencing structural poverty and living during times of stifling political conflict.

There are four key principles of this approach toward popular education, two of which Hammond agrees is possible and the remaining two are more challenging to actualize due to ideological constraints:

1. Challenging: Integrating political content is an appropriate and essential component of education as the introduction to politics through popular education has the potential to encourage others to become more educated.
2. Possible: Active and engaged participation and the development of critical consciousness (conocimiento critical) is required from all learners.
3. Challenging: Schools and learning systems must be integrated into everyday communal life. There is a mutual exchange where the community is required to actively support the advancement of the learners and the learners, in turn, are dedicated to serving the community.
4. Possible: All members of the community are entitled to and capable of benefiting from universally accessible education through inclusive methods that adapt to the needs of the learners for their optimal skill and capacity building.

For this practice to be actualized, it is critical that practitioners agree that education is a mutually beneficial experience for both the teacher and the learner, and that the roles of teacher and learner can be interchangeable. Hammond also affirms that practitioners of popular education must consider the prior personal knowledge and motivations of the learners to be most effective. This thought is reiterated through the belief that what one learns is determined by how one learns and which circumstances are present to positively contribute to that learning process.

Experiential Learning

Further studies have found that that much of the research on experiential learning originated from the field of women's studies to better understand women's learning processes to foster environments that allowed them to thrive in academic spaces. Additonally, subsequent research reports that both women and members of minority or oppressed groups within society are drawn to and are more likely to succeed in experiential learning modalities (Belenky et al., 1986; Clinchy, 1993; Collins, 1990). While Hammond does not believe that women, minority group members, and the

oppressed exclusively benefit from experiential learning, he asserts that experiential learning does belong in the university curriculum as all students have the potential to benefit from diverse teaching styles and processes (Elbow, 1973).

In practice, popular education has the potential to take place both inside and outside of formal academic walls. For example, the organization CO-MADRES, which was founded by Salvadoran mothers in 1977 to address state violence during the civil war, embodied this principle building one of the most effective education-driven organizations in Central American history which lobbied for human rights education, women's empowerment, and the amnesty of political prisoners. (Bejarano, 2002; (Stephen, 1995). In Guatemala, Rigoberta Menchu similarly employed popular education approaches and used community-forged knowledge to build international Indigenous rights advocacy before founding institutions specifically for the communities she came from (Brittin & Dworkin, 1993). These examples suggest that for the over the past three decades, women within the Central American community have taken it upon themselves to consciously apply popular learning models to serve their communities in areas which the government, formal education system, and the political infrastructures that support their lack of action on behalf of the people have failed.

Quintana Pacheco's professional journey is an extension of this tradition, as her knowledge base and educational activity expand the concept of popular education in practice. Her experiences, and the experiences of her students, lie between the systemic-borders of factory and university, and civil unrest to political silencing in El Salvador. Through Quintana Pacheco's journey from the factory floor to the professoriate and back, this research explores how she aims to apply each of the critical components of popular education, both presumably applicable and the those with limited applicability.

Therefore, this study is guided by two research questions:

> **RQ1:** How can *Hammond's* popular education frameworks in Latin America illuminate the transformation of maquila-based labor expertise into pedagogically transferable knowledge through one Salvadoran industrial engineer's return to apparel factories as a university educator?
>
> **RQ2:** How do intersecting identities of gender and class shape the professional and educational trajectories of working-class women in El Salvador's apparel manufacturing sector?

4. Methods

4.1 Research Design

This study employs an interpretivist qualitative research design grounded in four intersecting qualitative traditions: narrative inquiry, collaborative autoethnography, duoethnography, and participatory action research (PAR). The combination reflects a five-year cross-cultural collaboration between two scholars, a co-authored analysis of

one researcher's lived trajectory, and an institutional program observation. Each tradition contributes a distinct analytical dimension, and together they enact methodological coherence rather than eclecticism. Narrative inquiry centers lived experience as legitimate scholarly knowledge (Clandinin & Connelly, 2000), and is particularly powerful for studies of women navigating structural exclusion at intersectional locations (Ghanbar, 2024). Collaborative autoethnography produces collective interpretation from multiple researchers constructing accounts in dialogue (Ellis et al., 2011). Duoethnography provides the conceptual vocabulary for the dialogic quality of this collaboration; its trustworthiness is found in self-reflexivity rather than conventional validity claims (Burleigh & Burm, 2022). PAR frames Robertson's sustained engagement as co-inquiry with transformative intent, rooted in the Latin American popular education tradition that Fals-Borda (1987) theorized.

4.2 Relational Context, Positionality, and Ethical Commitments

Robertson and Quintana Pacheco have known each other since 2021, when Robertson conducted a 10-month Fulbright U.S. Research Grant in El Salvador observing women's experiences in the global apparel supply chain. What began as a researcher-participant relationship has evolved over five years into a genuine collaboration between colleagues and friends, encompassing factory visits, co-design of Ingenieros en Acción and Hilos de Amistad, attendance at personal and professional milestones, and sustained cross-cultural conversation across two countries and two languages. Ethnographic accountability requires not blind trust in the researcher but the building of genuine trust through sustained relational engagement (Pugh & Mosseri, 2023). This study treats co-authorship as both a methodological and a political act: crediting Quintana Pacheco as a co-producer of academic knowledge, rather than a research subject, is a decolonial commitment enacted at the level of authorship itself.

4.3 Participant and Context

Patricia Betsabe Quintana Pacheco is the primary research participant and co-author of this study. Born and raised in western El Salvador, supported by her mother as the sole head of household, she enrolled in the industrial engineering program at UNICAES but paused after her first year due to financial constraints. This scenario explains an early intersection of class and gender that positions her trajectory as the structurally predictable path of working-class Salvadoran women rather than individual deviation. In 1996, at age 19, she entered the apparel sector as a sewing trainer at American Park free trade zone through a social network connection, not through a formal application process. Her first attempt at Expo Salva ended with a full day outside the gates without a call-in. This access was mediated by relational capital rather than merit when Quintana Pacheco was recommended for entry by a former professor at UNICAES who has in an internal connection. Once she passed through the interview phases that checked for physical and mental fitness, Quintana Pacheco remained in the sector for nine years, advancing across sewing training, production supervision, and human resources, while taking one to two courses per

semester on a schedule running from 5:00 a.m. to 9 p.m. She graduated as Ingeniera Industrial in 2006, began teaching part-time at UNICAES in 2009 motivated by the need for supplemental income during the global economic crisis, transitioned to full-time faculty in 2015, then launched Ingenieros en Acción in 2020, and Hilos de Amistad in 2026.

4.4 Data Sources

Primary narrative data were collected through three complementary sources providing triangulation across data types (Creswell, 2014). The first is a video-recorded semi-structured dialogue interview of approximately one hour, conducted by Robertson in Spanish and translated in consultation with Quintana Pacheco (Robertson & Quintana Pacheco, 2026). Many of its analytically significant disclosures emerged from trust established through the five-year relational foundation rather than from direct questioning (Clandinin & Connelly, 2000). The second is Quintana Pacheco's personal written chronicle, *Crónica de una Ingeniera: Mi paso por la industria de la confección salvadoreña,* composed in Spanish as a research artifact and shared with Robertson for review. Her narration in her own language, in the literary form of a cronica, is a decolonial practice that refuses the epistemic violence of treating Spanish-language lived experience as raw material for English-language theory. The third is a solo video recording delivered in Spanish by Quintana Pacheco (2026), transcribed in English; back-translations are provided in this study and flagged for Quintana Pacheco's confirmation before final submission.

5. Findings

This study presents findings organized around four thematic narratives drawn from narrative analysis of Quintana Pacheco's personal written chronicle, solo recording, and dialogue interview, alongside Robertson's five years of participatory observation. Each theme addresses the research questions by tracing how Hammond's popular education framework in Latin America relates to the transformation of maquila-based labor expertise into pedagogically transferable knowledge through Quintana Pacheco's case study (RQ1) and how intersecting identities of gender and class shape the professional and educational trajectories of working-class women in El Salvador's apparel manufacturing sector (RQ2). Each theme is situated within SDGs 4, 5, and 8, naming specific targets the Salvadoran apparel sector meets nominally, violates structurally, and contradicts simultaneously. A consistent finding emerges across all four themes: what dominant frameworks classify as individual merit or personal resilience is, in every instance, the product of structural conditions.

The first two themes of our findings are derivatives of exploring RQ1 and the second two themes are derivatives of the exploration of RQ2.

Theme 1: "Es Normal" - Gendered Labor Regimes, the Structural Production of Skill, and SDGs 4, 5, and 8 (RQ1)

Quintana Pacheco's access into the factory was mediated by relational capital rather than merit. SDG 5 Target 5.1's elimination of discrimination against women is violated not in dramatic moments of overt sexism but in the ordinary organizational logic that makes social networks the gateway to opportunity for working-class women whose credentials alone are insufficient currency. The conditions of her entry into mid-level management were immediately and explicitly gendered:

> **Original (Spanish): "***De 20 personas contratadas para abrir una linea nueva de camiseta eramos 16 hombres y 4 mujeres, es normal en desde mandos medios hasta mandos superiores la contratacion sea para mas hombres que mujeres."*
>
> **Translation: "***Of the 20 people hired to open a new t-shirt line, we were 16 men and only 4 women. It is normal that from middle management to upper management, hiring prioritizes men over women."* (Quintana Pacheco, written chronicle, 2026)

The word "normal" is the analytical crux. Quintana Pacheco does not describe the 16:4 ratio as exceptional or openly contested; she describes it as the unremarkable structural order of the industry, mirroring what Acker (2006) identifies as an inequality regime at the level of everyday workplace practice. This finding most directly reflects Hammond's first and second principles of popular education because naming gendered hiring patterns introduces political content into the analysis and creates the possibility for critical consciousness around conditions that may otherwise appear ordinary. Hammond's fourth principle is also relevant, though more indirectly, because Quintana Pacheco's later educational work responds to these unequal conditions by preparing students to enter the apparel sector with greater access, awareness, and professional capacity. In response to RQ1, this finding suggests that her maquila-based expertise became pedagogically meaningful precisely because it was formed within the gendered labor structures she would later teach students to navigate.

The hiring assessment revealed a further structural contradiction. Quintana Pacheco was among the least technically skilled candidates:

> **Original (Spanish): "***Honestamente, me costo mucho aprender. Rompi agujas, rompi garfios, rompi partes dela* máquina *mientras aprendia porque no tenia mucha habilidad motora fina, pero tenia habilidades de liderazgo."*
>
> **Translation: "***Honestly, it was really hard for me to learn. I broke needles, I broke loopers, I broke machine parts while learning because I didn't have much fine motor skill, but I had leadership skills."* (Robertson & Quintana Pacheco, 2026)

This finding reveals a second contradiction in how skill was recognized inside the factory. Quintana Pacheco was not retained because she had already mastered the technical operation of the machines, but because her leadership capacity was visible even while her sewing skills were still developing. This affirms McDowell's (1991) argument that skill is not a neutral category, but one shaped by organizational needs, workplace hierarchies, and gendered assumptions about labor value. It also connects to SDG 8 Target 8.5, as the factory benefited from her leadership while still classifying and compensating her through operative labor structures. Through Hammond's second principle, this moment becomes important because critical consciousness requires recognizing the gap between the skills women contribute and the skills the workplace formally acknowledges. Hammond's fourth principle is also relevant because Quintana Pacheco's later educational work responds to this contradiction by preparing students to recognize, develop, and apply a broader range of technical, leadership, and professional capacities within the apparel sector.

Beyond formal job classification, Quintana Pacheco's time in the *trabajo en cadena* system produced a form of embodied labor knowledge that later became central to her teaching. This experience connects especially to Hammond's second principle of popular education, which emphasizes active participation and the development of critical consciousness through lived experience. Although Anzaldúa's (1987) concept of *conocimiento* is useful for naming embodied knowing, Hammond's framework helps explain how this bodily experience of repetitive factory labor could later become pedagogically meaningful. Quintana Pacheco's account shows that her understanding of the factory was not only technical or supervisory, but also physical, experiential, and reflective:

> **Original (Spanish): "***Fui capaz de experimentar lo que es estar frente a una maquina durante 9 horas al dia durante varias semanas, de sentir el dolor desde la cabeza hasta las puntas de los pies, y lo que es realizar la misma tarea repetitiva una y otra vez."*
>
> **Translation: "***I was able to experience what it is like to be at a machine for 9 hours a day for several weeks, to feel the pain from the top of my head to the tips of my toes, and what it is like to perform the same repetitive task over and over."* (Quintana Pacheco, solo recording, 2026)

This finding supports RQ1 by showing that Quintana Pacheco's maquila-based expertise was formed through direct participation in the physical rhythms of production. Hammond's second principle is most visible here because critical consciousness develops from active engagement with lived conditions rather than from abstract observation alone. His third principle is also relevant because this labor knowledge later moved across the boundary between factory and university, allowing formal education to remain connected to everyday communal and industrial life. In this sense, her return to the factory as an educator translated embodied labor

experience into pedagogically transferable knowledge, while also reflecting Hammond's broader commitment to education that serves the community from which it emerges.

Maria and Sara: The Factory Floor as Popular Education Institution

Maria arrived at the factory on her eighteenth birthday having never left her rural community near the Santa Ana volcano. Her first day is the intersection of all three SDGs in one life: excluded from formal education (SDG 4), subject to the gendered expectation that her labor should begin at the earliest legal opportunity (SDG 5), entering a labor system without dignity (SDG 8). In the dialogue, Quintana Pacheco described that first day:

> "*The girl grew up there on the slopes of the volcano, in the countryside. She had never gone down to the city, never, never, never. When she was 18, someone brought her to get her ID card. The first time she came to the city was to get her ID, and then she went straight to the maquila to look for work. They gave her to me because she was a girl who really didn't know anything. I had to teach her how to pay for a meal ticket, how to save her money, how to open a locker. She didn't have a bathroom as we know it, she had a kind of pit latrine she used out in the fields. So, we had to teach her everything the city had to offer."* (Robertson & Quintana Pacheco, 2026)

In her written chronicle, she named what came next:

> **Original (Spanish): "***La oriente desde lo mas basico hasta lo complejo, situaciones cotidianas de como usar un marcador o como usar un lavamanos ya que ella era de zona rural, hasta como confeccionar prendas de vestir asi como cuidar de la salud ocupacional. A los tres meses Maria tenia una sonrisa amplia y ojos vivaces contando que: 'ella misma habia ido a la ciudad a comprar la ropa que estaba usando.'"*
>
> **Translation: "***I guided her from the most basic to the most complex, everyday situations like how to use a marker or a washbasin, since she was from a rural area, all the way to how to sew garments and how to care for occupational health. After three months, Maria had a wide smile and lively eyes, saying that she herself had gone to the city to buy the clothes she was wearing."* (Quintana Pacheco, written chronicle, 2026)

Maria's experience supports RQ1 by showing that Quintana Pacheco's maquila-based expertise was not limited to technical production knowledge, but also included the ability to teach, guide, and support women entering unfamiliar labor and urban environments. This finding most directly reflects Hammond's third and fourth principles of popular education: learning was integrated into everyday communal life, and instruction was adapted to the needs of the learner, beginning with basic forms of navigation and extending to occupational health and garment production. Through this process, the factory floor became an informal educational space where

knowledge was exchanged in response to immediate social, economic, and bodily needs. Maria's movement from rural isolation toward greater confidence in the city also connects SDG 4, SDG 5, and SDG 8 by showing how education, gendered mobility, and access to work were intertwined in one woman's early experience of maquila labor.

In the dialogue, Quintana Pacheco also suggests the recognition of a potential pattern of abuse:

> "*Many of our women have been abused at home, physically assaulted by their partners. I remember working with women who arrived with visible signs of bruising, especially on the face. So we would report the cases so that a psychologist could get involved, or we'd refer them to Social Security. What I do remember is that they usually deny that they're being abused."* (Robertson & Quintana Pacheco, 2026)

In her written chronicle, she named Sara's case and the mechanism that made institutional support possible:

> **Original (Spanish): "***Recuerdo a otra senora a quien llamaremos Sara que normalmente su comportamiento era bastante discreto y casi no interactuaba con las demas personas. Mi trabajo fue llegar hasta ella con sutileza, le buscaba a la hora del almuerzo y conectamos muy bien, me hablaba de sus hijos. Un buen dia llego con signos visibles de maltrato fisico que su pareja le ocasionaba. Al tener confianza conmigo, pudimos darle una atencion con la psicologa de la empresa y apoyarla en muchas otras* acción*es para que ella pudiera salir de esta relacion complicada y ser el soporte de sus hijos."*
>
> **Translation: "***I remember another woman we will call Sara, whose behavior was normally quite reserved and who almost never interacted with other people. My work was to reach her with subtlety. I would look for her at lunchtime and we connected very well, she would talk to me about her children. One day she arrived with visible signs of physical abuse inflicted by her partner. Because she trusted me, we were able to connect her with the company psychologist and support her through many other actions so that she could leave that difficult relationship and be the support her children needed."* (Quintana Pacheco, written chronicle, 2026)

Navarro-Mantas et al. (2022) document that approximately 41.2% of Salvadoran women experience controlling violence from partners. SDG 5 Target 5.2's goal of eliminating violence against women is not achieved through policy declarations. It is achieved through relational, intersectional, institutional work.

Theme 2: The Structural Cost of Superación - Navigating Education Under Compounded Constraint (RQ1 and SDG 4)

The meritocratic narrative of Quintana Pacheco's educational trajectory is refuted not by her account of failure but by her account of the precise structural conditions under which she succeeded:

> **Original (Spanish): "***Un día normal para mi daba inicio a las 5:00 am preparándome para llegar a la fabrica a eso de las 6:15am. El trabajo en piso de producción siempre marca un ritmo veloz y constante durante 9 a 10 horas terminando jornada a eso de las 5:00pm, lo que me permite desplazarme a UNICAES para realizar mi jornada de clases hasta terminar de regreso a casa a las 9:00 pm."*
>
> **Translation: "***A normal day for me began at 5:00 am as I prepared to arrive at the factory around 6:15 am. Work on the production floor always sets a fast and constant pace for 9 to 10 hours, ending around 5:00 pm, which then allowed me to travel to UNICAES for my classes, arriving home by 9:00 pm."* (Quintana Pacheco, written chronicle, 2026)

The factory's production rhythm, El Salvador's inadequate public transit, and UNICAES's evening schedule were all structural conditions beyond Quintana Pacheco's control. These are the material conditions under which SDG 4 Target 4.3's equal access to quality technical education for women confronts its own structural impossibility. She took one to two courses per semester, constrained by exhaustion, not aspiration. Her salary was approximately $500 per month; tuition was $120 per month (Robertson & Quintana Pacheco, 2026).

In her solo recording, she named the financial dimension explicitly:

> **Original (Spanish):** "*Este salario me permitió seguir pagando mi carrera universitaria. Tuve la oportunidad de estudiar en la UNICAES, donde el horario esta diseñado para que los estudiantes puedan trabajar y estudiar."*
>
> **Translation:** "*This salary allowed me to continue paying for my college education. I had the opportunity to study at UNICAES, where the schedule is designed to allow students to work and study."* (Quintana Pacheco, solo recording, 2026)

Her motivation was not individual ambition but intersectional consciousness:

> **Original (Spanish): "***Algunas veces pensé en rendirme pero siempre encontraba motivos para continuar. Unos de los motivos mas importantes fue la convivencia con mis colaboradoras mujeres que no tenían la oportunidad de estudiar, estaban destinadas a trabajar fisicamente en actividades repetitivas que llevan un desgaste fuerte."*

> **Translation: "***Sometimes I thought about giving up, but I always found reasons to continue. One of the most important reasons was being alongside the women I worked with, who did not have the opportunity to study, they were destined to work physically in repetitive activities that carry a heavy toll."* (Quintana Pacheco, written chronicle, 2026)

In the dialogue interview, she revealed that her deepest motivation was family survival: "My biggest motivation is to help my mom around the house. I didn't want to be separated from my mom because if I didn't work, she would definitely have to leave, to emigrate" (Robertson & Quintana Pacheco, 2026). She did not pursue higher education to realize a personal dream but to prevent the dissolution of her family. SDG 4 cannot be achieved through enrollment statistics alone, it requires confronting the compounded structural costs that the simultaneous failures of SDG 5 and SDG 8 impose on working-class women every day.

This finding supports RQ1 by showing that Quintana Pacheco's educational knowledge was formed through the daily negotiation of factory labor, university study, and financial constraint. Through Hammond's third principle, her experience illustrates how learning was integrated into everyday communal and working life rather than separated from it. It also connects to Hammond's fourth principle and SDG 4 by showing that access to technical higher education required adaptive structures, such as evening courses, while still placing significant physical and economic costs on working-class women.

Her position in the factory also allowed her to create professional openings for other women navigating the transition from university into engineering work. In this sense, the factory became not only the site of her own constraint, but also a place where she could help others access opportunities that formal education alone had not guaranteed.

> **Original (Spanish):** "*Tenia amigas en la universidad que habían avanzado sin atrasarse en la carrera. Ellas necesitaban trabajar como ingenieras y mi posición me permitió evaluarlas para puestos de Ingenieros Juniors. Ellas entonces lograron iniciar su carrera profesional que hasta el dia de hoy siguen laborando en mandos estratégicos dentro de las empresas."*

> **Translation: "***I had friends at the university who had advanced without falling behind. They needed to work as engineers, and my position allowed me to evaluate them for Junior Engineer positions. They then managed to start their professional careers, and to this day they continue working in strategic management positions within companies."* (Quintana Pacheco, written chronicle, 2026)

Her classmates who went straight through without interruption needed her factory position to access the professional opportunities their credential alone could not unlock. The factory enabled the university, not the other way around. This is also popular education in the Hammond (1998) tradition: the person who has crossed one systemic-border creates the passage for the next person behind them.

Theme 3: Pedagogical Capital: Transforming Factory Knowledge into Professional Formation

Quintana Pacheco graduated in 2006 and began teaching at UNICAES part-time in 2009 out of economic necessity during the global financial crisis. The vocation emerged from the practice. In her solo recording she named the epistemological core of what the factory had produced in her:

> **Original (Spanish):** "*Era como combinar la práctica con la teoría, de la mano. Iba descubriendo conceptos relacionados con la productividad, la eficiencia y la planificación de producción al mismo tiempo que los ponía en práctica en la zona franca. Sin duda esto me permitió crecer profesionalmente, madurar, desarrollar mi forma de pensar. A medida que la industria crecía, yo también crecía como persona; seguía desarrollándome."*
>
> **Translation: "***It was like combining practice and theory, hand in hand. I was discovering concepts related to productivity, efficiency, and production planning as I was putting them into practice in the free trade zone. This undoubtedly allowed me to grow professionally, to mature, to develop my way of thinking. As the industry grew, so did I as a person; I continued to develop."*(Quintana Pacheco, solo recording, 2026)

This finding supports RQ2 by showing how Quintana Pacheco's professional and educational trajectory was shaped by the intersection of class position, gendered labor, and access to technical knowledge inside the maquila. Her growth did not occur outside the factory system, but through the simultaneous demands of paid labor, university study, and applied production work. Through Hammond's second principle, her active participation in the production process became a source of critical learning, as she developed knowledge of productivity, efficiency, and planning through practice rather than through theory alone. Her experience also reflects Hammond's third principle because the knowledge produced in everyday working life later became connected to formal education, allowing the factory and university to function as linked spaces in her professional formation.

> **Original (Spanish):** "*Mi experiencia real en las líneas de producción me permite dirigir mi catedra con destreza, llevando a mis alumnos a encontrarse con ambientes reales a través de tours y practicas en las empresas."*

> **Translation: "***My real experience on production lines allows me to lead my courses with skill, taking my students to encounter real environments through company tours and internships."* (Quintana Pacheco, written chronicle, 2026)

Ingenieros en Acción was launched in 2020 and was originally entirely in virtual format during a global pandemic, which required Quintana Pacheco to build and sustain industry relationships through online platforms while the physical world was closed. That the program took root under these conditions demonstrates that its infrastructure is relational and epistemological, not logistical. The program targets fifth-year industrial engineering students at UNICAES and is designed to ensure graduates do not enter the sector only able to work at the operative level, but are prepared to access managerial and supervisory roles, junior human resources positions, quality assurance and control roles, logistics and supply chain management positions, and graphic design and chemical engineering applications within apparel manufacturing firms (Quintana Pacheco, personal communication, 2026). Quintana Pacheco works directly with HR managers and factory managers, requiring that industry partners commit to positive structural change. Since 2020, 250 students have progressed through Ingenieros en Acción Quintana Pacheco, personal communication, 2026) representing documented structural intervention at scale and directly addressing SDG 5 Target 5.5 through curriculum design and SDG 8 Target 8.5 through industry accountability.

Hilos de Amistad, launched in 2026 as a direct extension of Ingenieros en Acción, connects Salvadoran industrial engineering students with international textile and merchandising students in the United States. It positions Salvadoran students as knowledge holders rather than recipients of international exchange, refusing the colonial assumption that knowledge flows North to South. Its full empirical analysis will be published as Part 2 of this research program.

Theme 4: "Nada es Casualidad": Structure, Return, and Popular Education Praxis (RQ1 and RQ2)

Quintana Pacheco closes her chronicle with a declaration that carries the analytical weight of both research questions:

> **Original (Spanish):** "*Estoy segura que nada es casualidad ya que me gradué en el 2006 como Ingeniera Industrial y para el ano 2009 inicie mi vida laboral como docente impartiendo clases por la noche, ya trabajando en el* área *de recursos humanos y* logística *fuera de la maquila. Esto me permitió ampliar mis conocimientos y mi experiencia. Seis anos despues estoy como docente tiempo completo en UNICAES."*

> **Translation: "***I am certain that nothing is coincidence. I graduated in 2006 as an Industrial Engineer, and by 2009 I had begun my professional life as a teacher, giving evening classes while working in human resources*

> *and logistics outside the maquila. This allowed me to expand my knowledge and experience. Six years later, I am a full-time faculty member at UNICAES."* (Quintana Pacheco, written chronicle, 2026)

"Nada es casualidad" should be read less as a claim of inevitability and more as Quintana Pacheco's recognition that her professional trajectory was shaped by the convergence of labor, education, relationships, and opportunity. This finding supports RQ1 by showing how her return to the factory as a university educator grew from knowledge developed across multiple spaces: the maquila, the university, human resources, logistics, and the classroom. It also supports RQ2 because this movement was shaped by the gendered and classed conditions through which she worked, studied, and later taught. Through Hammond's third principle, her trajectory reflects the integration of education into everyday communal and working life, while Hammond's fourth principle is visible in her later effort to create more accessible pathways for students entering the apparel manufacturing sector.

> **Original (Spanish): "***La industria maquiladora fue definitivamente una experiencia de aprendizaje integral para nuestro desarrollo, tanto en mis relaciones con mis* compañeros *y colegas como en mis relaciones con mis queridas y valiosas colaboradoras. Todos nosotros, desde nuestros diferentes caminos en la vida, logramos evolucionar; pudimos hacerlo, algunos en menor medida, otros en mayor medida."*
>
> **Translation: "***The maquila industry was definitely a comprehensive learning experience for our development, both in my relationships with my peers and colleagues and in my relationships with my dear and valued co-workers. All of us, from our different walks of life, managed to evolve; we were able to do it, some to a lesser extent, others to a greater extent."* (Quintana Pacheco, solo recording, 2026)

This declaration considers the impact of all three SDGs simultaneously. SDG 4 is answered not by enrollment statistics but by the institution Quintana Pacheco built from the knowledge SDG 8's sector classified as unskilled. SDG 5 is answered not by policy declarations but by 250 students redirected toward management and leadership. SDG 8 is answered not by GDP figures but by the structural accountability Quintana Pacheco demands of industry partners. Table 3 maps this structural alignment chronologically.

6. Discussion and Implications

The findings suggest that Hammond's framework of popular education helps interpret Quintana Pacheco's movement from the factory floor to the academy and back through her work with students.

In response to RQ1, her maquila experience became pedagogically transferable because it was rooted in lived labor, community responsibility, and direct knowledge of the apparel sector. Her teaching and programs, including Ingenieros en Acción and Hilos de Amistad, show how factory-derived knowledge may inform student preparation, industry engagement, and inclusive international higher education. In response to RQ2, the findings show that gender and class shaped Quintana Pacheco's trajectory through unequal hiring practices, limited recognition of women's leadership, long work-study schedules, and the structural costs of *superación*. These experiences occurred within a broader political economy shaped by CAFTA-DR, maquila production, foreign investment, competitive labor costs, and the gendered international division of labor. Feminist political economy therefore provides important context, while Hammond's popular education framework remains the central analytical lens.

These findings also speak to broader research on feminized export manufacturing beyond El Salvador. Kopinak's (1995) study of women maquiladora workers in Mexico similarly shows how gender operates within export manufacturing to shape women's labor conditions, workplace subordination, and limited mobility. While this article does not attempt a full comparative analysis, placing Quintana Pacheco's trajectory alongside this broader regional literature helps situate the Salvadoran case within a wider Central American and Latin American context of gendered labor, global production chains, and uneven professional advancement.

Because this article is based on a single case, the findings should be read as exploratory rather than universally generalizable. The study offers an analytical contribution for future comparative research on how women's labor knowledge in export-oriented manufacturing contexts may inform popular education, professional formation, and inclusive international higher education.

6.1 Theoretical Implications

This study suggests that Hammond's (1998) analysis of popular education in post civil war El Salvador as applied to Quintana Pacheco's present day experiences with intentional community involvement, active and engaged experiential learning, and mutually beneficial learning environments show that these principles have the potential to be applicable in various settings with diverse stakeholders, which invites the opportunity for further exploration beyond this singular case study. The findings also suggest that the maquila's devaluation of women's labor and education (formal or informal) is not market failure, discrimination, or development deficit, but it is the contemporary operation of a colonial knowledge hierarchy determining whose expertise counts as skill and whose labor counts as knowledge. The findings from this study suggest that popular education operationalized through the lens of a woman who is bornand-raised in the community that she returns to serve in opens future epistemological exploration the dominant literature has only scratched the surface in its ability to articulate the process by which labor knowledge forged under structural exclusion is recognized, legitimated, and institutionalized as pedagogical capital.

6.2 Educational Implications

The findings from this study imply that inclusive education in the Global South could benefit from further epistemological development beyond policy reform and be more informed by the voices of the oppressed rather outside observers of oppressed persons and experiences. Quintana Pacheco's Ingenieros en Acción offers a replicable model for future researchers to either adopt or analyze. The strengths of this approach to pedagogical innovation lie in the curriculum built that was built from industry-insider knowledge, her maintained industry partnerships which held to structural accountability and ease-of-transition into the labor force for her students, and in-class student preparation aimed at refining management and leadership styles, from which the inequality regime historically excludes working-class women. Universities across Central America and the Global South operating in proximity to feminized export manufacturing sectors have the opportunity to examine whether equivalent programs can be built from equivalent knowledge systems already present in their communities.. For higher education institutions, this also extends to co-authorship with practitioners whose expertise has been institutionally dismissed is not merely an ethical gesture. It can represent a standard for methodological and moral practice for the researchers who are inevitably in service to the communities in which they study.

6.3 Policy Implications

Quintana Pacheco's educational activism in practice also holds significant political and policy implications as related to the international development frameworks – SDG 4, 5, and 8. There is potential for these three frameworks to be both qualitatively and quantitatively examiend as interlinked societal needs for improvement rather than separate goals. Policy-makers within government settings and educational institutions could observe the compounded structural costs that working-class women absorb when labor conditions, gender norms, and educational access are treated as separate policy domains rather than intersecting structural realities

7. Future Research Agenda

This study identifies four primary directions for future research. First, future studies could undertake longitudinal outcome tracking of the approximately 250 students who have participated in Ingenieros en Acción since 2020. Their long-term employment trajectories, wage attainment, leadership advancement, and retention within the apparel sector have not yet been systematically documented. A longitudinal mixed-methods study following cohort outcomes over five to ten years could provide a stronger empirical basis for assessing the program's educational, professional, and structural impact.

Second, future research could pursue regional comparative analysis across Guatemala, Honduras, and Nicaragua, where maquila sectors similarly rely on working-class women's labor and expertise. Comparative narrative inquiry across

these national contexts would help determine whether the conditions documented in this study are specific to El Salvador or reflective of broader regional patterns. Such research could also examine how popular education frameworks may require context-specific adaptation across different Central American settings.

Third, the second phase of this research program could provide a fuller empirical analysis of Hilos de Amistad, including its learning outcomes, curricular structure, cross-institutional dynamics, and contributions to inclusive international higher education. This future work could further examine how Salvadoran students and U.S.-based students engage in reciprocal learning when factory knowledge, textile production, and international collaboration are placed in dialogue.

Finally, future research could examine the institutional, policy, and industry partnership conditions that make programs like Ingenieros en Acción possible within Central American universities. This line of inquiry could also consider the epistemological, institutional, financial, and political barriers that may shape whether similar pedagogical models can be adapted in other settings.

8. Conclusions

The findings from this study offer new contributions to broader research on inclusive higher education in Latin America, while also remaining careful not to make universal generalizations based on a singular case study.

The trajectory documented in this study challenges meritocratic interpretations that have the potential to attribute professional advancement primarily to individual determination or exceptional personal achievement. Patricia Quintana Pacheco's pedagogical programs emerged not solely from personal perseverance, but from the convergence of structural conditions, relational networks, and epistemological resources developed through nine years of simultaneous industrial labor and higher education. The significance of Quintana Pacheco's trajectory lies not only in her individual success, but in the ways the knowledge produced through that journey has been redirected into teaching, mentorship, industry engagement, and the educational possibilities of those who follow.

Inclusive education in the Global South cannot rely solely on the uncritical transfer of Northern theoretical frameworks into globally Southern institutions. Rather, this study suggests the importance of recognizing knowledge systems already embedded within surrounding communities, including those developed through labor experiences in factories, agricultural fields, and domestic spaces. These knowledge systems have historically been positioned as sites of production rather than sites of learning. This study presents one documented example of such recognition and examines an institutional model through which these forms of knowledge may be legitimized within higher education.

Acknowledgements

We would like to acknowledge Jung Ha-Brookshire, PhD, for her unwavering belief in this research and the continuous support of her students and colleagues. We also would like to thank the U.S. Fulbright Program and the administrators, faculty, and staff at the Universidad Católica de El Salvador for their support.

Bibliographic References

Acker, J. (2006). *Inequality regimes: Gender, class, and race in organizations*. *Gender & Society*, 20(4), 441–464. https://doi.org/10.1177/0891243206289499

Anzaldúa, G. (1987). *Borderlands/La frontera: The new mestiza*. Aunt Lute Books.

Artiles, A. J. (2013). *Untangling the racialization of disabilities: An intersectionality critique across disability models*. *Du Bois Review*, 10(2), 329–347. https://doi.org/10.1017/S1742058X13000271

Azhar, S., & Ali, A. (2026). *Global Accumulation & Gendered Class Exploitation: Theory and Evidence from the Garment Industry During the Covid Pandemic*. *Forum for Social Economics*, 55(1), 42-62. Routledge. https://doi.org/10.1080/07360932.2024.2350496

Bair, J. (2005). *Global capitalism and commodity chains: Looking back, going forward*. *Competition & Change*, 9(2), 153–180. https://doi.org/10.1179/102452905X45382

Barreto, J. M. (2020). *Amefricanity*. *Radical Philosophy*. https://www.radicalphilosophy.com/commentary/amefricanity

Bejarano, C. L. (2002). *Las super madres de Latino América: Transforming motherhood by challenging violence in Mexico, Argentina, and El Salvador*. *Frontiers: A Journal of Women Studies*, 23(1), 126–150.

Belenky, M. F., Clinchy, B. M., Goldberger, N. R., & Tarule, J. M. (1986). Women's ways of knowing: The development of self, voice, and mind. Basic Books.

Bešić, E. (2020). *Intersectionality: A pathway towards inclusive education? Prospects, 49*, 111–122. https://doi.org/10.1007/s11125-020-09461-6

Bhatt, E. R. (2006). *We are poor but so many: The story of self-employed women in India*. Oxford University Press.

Brittin, A. A. (1995). Close encounters of the Third World kind: Rigoberta Menchú and Elisabeth Burgos's Me llamo Rigoberta Menchú. *Latin American Perspectives*, 22(4), 100–114. http://www.jstor.org/stable/2634184

Burleigh, D., & Burm, S. (2022). Doing duoethnography: Addressing essential methodological questions. *International Journal of Qualitative Methods, 21*. https://doi.org/10.1177/16094069221140876

Cantillon, S., Mackett, O., & Stevano, S. (2023). *Feminist political economy: A global perspective*. Agenda Publishing.

Chigbu, U. E., & Nekhwevha, F. (2023). *Gender equality and decent work*. *Frontiers in Sociology, 8, Article 1266141*. https://doi.org/10.3389/fsoc.2023.1266141

Chipindi, F. M., Mweemba, O., Chipindi, G., Phiri, Y., & Mwale, S. (2023). *Decolonial practices in higher education in the Global South*. *Journal of Comparative and International Higher Education*, 15(5). https://doi.org/10.32674/jcihe.v15i5.5299

Clandinin, D. J., & Connelly, F. M. (2000). *Narrative inquiry: Experience and story in qualitative research*. Jossey-Bass.

Clinchy, B. M. (1993). Ways of knowing and ways of being: Epistemological and moral development in undergraduate women. In A. Garrod (Ed.), *Approaches to moral development: New research and emerging themes* (pp. 180–200). Teachers College Press.

Crenshaw, K. (1989). *Demarginalizing the intersection of race and sex: A Black feminist critique of antidiscrimination doctrine, feminist theory, and antiracist politics*. *University of Chicago Legal Forum*, 1989(1), Article 8. https://chicagounbound.uchicago.edu/uclf/vol1989/iss1/8

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.)*. Sage.

Datta, P. B., & Gailey, R. (2012). Empowering women through self-help microfinance programmes: The case of India's Self Employed Women's Association. *Business & Society*, 51(2), 394–421. https://doi.org/10.1111/j.1540-6520.2012.00505.x

Dirección General de Estadísticas y Censos. (2017). *Estimaciones y proyecciones de población municipal 2005–2025*. Ministerio de Economía de El Salvador. https://onec.bcr.gob.sv/servicios/proyecciones-y-estimaciones-de-poblacion-nacional-y-departamental/

Domínguez, E., Quintero, C., & López, R. (2010). *Women workers in the maquiladoras and the debate on global labor standards*. *Feminist Economics*, 16(4), 185–209. https://doi.org/10.1080/13545701.2010.530603

Domínguez Reyes, E., & Quintero Ramírez, C. (2019). *The fight for improved labour standards: women labour organising on the Northern Mexican border and El Salvador*. *Third World Thematics: A TWQ Journal*, 4(1), 27–43. https://doi.org/10.1080/23802014.2019.1560230

Edwards, D. B., Jr., Martin, P., & Flores, I. (2015). Education in El Salvador: Past, present, and prospects. In *Education in México, Central America and the Latin Caribbean*. Continuum.

Elbow, P. (1973). *Writing without teachers*. Oxford University Press.

Ellis, C., Adams, T. E., & Bochner, A. P. (2011). *Autoethnography: An overview*. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 12(1), Article 10. https://doi.org/10.17169/fqs-12.1.1589

Elson, D., & Pearson, R. (1981). "Nimble fingers make cheap workers": An analysis of women's employment in Third World export manufacturing. *Feminist Review*, 7(1), 87–107. https://doi.org/10.1057/fr.1981.6

Fals-Borda, O. (1987). *The application of participatory action research in Latin America*. *International Sociology*, 2(4), 329–347. https://doi.org/10.1177/026858098700200401

Freire, P. (2020). Pedagogy of the oppressed. In *Toward a sociology of education* (pp. 374–386). Routledge.

Fúnez-Flores, J. I. (2024). *Curriculum and the coloniality of knowledge*. *Curriculum Inquiry*. https://doi.org/10.1002/curj.219

Gereffi, G. (1999). *International trade and industrial upgrading in the apparel commodity chain*. *Journal of International Economics*, 48(1), 37–70. https://doi.org/10.1016/S0022-1996(98)00075-0

Ghanbar, H. (2024). *A methodological synthesis of narrative inquiry research in applied linguistics*. *International Journal of Applied Linguistics*, 34(3), 892–912. https://doi.org/10.1111/ijal.12591

Gobierno de El Salvador. (2023). *Guía sectorial: Textil y confección 2023*. Ministerio de Economía. https://investinelsalvador.gob.sv/wp-content/uploads/2023/11/Guia-sectorial-Textil-y- confeccion-2023.pdf

González, L. (1988). *La categoría político-cultural de amefricanidad*. *Tiempo Latinoamericano, 92/93*, 69–82. https://doi.org/10.31273/4efczn62

Hammond, J. L. (1998). *Fighting to learn: Popular education and guerrilla war in El Salvador*. Rutgers University Press.

Hammond, J. L. (1999). *Popular education as community organizing in El Salvador*. *Latin American Perspectives*, 26(4), 69–94. https://doi.org/10.1177/0094582X9902600403

Irungu, C. W. (2017). *Wangari Maathai the educator: Straddling tradition and modernity*. *Journal of Global Education and Research*, 1(1), 48–67. https://doi.org/10.5038/2577-509X.1.1.1008

Khurshid, A. (2015). Islamic traditions of modernity: Gender, class, and Islam in a transnational women's education project. *Gender & Society*, 29(1), 98–121. https://doi.org/10.1177/0891243214549193

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.

Kopinak, K. (1995). *Gender as a vehicle for the subordination of women maquiladora workers in Mexico*. *Latin American Perspectives*, 22(1), 30–48.

Kucera, D., & Tejani, S. (2014). *Feminization, defeminization, and structural change in manufacturing*. *World Development, 64*, 569–582. https://doi.org/10.1016/j.worlddev.2014.06.033

Lugones, M. (2010). *Toward a decolonial feminism*. *Hypatia*, 25(4), 742–759. https://doi.org/10.1111/j.1527-2001.2010.01137.x

McAndrews, L. M., & Ha-Brookshire, J. (2013). We are a walking contradiction: Queer theory and the complexity of women's professional identity. *Clothing and Textiles Research Journal*, 31(3), 143–157. https://doi.org/10.1177/0887302X13493660

McAndrews, L. M., & Ha-Brookshire, J. (2022). *Applying feminist political economy to textile and apparel scholarship*. *Fashion and Textiles, 9, Article 36*. https://doi.org/10.1186/s40691-022- 00311-x

McDowell, L. (1991). *Life without father and Ford: The new gender order of post-Fordism*. *Transactions of the Institute of British Geographers*, 16(4), 400–419. https://doi.org/10.2307/622707

Navarro-Mantas, L., Velásquez, M. J., Lemus, S., & Megías, J. L. (2022). *Prevalence of intimate partner violence against women in El Salvador*. *Frontiers in Psychology, 13, Article 867945*. https://doi.org/10.3389/fpsyg.2022.867945

Organisation for Economic Co-operation and Development. (2025). *Gender differences in education, skills and STEM in Latin America and the Caribbean*. https://doi.org/10.1787/4ea07281-en

Oficina Nacional de Estadística y Censos. (2023). *Encuesta de hogares de propósitos múltiples 2023*. Gobierno de El Salvador.

Opare, G. (2025). *Sankofa as praxis: Ontological healing, memory, and decolonial return*. *Cultural Studies ↔ Critical Methodologies*. https://doi.org/10.1177/1532708625141292

Pons Cardoso, J., & Castillo Espinosa, E. (2022). *Decolonial feminism in Latin America*. *Hypatia*, 37(1). https://doi.org/10.1017/hyp.2022.31

Pugh, A. J., & Mosseri, S. (2023). *Trust-building vs. "just trust me": Reflexivity and resonance in ethnography*. *Frontiers in Sociology, 8*, Article 1069305. https://doi.org/10.3389/fsoc.2023.1069305

Quintana Pacheco, P. B. (2026). *Crónica de una ingeniera: Mi paso por la industria de la confección salvadoreña [Unpublished personal written chronicle]*.

Quintana Pacheco, P. B. (2026). *Solo video recording* [Unpublished raw data].

Robertson, C. M., & Ha-Brookshire, J. (2025). *The impacts of CAFTA-DR on gender inequality and apparel trade in El Salvador*. *Studies in Fashion Theory: The Journal of Dress, Body & Culture*, 4(2), 179–202. https://doi.org/10.1386/sft_00063_1

Robertson, C. M., & Quintana Pacheco, P. B. (2026). *Dialogue interview* [Unpublished raw data].

Salzinger, L. (2003). Genders in production: Making workers in Mexico's global factories. University of California Press.

Santos, B. de S. (2018). *The end of the cognitive empire: The coming of age of epistemologies of the South*. Duke University Press.

Stephen, L. (1995). Women's rights are human rights: The merging of feminine and feminist interests among El Salvador's mothers of the disappeared (CO-MADRES). *American Ethnologist*, 22(4), 807–827. https://doi.org/10.1525/ae.1995.22.4.02a00080

Temple, C. N. (2010). *The Sankofa movement: ReAfrikanization and the reality of "Black" popular culture*. *Journal of Black Studies*, 41(2), 127–150. https://doi.org/10.1177/0021934709349944

UN Women. (2024). *SDG 5: Gender equality*. https://www.unwomen.org/en/resources/gender- snapshot/sdg-5

UNESCO Institute for Statistics. (2024). *SDG 4 country profile: El Salvador*. https://uis.unesco.org

Udenigwe, N., Aubel, J., & Abimbola, S. (2024). *Decolonial feminist approaches to gender equality in the Global South*. *PLOS Global Public Health*, 4(6), Article e0005556. https://doi.org/10.1371/journal.pgph.0005556

Walsh, C. (2010). Interculturalidad crítica y educación intercultural. In J. Viaña, L. Tapia, & C. Walsh (Eds.), *Construyendo interculturalidad crítica* (pp. 75–96). Instituto Internacional de Integración.

Wright, M. W. (2006). *Disposable women and other myths of global capitalism*. Routledge. https://doi.org/10.4324/9780203390313

Declarations

Author contributions

Cydni Meredith Robertson: Concept. – Cur. datos – An. formal – Investig. – Metod. – Adm. proyecto – Recursos – Software – Valid. – Visualiz. – Red. borr. orig. – Rev. y ed. – Approval of the final manuscript submitted to the journal.

Patricia Betsabe Quintana Pacheco: Concept. – Cur. datos – Investig. – Adm. proyecto – Recursos – Visualiz. – Red. borr. orig. – Rev. y ed. – Approval of the final manuscript submitted to the journal.

Conflict of interest statement

The authors declare no conflict of interest.

Data availability statement

All data supporting the results of this study are published in the article itself.

Ethical implications

The authors declare that this article has no ethical implications regarding its development, writing, or publication

Biodata

Cydni Meredith Robertson: PhD University of Missouri, Columbia, United States of America. Assistant Professor. Indiana University, Bloomington, United States of America.

Patricia Betsabe Quintana Pacheco: Maestra en Dirección Estratégica de Empresas: Universidad Católica de El Salvador, Santa Ana, El Salvador. Profesora de Ingeniería Industrial. Universidad Católica de El Salvador, Santa Ana, El Salvador