

**An Online Model for Transborder Education: Academic
Collaboration Between Mexico and the United States****Un modelo virtual para la educación transfronteriza: colaboración
académica entre México y Estados Unidos**

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ABSTRACT

The objectives of this study include the proposal of a new transnational education model that promotes inclusive and sustainable internationalization opportunities, as well as the development of intercultural communication skills that facilitate transborder collaboration. The article presents qualitative results from a case study based on students' experiences with binational courses that implemented the Virtual Model for Transborder Education (MVET, for its acronym in Spanish). The results confirmed that the participants developed knowledge and abilities that prepared them to be able to succeed in bicultural and binational environments. This study makes significant contributions to the fields of international education and virtual teaching as it provides a virtual exchange model that can easily be adjusted to professors' areas of expertise, as well as students' interests. Moreover, the model makes possible the implementation of academic collaborations in diverse institutional and geographical contexts.

Keywords: 1. transborder education, 2. COIL, 3. binational collaboration, 4. virtual exchange, 5. U.S.-Mexico Border.

RESUMEN

Se propone un nuevo modelo para la educación transfronteriza que promueve la internacionalización inclusiva y sostenible, así como el desarrollo de habilidades de comunicación intercultural que facilitan la colaboración transfronteriza. Se presentan resultados cualitativos de un estudio de caso basado en las experiencias de estudiantes que cursaron una materia universitaria en la que se implementó el Modelo Virtual de Educación Transfronteriza (MVET). Los resultados confirmaron que las y los participantes desarrollaron conocimientos y habilidades que les permitieron desenvolverse en entornos biculturales y binacionales. Este estudio hace importantes aportes tanto al campo de la educación internacional como a la docencia virtual, ya que detalla un modelo fácil de adaptar a las áreas de especialidad de los docentes, así como a los intereses de los estudiantes participantes. Por consiguiente, el modelo posibilita la implementación de proyectos académicos binacionales en diversos contextos institucionales y geográficos.

Palabras clave: 1. educación transfronteriza, 2. COIL, 3. colaboración binacional, 4. intercambio virtual, 5. Frontera México-EE.UU.

Received: July 19, 2023

Accepted: October 18, 2023

Available online: March 15, 2024

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INTRODUCTION

Along the U.S.-Mexico border, which spans over three thousand kilometers, transnational spaces are created and sustained by the bilateral flows of people, goods, and labor in both formal and informal contexts. The border is a resource that offers sociopolitical and economic opportunities for individuals who are engaged in activities within the transborder space. While the concept of U.S.-Mexico the border is built around tangible elements such as the vast geographical space that it covers, its 15 twin cities, 15 metropolitan areas, and a collective population that exceeds 13 million people (Prieto-Curiel, 2016), the heart of border communities lie within the their complex sociocultural, economic, and political systems that are sustained by workers, volunteers, families, students, and other individuals who regularly transit both sides of the international divide (Fox, 1999; Hernández Hernández, 2020).

This article is based on the premise that in order to understand the social constructs of transborderism (i.e., active civic participation in two countries), one must develop a perspective that transcends political rhetoric that portrays the cross-border space through a lens of violence, drug trafficking, undocumented immigration, asylum, or refugees. Such portrayals frequently stem from external media sources that seek to create fear among communities that are far removed from the day-to-day realities of the borderlands (Bello Arellano, 2015). These fears are exacerbated by limited interactions among U.S. and Mexican nationals as well as differences in sociocultural, linguistic, and racial backgrounds. The U.S. media uses the lack of binational dialogue and stories of otherness for political purposes, as evidenced by the “build the wall” campaigns led by Donald Trump (Fleuriot & Castellano, 2020) to demonize immigration and equate whiteness with nationality (Kil, 2019).

Given the often-nefarious media depictions of border spaces and politically motivated attacks on binational communities, it is ever more pressing to create opportunities for dialogue and intellectual exchange among the two nations’ citizens. In an effort to create inclusive, sustainable spaces for binational exchange, this article explores how universities may become centers for fostering transnational dialogue and creating epistemic knowledge. Within this framework, a pilot project was undertaken wherein university professors from the U.S. and Mexico were invited to adapt their curriculum to create online transborder courses for students from their respective countries. This initiative, known as the Modelo Virtual de Educación Transfronteriza (Virtual Model for Transborder Education, VMTE), yielded promising initial results, offering insights into approaches for studying the social construction of the transborder space through collaborative binational student activities. The study’s underlying hypothesis posited that through participating in guided dialogues regarding experiences with and perspectives on sociocultural and political aspects of U.S.-Mexico relations, participating students would forge their own transborder identities as well as innovative methods of transborder community building.

TRANSBORDERISM

For the purpose of this study, it is crucial to differentiate between transnationalism and transborderism. Transnationalism refers to an identity that surpasses national boundaries (Smith & Guarnizo, 1998; Vertovec, 2009), while transborderism involves active engagement in the cultural, political, and economic systems of two countries (Vélez-Ibañez, 2010; Vélez-Ibañez & Heyman, 2017). Concrete examples of transborderism include students residing in Mexico but attending school in the U.S. (Rocha Romero & Orraca Romano, 2018), remittances sent from the U.S. to Mexico, and expatriates participating in political activities (e.g., voting) from “the other side” (Raisner, 2012; Clausen & Velázquez, 2007).

Within the U.S.-Mexico border context, there are numerous studies that examine the transborder identities of individuals who live and work between both countries (Falcon, 2013; Kleyn, 2017; Lam & Christiansen, 2022). Research indicates that residents of border regions share multifaceted sociocultural and economic systems that differ from those found in regions located further from the international divide (Fox, 1999). Just as there are characteristics that define border towns, there are also unique circumstances, opportunities, and challenges that vary according to border communities’ size, location, and sociopolitical context:

Residing adjacent to California differs significantly from residing adjacent to Texas, as these two entities epitomize opposite ends of the political spectrum. California is renowned as a quintessential progressive state, whereas Texas is often associated with the conservative ethos of the “Bible Belt” in the American South (Hernández-Hernández, 2020, p. 63).

Important differences among border communities are largely ignored by media coverage that deals in sweeping, sensationalist generalizations about this region. To combat such mediatic trends, online social networks can serve as crucial tools for amplifying voices of borderland residents and nurture relationships within communities that span both countries. The theory of *networked individualism*, also known as individualism mediated by social networks (Rainie & Wellman, 2012), illustrates how virtual transborder communities can use technology to effectively circumvent physical, legal, and/or economic barriers to cross-border interactions. Thus, online social networks can empower users to make connections with individuals outside of social circles that had previously been limited by physical mobility. Through digital platforms, such as Facebook and Twitter, communities can transcend both spatial and temporal limitations to collaboratively shape shared experiences. Likewise, online interactions between two individuals have the possibility of expanding exponentially by involving third parties who share mutual contacts. In this manner, transborder identity and binational community building is not limited to geographic location or ancestral ties but can be extended to anyone who participates in social networks, whether virtual or in-person, in which individuals from two or more countries interact.

Despite the growing number of academic initiatives that implement technology for the purposes of international dialogue and academic exchange, traditional face-to-face models of transborder education remain predominant (King Ramírez, 2021; O’Dowd, 2020). The following section outlines several binational projects involving universities in Mexico and the United States.

Transborder Education Initiatives

Transborder education falls within the realm of international education, encompassing three primary categories: 1) academic and student mobility, 2) the establishment of collaborative agreements between academic institutions, and 3) institutional policies and practices that facilitate participation in programs from two countries simultaneously (Moctezuma Hernández & Navarro Cerda, 2011). Since the 1990s, there has been a growing number of U.S.-Mexico academic exchange initiatives that have been made possible through binational agreements sponsored by academic institutions and government programs such as the Comisión México-Estados Unidos para el Intercambio Educativo y Cultural (COMEXUS) (Mexico-United States Commission for Educational and Cultural Exchange), the Consortium for North American Higher Education Collaboration (CONAHEC), the Asociación Mexicana para la Educación Internacional (AMPEI) (Mexican Association for International Education), along with other programs championed by the Asociación Nacional de Universidades e Instituciones de Educación Superior (ANUIES) (National Association of Universities and Higher Education Institutions).

In the case of U.S. universities, transborder mobility tends to be unidirectional, with opportunities primarily extended to Mexican students who reside near the international border. For instance, the state of Texas selected ten universities where Mexican students can enroll at a reduced cost (Texas Higher Education Coordinating Board, 2023). Similarly, California recently enacted the AB 91 bill (Álvarez, 2023), allowing Mexican students to attend community colleges in San Diego and Imperial County (Arredondo, 2023).

Many transborder education programs prioritize professional training tailored to specific job markets. For instance, the U.S.-Mexico Bicentennial Framework Action Plan 2022-2024, signed by both U.S. and Mexican governments, was focused on preparing individuals to work in the field of criminal investigation (Editorial Gea, 2022). Some critique these types of job-specific binational agreements claiming that such programs frequently neglect to teach content that promotes critical thinking, intercultural competencies, and a deeper understanding of transborder communities. Moreover, these programs are often void of collaborative projects that address international exchange from a cultural identity, global citizenship, and inclusion perspective (Arellano & Martínez, 2005; King Ramírez, 2021). Lastly, many binational exchange programs are only available in-person thus imposing considerable economic and scheduling barriers such as the need for regular, reliable transportation and a valid passport or visa.

Other factors that increase the challenges of binational course implementation include differences in academic/institutional cultures, the limited number of candidates who may be accepted in international student cohorts, required proof of language proficiency (primarily English), and signing and renewal processes associated with institutional agreements (Knight, 2005; King Ramírez, 2020; Moctezuma Hernández & Navarro Cerda, 2011). For instance, in 2019, CETYS Universidad (Baja California) and El Centro Regional Medical Center (California) agreed to send 15 nurses from Mexico to work in the United States. However, this agreement stipulated that candidates must meet specific criteria such as hold a college degree, possess a B1

level of English proficiency, be eligible for a TN Visa, obtain certification for employment in the United States, and secure the necessary legal permits (Vocetys Portal Informativo, 2019). The strict requirements associated with such binational agreements preclude a large number of students from participating in transborder exchange programs, thus making these opportunities accessible only to a select group of professionals.

Virtual Education as a Barrier-Breaker for Internationalization

Many of the institutional restrictions and socioeconomic barriers that complicate and, in some cases, impede transborder exchanges can be alleviated through virtual education. The COVID-19 pandemic served as a catalyst to accelerate the adoption of methodologies, academic contents, and learning tools that support online education. This shift to online learning has contributed to greater sociocultural acceptance of virtual learning as an alternative to traditional, in-person methods of internationalization (Castiello-Gutiérrez et al., 2022; Espitia González & Pineda Moreno, 2021).

The same period of self-isolation (2020-2021) that wrought a significant surge in distance education offerings also spurred the development of home-based internationalization programs, commonly referred to as virtual exchange (VE).⁵ Through VE, university students from diverse geographical regions are able to collaborate on specific academic projects (EVOLVE Project Team, 2020; O'Dowd, 2018). In Latin America notable VE initiatives include the Programa de Internacionalización Curricular Estados Unidos y de La Red Latinoamericana de COIL (United States Curricular Internationalization Program and the Latin American COIL Network) (Cervantes Villagómez, 2022; King Ramírez, 2022).

Considering both the importance of supporting U.S.-Mexico relations as well as academic institutions' responsibility to prepare citizens who can successfully engage in social, economic, and cultural spheres, the current article proposes the following learning outcomes for transborder VE projects, 1) foster effective and equitable communication between individuals from neighboring countries, 2) draw upon students' diverse perspectives to analyze the relationship between neighboring countries, 3) identify opportunities for civic participation in both countries.

Virtual Model for Transborder Education (VMTE)

Despite the increased interest in VE, there are several factors that hinder institutional participation in these initiatives, such as a lack of online teacher training, difficulties with designing specialized course content, and the time commitment entailed in curriculum planning and coteaching with international colleagues (King Ramírez, 2022). In light of these barriers, the

⁵ Over the past decade, virtual exchange (VE) has emerged as a method and platform for interdisciplinary teaching (Dovrat, 2022). Its adoption exemplifies academic initiatives aimed at integrating information and communication technologies (ICT) into the classroom to enhance students' intercultural and communicative competencies (Henriksen et al., 2016; Vockley, 2007).

proposed model aims to streamline VE by promoting interdisciplinary collaborations that are guided by a pre-established pedagogical framework that aims to reduce the initial difficulties associated with collaborative curriculum planning. Table 1 outlines the VMTE model that was implemented in binational virtual courses.

Table 1. Virtual Model for Transborder Education (VMTE)

Curricular Plan	
Topics	Main activities
Opening Module (last week of August)	Welcome webinar Formation of international groups Activation of communities of practice
Module 1 University of Arizona (September)	Week 1 Lesson: Introduction to thematic content Comprehension assessment Asynchronous discussion forum Week 2 Lesson: Expand on the contents of week 1 Synchronous meetings of international groups Webinar hosted by Module Professor Week 3 Outline group project Conduct fieldwork Submit group project
Module 2 Eastern New Mexico University (September-October)	Week 1 Lesson: Introduction to thematic content Comprehension assessment Asynchronous discussion forum Week 2 Lesson: Expand on the contents of week 1 Synchronous meetings of international groups Webinar hosted by Module Professor Week 3 Outline group project Conduct fieldwork Submit group project

(continue)

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Module 3 Universidad de Sonora (October)	Week 1 Lesson: Introduction to thematic content Comprehension assessment Asynchronous discussion forum Week 2 Lesson: Expand on the contents of week 1 Synchronous meetings of international groups Webinar hosted by Module Professor Week 3 Outline group project Conduct fieldwork Submit group project
Module 4 CETYS Universidad (November)	Week 1 Lesson: Introduction to thematic content Comprehension assessment Asynchronous discussion forum Week 2 Lesson: Expand on the contents of week 1 Synchronous meetings of international groups Webinar hosted by Module Professor Week 3 Outline group project Conduct fieldwork Submit group project
Module 5 Final project (November- December)	Synchronous meetings of international groups Final Project Outline and Work Plan Submission of the Final Project
Closing module (2nd week of December)	Final remarks Closing webinar

Source: Own elaboration based on the course design implemented by the participating universities.

The design of the VMTE seeks to promote binational collaboration and strengthen transborder communities through academic exchanges carried out among communities of practice located in different geographical and institutional contexts. The model is sustainable as it does not depend on international travel funds allotted for professors or students, it takes an iterative approach to international exchange by encouraging institutions to commit to integrating the project into an existing course, and it can be taught by professors from a diverse academic background. Furthermore, it breaks away from VE models that are based on one-time international exchange projects as well as courses that are so highly specialized that only certain field-specific professors and students may participate (for example, practicing a second language, learning specific aspects

of international business, etc.). The flexible content modules allow for curricular diversification as binational student cohorts determine relevant topics for their collaborative learning experience and create spaces for peer learning. The theoretical foundations for the design of the model are detailed in the following section.

Communities of Practice

Communities of Practice (CoPs) are characterized as groups of individuals who consistently exchange insights, practices, and experiences in order to enhance their expertise in a specific subject area (Wenger, 1998; Wenger et al., 2002). In the field of virtual education, Hanson-Smith (2016) outlined several essential components of successful online CoPs such as establishing collaborative academic endeavors, using shared communication tools, participating in social reinforcement practices, and providing peer mentorship. The VMTE proposed in this article not only includes the aforementioned essential components for creating CoPs, but also cultivates an environment of belonging and mutual respect among students.

To facilitate the formation of this transborder CoP, students utilize the same virtual platform which houses all course materials, along with virtual communication tools such as video calls and discussion forums. The course content is divided into four thematic modules, each led by an expert professor in the respective discipline (e.g., global citizenship, history, economics, fine arts). Following the completion of each thematic module, binational peer groups divide into teams to create a collaborative project related to the material studied. An analysis of the VMTE content underscores the significance of incorporating the three recommended points of contact for virtual education: student-content interaction, student-instructor engagement, and student-peer collaboration (Quality Matters, 2018).

While many VE practitioners prefer projects lasting four to six weeks (King Ramírez, 2022), the VMTE requires a commitment of 16 weeks, the equivalent of one academic semester. Whether virtual or in-person, this extended duration is crucial to the process of establishing a sense of transborder community- a task that requires a significant time investment, consistency, and maintenance. Moreover, conducting a VE program that spans an entire semester maximizes the opportunities for students to experience the ups and downs of community building while moving through the various phases of group development (Tuckman, 1965): forming, storming, norming, role adoption, performance, and group dissolution.

Intercultural Communicative Competence

In our increasingly interconnected world, the incorporation of Intercultural Communicative Competence (ICC) pedagogies has become a common practice for teaching students to engage in democratic, ethical, and responsible interactions at local and global levels (Leiva Olivencia & Márquez Pérez, 2012). Competencies associated with ICC are those that support the development of cognitive, affective, and behavioral skills aimed at enhancing the effectiveness of encounters between individuals with diverse perspectives and worldviews (Deardorff, 2006; Fantini, 2009). For

the context of international education, it is important to consider Byram's (1997) proposal that ICC require the acquisition of additional languages (aside from one's native tongue) as a fundamental objective.

The current study supports Byram's ICC model and proposes that language acquisition forms an integral part of transborder education models. Using linguistic competencies (in two or more languages) can enhance overarching course goals while aiding in the development of ICC competencies such as establishing meaningful peer communication, developing international relations, and identifying opportunities for civic participation. This is especially important in the context of the U.S. and Mexico where linguistic barriers have historically presented challenges for binational initiatives given the overwhelmingly monolingual populations of both nations- less than 15% of the general population speaks the language of their neighboring country (Dietrich & Hernández, 2022; Simpson, 2022). In the United States, the low rate of Spanish-English bilingualism is attributed to a long history of sociocultural practices and political policies that discriminated against Mexicans who spoke Spanish in public spaces as well as a lack of support for bilingual programs in primary schools. Consequently, Spanish is often perceived as a language of inferior status and thus is reserved for familial and domestic contexts (Pérez et al., 2006). Conversely, in Mexico, the acquisition of English has traditionally been limited to the economically privileged, individuals able to cross the border, or those attending private bilingual schools (Reyes Cruz et al., 2011).

Despite acknowledging colonialist patterns that have historically favored English speakers, academia continues to favor the use of English as the lingua franca in most international exchanges (Gácel-Avila, 2018). The establishment of ICC-focused academic programs fills the void for international exchanges that promote intercultural and bilingual literacy. Consequently, the VMTE can emerge as an ideal model for U.S. and Mexico academic exchanges as it disrupts conventional paradigms by fostering inclusivity for Mexican students who do not speak English and recognizes U.S.-based heritage or second language learners who aspire to undertake academic studies in Spanish.

Transnational Curriculum Inquiry

The VMTE introduces inclusive practices in transborder education by including students who lack mobility options, thereby providing opportunities for internationalization at the curricular level. The model was crafted in keeping with transnational curriculum inquiry (Gough, 2007), which aims to establish collaborative platforms among academics and students from diverse national and geographical backgrounds. Within this pedagogical framework, the traditional notion of *curriculum content* as static knowledge is eschewed in favor of creating agile and dynamic spaces where academic content is flexible, adaptable, and draws from various theoretical and conceptual perspectives.

Similarly, the VMTE addresses the cognitive dissonance experienced by borderlands students who are subject to unfavorable social constructs of transborderism. By including these students in content development, transnational curriculum inquiry provides an avenue to challenge and decentralize the colonial patterns that portray higher education institutions as agents of absolute power in the creation and dissemination of knowledge (Quijano, 2007; Odora-Hoppers & Richards, 2011).

This academic model aims to center learning around peer collaboration through fostering dialogue, communication, and the exploration of sociocultural perceptions. Through this learning process, the VMTE can ultimately reshape one's understanding of the transborder space. Le Grange (2019) terms this teaching approach as cognitive justice, highlighting the importance of coexistence and co-creation within the academic curriculum. This model is especially important in transborder contexts as it validates students' lived experiences and highlights how those experiences support or negate established academic canons.

ANALYSIS OF STUDENT EXPERIENCES WITH THE VIRTUAL TRANSBORDER MODEL

This section provides an analysis of data gathered from the initial two iterations of the VMTE, aiming to illustrate the breadth of this educational venture. First, the profile of students enrolled in courses structured around the model is outlined. This is followed by a summary of the sociocultural topics researched by transborder teams during the VMTE. Subsequently, the experiences of students engaged in collaborative work with transnational groups are examined. Lastly, there is an analysis of student skill development as well as the collaborative tools used for this VE project.

Methodology

This article employs a case study approach focusing on students who took part in the initial two iterations of the VMTE (2021, 2022). This method was selected due to the limited existing research detailing the experiences of students who engage in academic collaboration with peers from neighboring countries. The courses analyzed in this case study were conducted in Spanish for both groups of students, those enrolled in Mexico and the United States. At the outset of the course, students were invited to participate in the research by completing a survey designed to gather data on their sociocultural profile.

A content analysis was conducted based on a series of activities integrated into the course. This process involved identifying recurring experiences and themes expressed by the students, enabling the formulation of preliminary conclusions regarding the reception of the course, its design, and its contents. Through this case study, the aim is to formulate recommendations for implementing pedagogical approaches suitable for online transborder courses.

Instruments

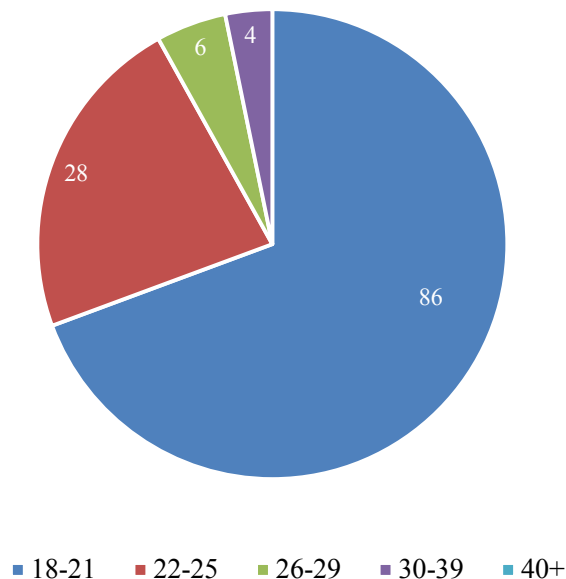
The data collection process consisted of three interventions conducted throughout the course. Initially, upon accessing the digital platform of the course, students were presented with a survey in which they were to describe their personal profile (age, race, gender, academic level, etc.). The survey explicitly stated that the provided data would be used anonymously for various course activities for strictly academic purposes.

Throughout the semester, binational teams identified research topics at the conclusion of each curriculum module and prepared group presentations. The topics of the four module presentations were analyzed to identify areas of interest determined by the binational groups themselves. Finally, the reflections written by the students at the culmination of the course were examined. These reflections were composed of five open-ended questions in which students recounted their experiences with the course content and with their binational peers.

Participants

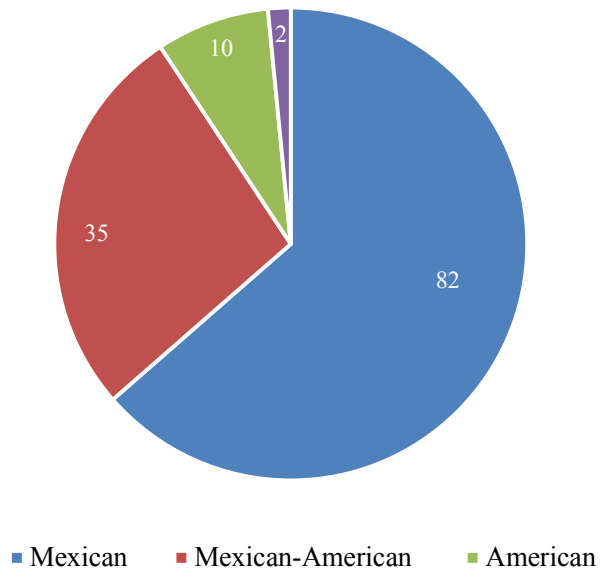
The academic profile of 127 students who participated in the first two editions of the model, which occurred in 2021 and 2022, is presented below. As depicted in Graph 1, the average age of participating students ranged from 18 to 21 years (67%), followed by 28 students within the range of 22 to 25 years (22%). Additionally, there was the participation of 14 students over 26 years old, albeit to a lesser extent (11%).

Graph 1. Age of Participants



Source: Own elaboration based on socio-demographic data of the participants.

Graph 2. Ethnic Identification of the Participants



Source: Own elaboration based on socio-demographic data of the participants.

In Graph 2, it is evident that 82 students (65%) identified themselves as Mexican, 34 as Mexican-American (27%), 9 as American (7%), and 2 reported themselves as “other” (1%) (one identified as Spanish-American and the other as Panamanian).⁶

Table 2. Academic Profile of the Students

		University affiliation							
CETYS Universidad		Universidad de Sonora (UNISON)		University of Arizona (UA)		Eastern New Mexico University (ENMU)			
cases	%	cases	%	cases	%	cases	%		
42	33	40	31	38	30	7	6		

		School semester							
1-2		3-4		5-6		7-8		Graduate School	
cases	%	cases	%	cases	%	cases	%	cases	%
10	7	43	34	20	16	48	38	6	5

Source: Own elaboration based on socio-demographic data of the participants.

The data presented in Table 2 highlights that the majority of students (64%) came from Mexican universities, while 36% were from U.S. universities. Also, 38% of the students were in their fourth

⁶ In this context, the term “American” refers to a citizen of the United States.

year (semesters 7-8) of university studies at the time of taking the transborder course, followed by 34% who were in their second year of studies.

In Table 3, the academic programs pursued by the participants are depicted. It is noteworthy to mention that each university extended the use of its facilities to ensure the course was delivered optimally. The findings reveal greater interest among students in business and economics programs (26%); law (25%); languages and cultures (22%); and sciences and medicine (18%). It is important to note that none of the participating instructors hailed from the fields of law or sciences and medicine.

Table 3. Academic Programs

Program	Participants
Business and Economics	26
Law	25
Languages and Cultures	22
Science and Medicine	18
Engineering	9
Education	5
Graphic Design	3
Technical Market	3
Communications	3
Social Sciences	3
International Relations	2
Social Work	2
Business Administration	2
Total	123

Source: Own elaboration based on socio-demographic data of the participants.

It is observed that students chose to participate in the virtual exchange for two main reasons: on one hand, personal interest (47%), and on the other, the opportunity to collaborate with peers from the neighboring country (34%).

RESULTS AND DISCUSSION⁷

Personal Experiences of Participating Students

Table 4 presents the responses regarding the reasons students enrolled in the collaborative binational course.

⁷ The four subsections within this section correspond to the specific objectives of the research.

Table 4. Reasons for Enrolling in the Course

	Cases	%
I found it interesting	60	47
I want to work with international peers	43	34
It is a requirement for my career	20	16
Other	5	4

Source: Own elaboration based on socio-demographic data of the participants.

To ascertain the transborder experiences of the participating students, they were questioned about their interactions with individuals residing in the neighboring country, as well as their personal experiences on the other side of the border. Tables 5 and 6 depict the number of students who have traveled to the neighboring country and the reasons for those visits.

Table 5. Trips to the Neighboring Country

	Yes		No	
	cases	%	cases	%
Have you traveled to the neighboring country?	109	85	19	15
Do you have family in the neighboring country?	98	77	30	24

Source: Own elaboration based on socio-demographic data of the participants.

These data confirm that the majority of participating students (85%) had firsthand experience in their neighboring country. The reasons for visiting the country included vacations (47%) and family matters (34%). To contextualize the reasons for the visits, it is worth noting that over 75% of students have relatives residing on the other side of the border.

Table 6 illustrates that a small number of students (14%) had academic experiences in the neighboring country, and only a few had work experiences (5%).

Table 6. Reasons for Visiting the Neighboring Country

	Vacation		Visit family		School		Work	
	cases	%	cases	%	cases	%	cases	%
Why have you traveled to the other side of the border?	98	47	71	34	29	14	11	5

Source: Own elaboration based on socio-demographic data of the participants.

On the other hand, Table 7 presents data related to the experiences of students who have attended academic institutions in the neighboring country. It is noteworthy that only 15% had attended school in the neighboring country.

Table 7. Binational Academic Experience

	No/Don't Know		Yes	
	cases	%	cases	%
Have you had teachers from the neighboring country?	104	81	24	19
Have you previously worked in a virtual exchange with peers from another country?	105	82	23	18
Have you attended school in the neighboring country?	108	85	19	15

Source: Own elaboration based on socio-demographic data of the participants.

As evident from the presented data, the opportunity to attend school in person correlates strongly with the likelihood of collaborating with peers from another country and being taught by a teacher from across the border. In summary, more than 80% of the participating students had never collaborated with peers or been taught by teachers from the neighboring country, underscoring the limited academic engagement with the neighboring region.

Conversation Topics

One of the aims of the VMTE was to prompt students to share their own experiences and perspectives to foster conversations that inspire critical dialogue and content creation. To achieve this, students were given the freedom to select the focus topics for their group projects. This section emphasizes the topics chosen for group presentations and integrative works to uncover the sociocultural processes explored by transborder teams.

To streamline the classification process of the most pertinent student topics, they were documented and categorized by each group during the two editions of the course (2021 and 2022). Table 8 displays the eight most frequently addressed topics in the collaborative works presented in the course.

Table 8. Group Research Topics (N 89)

Topics	%
1. Migration/migrants	24
2. Transborderism/global citizenship	16
3. Economy	14

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4. The wall/the border	8
5. History of the Mexico-U.S. border	7
6. Drug trafficking/crime	9
7. Health systems/pandemic	7
8. Education/educational systems	5

Source: Own elaboration based on socio-demographic data of the participants.

Roughly half of the groups (49%) demonstrated interest in investigating three main topics: migration, transborderism/global citizenship, and the economy. It is unsurprising that migration is a topic of high interest, given that over 75% of this student group reported having relatives in the neighboring country. Additionally, this topic is perhaps the most widely covered in the media and prominently featured on the agenda of both countries' governments, especially in light of recent caravans of Central American migrants. The second and third topics are integral to border life, although they may not garner as much attention in media headlines. The economic topic encompassed discussions on wage inequality between the United States and Mexico, economic interdependence between both countries, and the free trade agreement; whereas the transborderism category explored themes related to coexistence and sociocultural exchange between citizens of both countries.

Topics related to drug trafficking and the border wall ranked fourth and fifth, respectively, despite often being polarizing and controversial in media coverage. It is notable that these topics did not rank among the top three most important for students residing in border states. In light of this, it is worth questioning why these issues tend to capture media and popular interest among those living far from border areas.

Finally, a smaller percentage of students opted to research topics that directly impact their daily lives, such as inequality in access to vaccines during the COVID-19 pandemic, significant disparities in the cost of education, and racism.

INTERCULTURAL COLLABORATION SKILLS

This section aims to analyze the development of intercultural collaboration skills by examining both the individual reflections of the students and the evaluation of group dynamics. The questions and answers labeled with letters A, B, C, and D correspond to the analyzed categories.

Group Collaboration Techniques

To identify patterns in the responses to question A, which pertains to group collaboration techniques, the responses were organized based on keywords and coded accordingly. Keywords included

synchronous and asynchronous communications, scheduling, agendas, and work plans. The following excerpt contains excerpts from individual reflections.

A. What measures did the team take to ensure that everyone could contribute ideas during the meeting?

Synchronous and Asynchronous Communications

We used shared documents, ensuring that while one person was drafting their part of it, others could provide immediate feedback to ensure alignment with the topic (Student 11, personal communication, December 5, 2022)

We conducted brainstorming sessions followed by discussions to gauge the overall reception of ideas (Student 53, personal communication, December 5, 2022)

We took turns expressing our thoughts, presenting ideas, and addressing points of agreement or disagreement with others' perspectives (Student 22, personal communication, December 5, 2022).

We convened to research and compare information, providing assistance to those encountering difficulties in sourcing required data (Student 17, personal communication, December 5, 2022).

Outside of our scheduled meetings, my international group extensively discussed linguistic and cultural aspects of our respective countries, exploring similarities and differences (Student 5, personal communication, December 5, 2022).

Schedule Organization

We agreed on the specific points each person would address and the information they would research (Student 18, personal communication, December 5, 2022)

We scheduled a meeting day to review and discuss our planned activities (Student 13, personal communication, December 5, 2022).

Agendas and Action Plans

We coordinated our discussions in advance via WhatsApp and devised a plan for our meeting agenda (Student 31, personal communication, December 5, 2022).

The team employed various techniques, including problem visualization, idea exchange, and action plan creation (Student 79, personal communication, December 5, 2022).

While the course program mandated synchronous meetings for transborder groups every 15 days, students made extensive use of asynchronous tools to foster ongoing dialogue among group members. These tools included shared documents (Google Docs) and text messaging (WhatsApp), which significantly complemented synchronous meetings. Moreover, these meetings were utilized for information retrieval, idea comparison, and project advancement. To optimize synchronous

meetings, students emphasized the importance of coordinating schedules to ensure the availability of all members and drafting agendas outlining the topics to be discussed.

Linguistic or Cultural Challenges

Responses to question B, regarding linguistic or cultural challenges, were categorized based on the specific difficulties encountered by the groups during collaboration. Here are excerpts from the group evaluations:

B. Describe a situation where you needed clarification due to linguistic or cultural differences.

In this context, the linguistic challenges encountered by the groups in communication are emphasized. There was a noted necessity to seek clarification from the speaker when a word was not comprehended or when the appropriate term was uncertain. This indicates that, predominantly, communication hurdles among peers stemmed from lexical matters: “There were several instances when my classmates didn’t grasp what I meant, prompting me to clarify my intended message” (Student 80, personal communication, December 5, 2022).

At times, we encountered situations where we couldn’t recall a specific word in Spanish, so we expressed it in English to convey the intended meaning. Additionally, when discussing educational levels, there was uncertainty about the equivalent of “middle school” in the Mexican system (Student 28, personal communication, December 5, 2022).

Individual issues regarding comprehension of course materials, such as instructions and readings, were also mentioned. In these instances, students sought assistance and clarification from their peers: “I needed assistance with understanding the instructions and certain phrases I wanted to incorporate into my presentation. They seemed unclear to me” (Student 44, personal communication, December 5, 2022).

It’s noteworthy that students acknowledged how linguistic challenges hindered both speakers and listeners from comprehending messages. Both parties recognized their responsibility in fostering effective communication: “There were instances when they asked me questions for assistance with a project or group presentations. At times, I had to request them to repeat the question because I didn’t grasp the message initially” (Student 93, personal communication, December 5, 2022).

A colleague from the neighboring country posed a question, but I struggled to grasp her meaning due to the phrasing she used. However, I endeavored to respond courteously and offered a couple of answers that I believed might address her query. Primarily, I aimed to avoid appearing disrespectful or uncomfortable by admitting that I genuinely didn’t understand her question (Student 10, personal communication, December 5, 2022).

Although the challenges predominantly revolved around language, they also underscored socio-cultural differences among group members. Even when linguistic barriers were absent, students observed disparities in how each group organized itself to accomplish shared projects. A common theme was the understanding and handling of time to meet deadlines: “Culturally, I noticed a

distinct approach to time management; here it's very linear, whereas in Mexico, it's more flexible" (Student 36, personal communication, December 5, 2022).

It might occur during the research phase because of the variations between countries. Many institutions or media have different names or operate differently, so we often clarified uncertainties about how things work in each country. For instance, health institutions or universities and their operations (Student 84, personal communication, December 5, 2022).

Setting aside linguistic and cultural disparities, the groups delved into topics that were prone to misunderstandings due to lack of knowledge. These instances emerged when exploring subjects or events deeply ingrained in the neighboring country, such as discrepancies in governmental management concerning the COVID-19 pandemic or disparities in university cultures between the two countries:

In activities that required analyzing the current situation in light of the pandemic and each country's response to it. Having citizens with dual nationality between the United States and Mexico sparked discussions about lockdown management and public health (Student 67, personal communication, December 5, 2022).

Impediments to Participation

While most transnational groups successfully navigated the various obstacles they encountered and carried out collaborative work, there were instances where participation in group projects was hindered. The percentages below indicate the number of students who reported not participating in any collective activity. Table 9 presents the results grouped under the category of impediments to participation.

C. What are the reasons why you did not participate in some of the course activities? You can select more than one (53 responses).

Table 9. Impediments to Participation

	Cases	%
Technical problems	17	32
I don't know the topic	12	23
Language issues	9	17
Other	8	15
I don't have time	7	13

Source: Own elaboration based on surveys conducted by the participants.

The data indicates that the most significant impediment (32%) to carrying out activities was technical issues. Students frequently encountered connectivity problems, particularly during synchronous meetings. The second most cited reason (23%) was a lack of knowledge on the topic.

This response underscores the importance of reviewing various aspects of the course to assess whether the content level is overly advanced or if the lack of participation stemmed from anxiety related to specific topics.

Despite the reported misunderstandings and requests for clarification, only a small percentage of students (17%) ceased their participation due to communication or language proficiency issues. A smaller number of students (15%) attributed their lack of participation to reasons not covered in the survey; some cited difficulties with group organization. For instance, students 10 and 24 expressed challenges in communication within their groups: “Many times we schedule a meeting and agree on the time, but at the last minute, they decide to change it” (Student 10, personal communication, November 28, 2022); “My peers either don’t respond to messages or reply late on Sunday nights” (Student 24, personal communication, November 28, 2022). On the other hand, student 51 mentioned scheduling difficulties due to family responsibilities: “Due to time zone differences and taking care of my 9-month-old son, I try to be as flexible as possible, but it’s not always feasible” (personal communication, November 28, 2022). Finally, 13% of students reported not having enough time to complete the course activities.

Attitudes and Knowledge Acquired in the Course

The responses to question D were organized according to the attitudes and knowledge acquired by the students who participated in the VMTE. The following sections contain excerpts from their personal reflections.

D. What opinions or attitudes did you change as a result of interactions with your peers? What experiences would you share?

At the end of the semester of activities with peers from the neighboring country, the participating students acknowledged changes in their knowledge and attitudes. The initial observations are directly related to the process of carrying out binational collaborative work. Several students highlighted differences in the use and availability of technologies and how these differences influenced how, when, and where activities were conducted together: “I realized that in Mexico there is not as much flexibility with technology, which made me appreciate my situation” (Student 13, personal communication, November 28, 2022).

Likewise, regarding the course activities, a student questioned the prestige assigned to institutions from different countries.

I think my opinions towards students from other countries changed. It helped me understand that the type of work in their classes is the same, and I don’t understand why a degree from a U.S. school is more prestigious than one from another country if we do the same work (Student 39, personal communication, November 28, 2022).

In addition to stereotypes related to the academic rigor of the Mexican educational system, binational collaborations challenged common concepts about the tendency of Americans to practice racism and discrimination: “I had the idea that xenophobia was more prevalent and that

Americans would not be as willing to work with Mexican peers” (Student 81, personal communication, November 28, 2022).

The academic exchange not only influenced the ideologies of the students but also the way in which the participating students managed themselves in the workgroups. The excerpts from this section show that students not only noticed these differences in schedules and work methods (as mentioned in previous sections) but, according to these observations, modified their behavior to achieve more effective group work: “I worked a lot on my patience to deal with technological problems and schedules with my peers. It’s complex to organize ourselves to work together and at the same time” (Student 43, personal communication, November 28, 2022).

Above all, my perception changed regarding the methods of delivering work and the way I communicate with my peers. Personally, I am someone who works slowly, but through interactions with my classmates, I learned to improve my time management (Student 56, personal communication, November 28, 2022).

I’ve learned to understand people’s time. I find it a bit difficult to trust teamwork, especially with people I don’t know, but I tried not to pressure them to do the work at the same time as me because it’s understood that we don’t all have the same schedules, and in the end, we can solve it and finish the work on time (Student 27, personal communication, November 28, 2022).

In addition to adjusting their expectations of others and their own work rhythms, students began to avoid attitudes that could offend their counterparts from the neighboring country.

I moderated my way of expressing myself regarding the neighboring country because I often criticize it, but I didn’t want my classmates to feel offended in any way; on the contrary, I wanted them to feel that I was open to hearing their opinions, and they did the same on their part (Student 92, personal communication, November 28, 2022).

The experience I had was changing my attitude towards group work. Sometimes, I get nervous interacting with others, especially when I haven’t spoken Spanish in a while. But, I changed my attitude to be more open-minded (Student 88, personal communication, November 28, 2022).

In summary, students documented ideological changes that later resulted in behavioral modifications to perform better as members of a binational group.

CONCLUSION

The present study explores the notion of transborderism characterized by active involvement in the cultural, political, and economic realms of two nations (Vélez-Ibáñez, 2010). In this sense, transborder citizens are those that regularly participate in communities that surpass the physical confines of their respective countries. Despite dozens of thriving communities located along the U.S.-Mexico border, there are very few academic programs dedicated to enhancing students' knowledge of their neighboring country as well as their sense of transborderism. Initiatives that address this problem would consist of learning environments that transcend the physical border to foster binational dialogue as well as civic collaboration.

In an effort to promote inclusive, sustainable spaces for transborder dialogue, the authors of the current study challenge academic institutions to proactively seek and promote opportunities to incorporate transnational inquiry within existing curricular frameworks (Gough, 2007). In keeping with this pedagogical approach, the virtual education model outlined in this article (VMTE) provides a blueprint for the creation of peer learning environments in which academic coursework can be adapted to reflect the experiences and perspectives of binational students. Moreover, the model prioritizes pedagogical approaches such as the cultivation of communities of practice (Wenger, 1998) and the development of intercultural communicative competencies (Byram, 1997).

The case study revealed that the VMTE serves as a platform for democratizing knowledge, allowing students to engage in discussions about the challenges and potential scenarios they may encounter as professionals and community members who live in proximity to the U.S.-Mexico border. Particularly noteworthy is the fact that the courses were conducted in Spanish, catering to students from both Mexico and the U.S. This linguistic approach facilitated effective communication among individuals with diverse language backgrounds and encouraged the continued development of intercultural communication skills. Furthermore, that data collected demonstrated that students gained an enhanced capacity for time management, greater flexibility, and the ability to collaborate with peers with diverse work ethics. Additionally, students exhibited resilience in overcoming technological barriers as well as sociocultural biases concerning their neighboring country.

The experiences recounted by the VMTE participants challenge traditional teaching practices and institutional approaches that address border issues from a unilateral perspective in which the national experience is prioritized. Instead, this model required students to explore border issues from both U.S. and Mexican viewpoints. Consequently, this study prompted students to reflect on how complex transnational issues may be addressed through interdisciplinary collaboration that respects the diverse actors and dimensions involved. Ultimately, the implementation of transborder education models like the VMTE affords binational students increased opportunities to connect their personal experiences with academic and professional endeavors.

Translation: Erika Morales.

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