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# **Development of an International Labor Migration Simulation Game: Toward Fostering an Inclusive Work Environment**

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## **Development of an International Labor Migration Simulation Game: Toward Fostering an Inclusive Work Environment**

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### **Abstract**

This study developed and evaluated an educational board game simulating the pre-departure process of international labor migration, designed to foster inclusive team cultures in Japanese organizations. Through semi-structured interviews with 128 prospective Indonesian migrant workers and 30 stakeholders, we identified five major themes regarding challenges the pre-migration preparation phase, which subsequently informed the development of a simulation game that incorporates empirically documented risks and opportunities across the nine essential preparation steps. The game was trialed with 11 members of multicultural teams in Japanese organizations. The evaluation results demonstrated the game's effectiveness in promoting enhanced recognition of multi-level risks, emotional responses that paralleled real-world risk events, and a deeper understanding of migration dynamics. However, learning outcomes varied based on the participants' prior knowledge, suggesting the need for calibrated complexity levels. The study concludes that simulation-based learning can effectively facilitate the understanding of migration experiences and promote inclusive organizational environments while highlighting areas for future development, including structured debriefing protocols and long-term impact assessment.

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**Keywords:** Labor migration, Inclusive society, Education tool, Multi-cultural understanding

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## 1. Introduction

Demographic shifts precipitated by aging populations and declining birth rates have precipitated widespread labor shortages across developed economies. Japan exemplifies this global challenge, with projections indicating a substantial workforce deficit, requiring approximately 6.88 million migrant workers by 2040 (JICA Ogata Research Institute, 2024). This demographic transition necessitates the cultivation of inclusive organizational climates while effectively managing cultural diversity introduced by migrant workers, which must be strategically addressed by Japanese organizations.

Empirical research has consistently demonstrated that inclusive organizational environments significantly enhance workers' self-efficacy, with cultural diversity introduced by migrant workers contributing substantially to operational outcomes (Ng et al., 2023; van Riemsdijk & Basford, 2022). However, migrant workers in Japanese workplaces face several challenges, including language-based barriers to accessing information crucial for career advancement and efficient task execution (Conrad & Meyer-Ohle, 2022; Hof & Tseng, 2020); pressure to conform to Japan's collectivist workplace culture (Conrad & Meyer-Ohle, 2022; Hof & Tseng, 2020); discomfort with Japanese employment practices, such as seniority-based systems and lifetime employment (Matanle, 2003; Rebeck, 2005); and ambiguity in role expectations (Okamoto et al., 2008).

Japanese organizations face significant challenges in implementing effective multi-cultural management strategies for diverse teams. Research indicates that fostering an inclusive organizational climate requires a paradigm shift from passive expectations of migrant worker adaptation to proactive integration strategies centered on cultural synergy (Ertorer et al., 2020). Cultural synergy is built upon shared fundamental elements, transcending mere recognition of differences to establishing perspectives and requiring engagement in collaborative efforts to identify solutions that satisfy all team members' interests; this would facilitate collective success and advancement to enhance an organization's multi-cultural management capabilities (Moran et al., 2014). This transformation requires both inclusive leadership approaches and flexible role definitions (Koyama, 2022). Workplace leaders must actively leverage the diverse identities of team members to facilitate this change. Essential to this process is the development of "mobile cognition"—the capacity for perspective shifting—and "tolerance" for diverse backgrounds, functioning as mediating mechanisms between Japanese workplace constraints and migrant worker integration (Guzmán-Rodríguez et al., 2023; Ishiguro, 2012). These multi-cultural competencies ultimately facilitate respectful engagement among multicultural team members (Blanche & Dupuis, 2019; Brett et al., 2006; Crul et al., 2023; Orsini & Magnier-Watanabe, 2023; Schut & Waldring, 2023).

The attitudes and behaviors of host society members significantly influence the development of inclusive organizational climates (Mas’udah, 2020), emphasizing the importance of understanding international migrant workers’ experiences. International labor migration represents a transformative life event affecting both migrants and their families, encompassing complex processes involving multiple stakeholders, including sending agencies, receiving organizations, governments, and diaspora communities. Migrants frequently encounter challenges, including restricted access to rights-related information and legal frameworks, concerns about excessive fees (Leppink, 2018), employment stability uncertainties (Mishra, 2021), adaptation pressures to different social norms (Lindert et al., 2009; Mucci et al., 2019), and family separation while managing both personal and familial expectations (Hoppe & Fujishiro, 2015).

A comprehensive understanding of these complex dynamics requires interactive learning environments that enable direct dialogue between migrants and local workers to explore their shared cultural and personal experiences (Consterdine, 2023; Mironova et al., 2020). Board games have emerged as powerful educational tools to create collaborative environments and understand complex social issues. Due to their interactive nature, these games effectively combine elements of entertainment with substantive learning outcomes, enabling participants to engage in and comprehend intricate social dynamics in an accessible format.

The efficacy of games as educational instruments for comprehending social issues across diverse domains, including human rights education (Dima et al., 2022), and the facilitation of intercultural exchange in ancient civilizations (Crist et al., 2016), has been substantiated. These empirical findings collectively corroborate the pedagogical value of game-based learning methodologies in promoting understanding of complex social phenomena (Bayeck, 2020; Sousa, 2024). Chen et al (2021) developed a board game simulating an environment wherein participants assume the roles of hypothetical corporate executives who utilize chemical elements and technologies to develop products for everyday consumption. The outcome of the gameplay demonstrates that participants not only acquire chemical knowledge but also enhance their problem-solving capabilities through collaborative teamwork, as they formulate chemical solutions for contemporary societal challenges, such as environmental sustainability and resource conservation.

This study aims to develop and empirically evaluate an “International Labor Migration Simulation Game” designed to simulate the pre-departure process of international labor migrants, facilitating comprehension of the complex challenges they face throughout migration journeys. By creating an interactive learning environment, the game facilitates participants’ deeper understanding of the experiences of migrant workers. To promote this deeper understanding of migrant workers’ cultural and personal migration experiences, focusing on the pre-departure process is important. The challenges that migrant workers experience and encounter, arising from the gap between their

expectations and the realities of the workplace (Brekke & Brochmann, 2015) are shaped by the various risks they encounter before migration and constitute a decisive factor in forming their overall migratory experience (Carling & Schewel, 2017). The risks they face reflect the socio-cultural dynamics of their home societies and serve as fundamental motivations for seeking employment abroad (Castles, 2010). Since promoting cultural synergy is difficult without a thorough understanding of these underlying motivations, the game emphasizes the processes occurring before migration.

This study specifically examines the game's effectiveness and evaluates its potential as an educational tool for enhancing multi-cultural management capabilities in Japanese organizations by facilitating understanding of international migrant workers' experiences.

The research encompasses three interconnected phases: (1) a comprehensive identification of the challenges faced by prospective international migrant workers during their preparation process serving as the foundation for realistic content development of the board game; (2) the systematic design and development of a board game that incorporates these identified challenges into its mechanics and narrative structure; and (3) rigorous empirical trials with multi-cultural teams operating within Japanese corporate environments characterized by traditional organizational norms and practices (hereafter referred to as multi-cultural team) followed by evaluations of the effectiveness of the game in fostering cross-cultural understanding.

This research represents a component of a comprehensive initiative aimed at developing educational simulation games designed to address challenges inherent in international labor migration from the perspectives of both sending and receiving countries. We recognize that safe and effective international labor mobility necessitates capacity building for both migrants and host environments. Currently, we are concurrently developing two complementary versions: (1) a "sending country version" intended to enhance migration literacy and capabilities among potential migrants, and (2) a "receiving country version" designed to foster inclusive workplace environments in host nations. While both versions share a common empirical foundation, this paper specifically focuses on the "receiving country version" targeted at Japanese organizational contexts. The sending country version is presently under development for implementation in Indonesia.

## **2. Analysis of Perceived Challenges and Opportunities in the Pre-migration Preparation Phase**

### **2.1 Methods**

Between 2023 and 2024, semi-structured interviews were conducted with prospective international migrant workers and stakeholders involved in the migration process. Interviews lasted 60–90 minutes and were conducted by researchers trained in semi-structured interviews.

The interviewers employed minimal intervention and sought clarification only when responses required additional context.

### **2.1.1 Participants**

A total of 121 prospective Indonesian international migrant workers and 30 stakeholders involved in international labor migration (15 government officials and 15 sending agency representatives) were recruited. Indonesia was selected because of its status as one of the significant labor migration source countries for Japan, with a highest absolute increase of 169,539 Indonesian workers compared to the previous year, representing a 39.5% growth rate, the second highest percentage growth among major sending countries (Ministry of Health, Labor and Welfare, 2024).

### **2.1.2 Interview protocols**

Participants were asked to describe the challenges encountered during the international labor migration preparation process. The interview questions were tailored to the participants' roles and positions.

### **2.1.3 Ethical considerations**

Prior to the interviews, participants were assured of their anonymity and informed that the findings would be compiled into a report to benefit future international migrant workers. Only individuals who provided written informed consent through signed consent forms participated in the interviews. This study was approved by the JICA Ogata Sadako Research Institute for Peace and Development Ethics Review Committee (Registration No. JICADI202403010002).

### **2.1.4 Analysis**

We conducted a reflexive thematic analysis using a qualitative descriptive approach. This method identifies patterns relevant to the research question through data familiarization, coding, theme development, and revision. To ensure analytical reliability, triangulation was implemented by multiple researchers who reviewed the coding process. The primary research question was: "What opportunities and barriers do prospective international migrant workers experience during the international labor migration preparation process?"

## **2.2 Findings**

The analysis yielded five major themes with associated subthemes: (1) difficulty in obtaining information, (2) high financial burdens, (3) complexity and lack of transparency of procedures, (4) gap between employment environment expectations and reality of the working environment, and (5) mental and social stress. Table 1 presents the identified themes and subthemes. The findings for (4) were obtained through interviews with stakeholders involved in international labor migration and retrospective accounts from prospective and experienced Indonesian international migrant workers with prior international migration experience.

**Table 1:** Opportunities and barriers prospective international migrant workers experienced

Themes	Sub themes
1. Difficulty in obtaining information	1.1 Lack of reliable sources of information 1.2 Dependence on word of mouth 1.3 Dependence on agents
2. High financial burdens	2.1 Double charging of the training fee 2.2 High sending fee 2.3 Transportation costs between the local area and the location of the sending agent 2.4 Extended preparation periods resulting in increased accommodation expenses
3. Complexity and lack of transparency of procedures	3.1 Unclear border control by the government 3.2 The quality of the qualification certificates that are accepted differs depending on the local labor bureau. 3.3 Complexity of the registration system 3.4 Dependence on Caro (illegal agent)
4. Gap between employment environment expectations and reality of the working environment	4.1 The job order specifications issued by employers exceed the qualification criteria established by government regulations in the host countries. 4.2 Difficulties in adapting to the required language and skills
5. Mental and social stress	5.1 Family Expectations 5.2 Family separation

The preparation process for Indonesian individuals seeking overseas employment follows nine mandatory steps, as regulated by the Indonesian government:

1. Consultation with family and community
2. Recruiter matching
3. Skills training (including language)
4. Skills testing and qualification acquisition
5. Registration with sending agency
6. Registration in worker profile data system
7. Job matching (with employers)
8. Preparation of required exit documents
9. Pre-departure orientation

The analysis identified challenges and opportunities across all steps of the preparation process. Furthermore, as individuals progress through these steps, their responses to earlier challenges and



opportunities have either positive or negative cascading effects on their subsequent difficulties and opportunities.

### **3. Game Development and Design**

#### **3.1 Design framework**

The board game was developed to deepen the understanding of host society members who have no experience of migration or have had limited contact with migrants, and to understand the perspectives of migrant workers through simulation. The game design was formulated based on challenges and opportunities related to five main themes and fifteen sub-themes identified through stakeholder interviews.

Previous research on educational games for social issues suggests four essential elements: educational content integration, real-life context incorporation, accessible terminology, and discussion-promoting mechanisms (Damani, Sardeshpande, & Gaitonde, 2015). These principles guided our game development process, ensuring that the game would effectively facilitate learning about labor migration experiences.

##### **3.1.1 Educational content integration**

To facilitate the understanding of members in multi-cultural teams—operating within domestic corporate environments characterized by traditional organizational norms and practices—regarding international labor migration, the game design needed to reflect two critical aspects: first, that international labor migration represents a transformative event affecting both migrants and their families' socioeconomic circumstances, and second, that it constitutes a complex process involving multiple stakeholders such as local communities, training centers, sending agencies, and governmental bodies. To incorporate these multifaceted elements, we structured the factors identified through the thematic analysis across three analytical levels—macro government level, meso community level, and micro individual level—to create a comprehensive blueprint that captured the associated risks and benefits at each level.

Given that individual financial factors have emerged as the primary drivers of international labor migration (Theme 2), we integrated pre-departure financial scenarios to illustrate this motivation. Financial parameters were calibrated based on government-regulated sending fees and corroborated through stakeholder interviews with both sending agents and prospective international migrant workers. Moreover, as temporal factors (Theme 2.4) have been identified as significant contributors to negative financial outcomes, with Japan notably requiring longer processing times, we implemented specific game mechanics to simulate these challenges. For instance, players selecting Japan as their destination must skip one round during Steps 3 (Skills and Language Training) and 4 (Skills Testing and Qualification Acquisition), reflecting

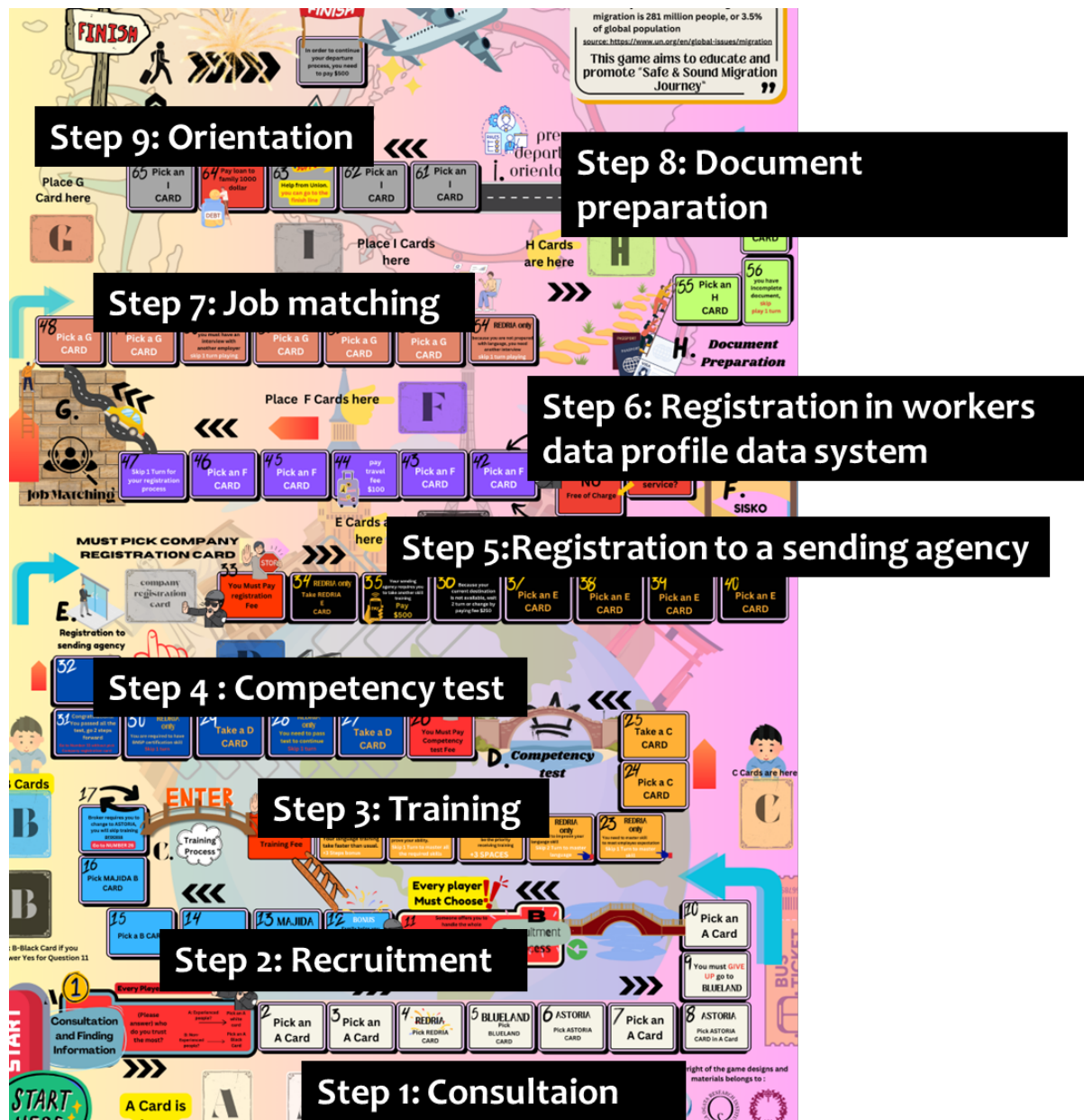
empirically observed patterns of extended preparation periods and frequent retraining requirements.

Many studies have indicated that learning outcomes in simulation-based board games are enhanced through structured post-experience reflection. Accordingly, we incorporated a debriefing session in which facilitators guided participants through a reflective discussion, focusing on three dimensions: emotional responses, cognitive understanding, and the connection between simulated experiences and real-world contexts.

### 3.1.2 Incorporating daily life contexts

We developed a nine-step progression system that was visually differentiated using color coding to enhance comprehension (Saito, 2022) (Figure 1).

**Figure 1:** A board game with each step color-coded



Regarding Step 1, the submission of consent letters from parents, spouse, or community leaders to the government was required. Although the government-mandated pre-departure protocols do not formally include familial consultation or recruitment engagement, our interview findings revealed that the process of obtaining consent letters ultimately led to consultation or recruitment engagement. It means that Step 1 constitutes an essential preliminary phase in the migration

process. Notably, over 90% of the workers reported making critical decisions regarding their desired employment and occupational paths during these initial stages.

Game mechanics integrates a cascade effect system in which decisions and outcomes at each stage influence subsequent opportunities and challenges. For instance, at Step 2 (recruiter matching), players may encounter a scenario involving “Caro”—a locally respected recruiter or broker in Indonesian migration contexts who offers comprehensive procedural management to circumvent complex migration protocols. They assist prospective international migrant workers in completing documentation and connecting with stakeholders, such as sending agencies and employers, often through unofficial channels. While accepting this assistance expedites the registration process in Step 6, it ultimately results in an excessive fee demand in Step 7 (job matching). This scenario exemplifies our approach of incorporating the empirically documented risks associated with an uncritical reliance on familiar community intermediaries.

To maintain authenticity, all game events were derived exclusively from documented interview narratives, reflecting actual experiences embedded within migrants’ pre-departure processes rather than hypothetical scenarios.

### **3.1.3 Using simple and familiar terms**

To ensure accessibility, technical terms specific to international labor migration are accompanied by comprehensive definitions to facilitate player understanding. To simplify technical terminology related to international labor migration, the game incorporates several illustrative examples. As mentioned above, “Caro” refers to informal local intermediaries who provide comprehensive services to navigate complex migration procedures. Given the variety of terms used for this role (recruiter, sponsor, etc.) and the complexity this creates (despite their informal status, these actors support workers, though some engage in exploitative practices), we standardized the terminology to “sponsor,” characterizing them in the game as entities who manage preparation processes on behalf of workers. Similarly, we presented the Indonesian national skills certification test (BNSP), which is widely respected in Indonesia, as “National Certification (BNSP)” to communicate its government-authorized status to players. Additionally, “job matching” was reframed as “employer interview” to concretize its purpose and enhance player comprehension of this critical procedural step. These terminological simplifications facilitate understanding while preserving conceptual accuracy.

### **3.1.4 Creating mechanisms to stimulate discussions among players**

The multi-player board game format inherently facilitates interpersonal dialogue and collaborative learning (Zheng et al., 2021). This interactive dimension is further enhanced through a structured card-drawing system, where players encounter event-based scenarios through instruction cards (e.g., “Paternal opposition to chosen destination country necessitates a two-turn

delay for family negotiations”). These cards are systematically displayed in a designated “information-sharing space” upon selection, with players required to verbalize the content while maintaining visual accessibility for all participants. This mechanism fosters real-time sharing of experiences and emotional responses among players, promoting dynamic discourse throughout the gameplay experience.

### 3.2 Game components and operational procedures

#### 3.2.1 Game components

The simulation comprises four primary components: a main game board, player tokens, dice, and two categories of cards (destination country information and instructions) positioned in designated spaces on the board. Figure 2 illustrates the representative instruction cards.

Destination country information cards include required training costs, administrative procedure fees, contract duration specifications, and wage structures. Five most common destinations for Indonesian migrant workers are included as potential countries.

Instruction cards, which are drawn from designated squares or through prompts, are also featured; players are required to execute the specified instructions upon drawing them. These cards include advantageous scenarios, such as receiving financial support or sudden progress in the migration process, and disadvantageous scenarios, such as unexpected payment demands or process delays. These instruction cards correspond to all migration preparation phases and were color-coded to match their respective squares on the board (Figure 2). Upon completing the instructions, the cards were returned to their designated placement areas.



**Figure 2:** Instruction cards

To simulate the financial dynamics of the pre-departure employment processes, the game incorporates a monetary system managed by a designated banker. Based on empirical data from stakeholder interviews, the baseline starting salary was standardized at 500 US dollars, accounting for regional wage variations. The game incorporates a replicated version of Indonesia’s migrant worker loan system, enabling players to simulate the financial decision-making between securing loans for migration costs and foregoing international employment opportunities.

### 3.2.2 Expected participants

The simulation game required a minimum of five participants, with each player representing a distinct destination country. To maintain an optimal gameplay duration, when participation exceeded 11 individuals, the participants were organized into country-specific teams, each functioning as a single playing unit. Each game board requires two additional facilitating roles: game facilitator and financial administrator. The game facilitator provides guidance on game mechanics when players need clarification and supports smooth team progression, whereas the financial administrator records the players' financial transactions and manages their assets.

### 3.2.3 Implementation protocol

A pre-game orientation is performed before the start of a simulation game. The designated facilitator provides comprehensive instructions on gameplay mechanics. To enhance the understanding of international labor migration dynamics, participants follow an instructed information-sharing process as follows: First, players place their drawn cards in the communal display area visible to all participants. Second, players read the instructions aloud from their cards to the group. Finally, all the participants examine and discuss the outcomes of each scenario. The facilitator then promotes active discourse by encouraging participants to verbalize their thoughts and emotional reactions. For example, when a player expresses concern about their situation (e.g., "Oh, that's not good..."), the facilitator validates their response ("Yes, I see why you feel that way") and encourages deeper reflection ("What makes you think this is problematic?"). The facilitator then invites other participants to share their perspectives ("What do you all think about this situation?"), thereby fostering the exchange of diverse viewpoints. Through this guided discussion process, the participants collectively examined the scenario outcomes after each player's turn.

The game proceeds with the following structured phases:

- (1) The participants examine destination country information cards and select their intended country of migration.
- (2) The playing order is determined, and the gameplay commences.
- (3) Upon reaching the destination (goal), participants calculate their final financial position, including any remaining funds or accumulated debt.
- (4) After all participants complete their migration journey, the teams compile comprehensive player summary reports.
- (5) Teams engage in structured debriefing sessions to process their simulated experiences.
- (6) The simulation concludes with a plenary session in which teams present summary reports.

## 4. Trial and Evaluation of the International Labor Migration Game

### 4.1 Participants

The simulation game was implemented as a pilot study with 11 participants (two out of eleven were migrant workers) of multi-cultural teams from Japanese research organizations, followed by a comprehensive questionnaire-based assessment. The organization's teams are multi-cultural, with approximately 15% of the members having backgrounds from East Africa, South Asia, East Asia, and Europe. However, many of these international members came to Japan as international students and subsequently found employment; their contact with typical labor migrants is limited.

### 4.2 Evaluation metrics

The evaluation framework was constructed based on the theoretical understanding that experiential learning effectiveness manifests through cognitive and affective transformations (Lederman, 1992), ultimately leading to behavioral modifications in multi-cultural team dynamics. The four primary domains were assessed using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) supplemented by open-ended responses (Table 2).

**Table 2:** Evaluation metrics

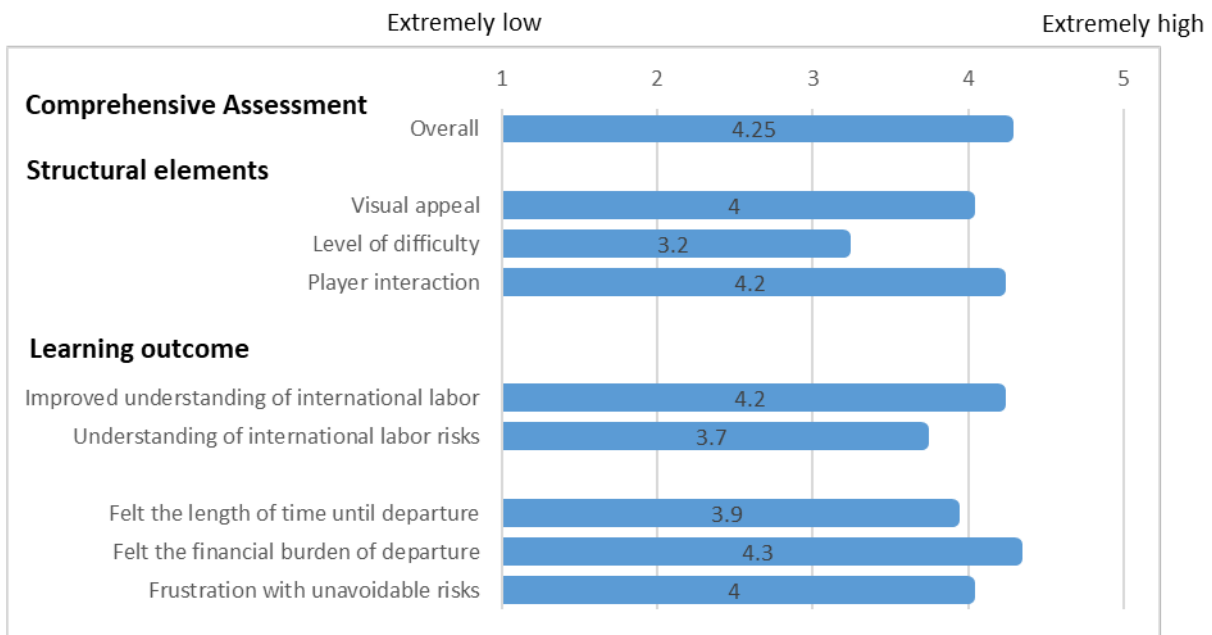
Evaluation Domain	Subcategory	Assessment Items
(1) Structural elements		a. Visual design efficacy b. Complexity level c. Participant engagement
(2) Learning outcomes		
	A. Cognitive dimension	a. Comprehension of international labour dynamics b. Recognition of pre-migration barriers c. Knowledge acquisition (Open-ended)
	B. Affective dimension	a. Perception of time required for departure b. Sense of financial burden c. Frustration with unavoidable risks d. Other negative emotions and their causes (Open-ended)
(3) Comprehensive Assessment	-	a. Overall efficacy (Including replay ability) b. Strengths (Open-ended) c. Development Areas (Open-ended)
(4) Additional comments	-	Open-ended

### 4.3 Findings

The evaluation results are summarized in Figure 3.

#### 4.3.1 Structural elements

The evaluation revealed high scores for visual design efficacy and participant engagement mechanisms, whereas the complexity level was notably challenging.



**Figure 3:** Evaluation metrics of the international labor migration game

#### 4.3.2 Learning outcomes

Regarding the cognitive dimension, while participants demonstrated an enhanced understanding of international labor migration processes, their recognition of migration barriers showed moderate improvement. Qualitative responses to “knowledge acquisition (open-ended)” indicated the successful integration of most opportunity and challenge elements extracted from the interview analysis and incorporated into the simulation, with the exception of family-related dynamics and separation anxiety. This suggests the effective facilitation of challenge awareness through experiential learning, although post-simulation debriefing sessions proved essential for comprehensive knowledge integration.

Regarding the affective dimension, quantitative analysis revealed a heightened perception of financial burden relative to temporal constraints. Despite implementing temporal penalty mechanisms, such as additional wait periods for Japan-bound migrants, the findings suggest a need for enhanced differentiation in temporal challenges across destination countries.



The simulation effectively replicated the inherent powerlessness experienced in transnational migration, where external factors, such as immigration policies, significantly impacted outcomes despite thorough preparation. This design element's success was evidenced through both quantitative metrics and qualitative feedback, exemplified by one participant's reflection: "The simulation effectively conveyed the frustration of confronting numerous uncontrollable variables that disrupted planned trajectories."

#### **4.3.3 Comprehensive assessment**

Qualitative analysis revealed that ten of 11 participants emphasized the pedagogical value of experiencing complex social challenges through simulation. Participants' responses provided rich descriptive data on experiential learning. Participant feedback revealed substantial evidence of the simulation's effectiveness in achieving its educational objectives. Participants consistently reported gaining a concrete understanding of migration challenges, particularly those specific to Japan-bound workers, with one noting they "gained tangible understanding of the challenges involved in coming to Japan." They emphasized the value of experiential learning over abstract knowledge, describing it as an "excellent opportunity to physically experience how international labor aspirants face numerous barriers that vary by country, rather than just having vague hopes."

A key insight that emerged was participants' recognition of the fundamental differences between labor migration and student migration pathways, with one participant explicitly stating they "recognized the distinct difference from student migration when destinations change due to broker circumstances." Participants highlighted the simulation's success in realistically portraying the element of chance inherent in migration processes, appreciating how "some reached their goal smoothly with minimal financial impact, while others accumulated debt or faced significant delays" despite similar starting positions.

Notably, participants valued the authentic representation of systemic inefficiencies that characterize real-world migration processes. As one participant observed, "the game captured the uncontrollable and unpredictable risks of the migration process, such as agencies making errors in work permit applications, low-quality language training causing unnecessary expenditure of time and money, and forced changes in destination countries." These observations demonstrate the simulation's effectiveness in replicating both structural challenges and arbitrary elements inherent in international labor migration.

The experiential learning facilitated by the simulation successfully achieved its intended objectives, as participants directly encountered the influence of multiple stakeholders, navigated uncontrollable contingencies, and experienced firsthand the economic and temporal burdens of migration. This strong alignment between intended learning outcomes and participant feedback validates the simulation's effectiveness as a tool for developing experiential understanding of

migration complexities.

The participants also identified several areas for potential enhancement. Regarding motivational elements, one participant noted, “Given the target demographic of 18-year-olds (likely meaning 18 or older), including more rewarding elements might balance the frequent financial losses.” Another suggested to “Consider including elements that suggest achievable employment opportunities with moderate effort.” These responses indicate a perceived need to incorporate additional positive elements that could enhance engagement while maintaining realistic representations of the migration processes.

In addition to these motivational considerations, the evaluation of participant feedback revealed significant variations in responses regarding the complexity of the simulation. A notable divergence in feedback emerged based on the Japanese participants’ prior knowledge of the migration processes. Those without prior exposure to migration concepts expressed concerns regarding the complexity of the simulation from a usability perspective, suggesting that excessive complexity may impede learning outcomes. Conversely, participants with existing migration knowledge recommended expanding the variety of risk scenarios to enhance the gameplay elements. This difference in feedback suggests the necessity of calibrating risk card complexity based on participants’ baseline knowledge levels.

Participants also provided suggestions regarding post-arrival phases. One participant suggested, “Incorporating typical scenarios such as successful cost recovery and savings accumulation, or challenges leading to escape or return, would facilitate understanding of post-arrival barriers.” This feedback indicates that a comprehensive understanding of international labor migrants’ experiences requires the inclusion of post-departure processes, representing a key area for future development.

## **5. Discussion and conclusion**

This study developed and evaluated an educational simulation tool designed to enhance multicultural management capabilities in Japanese organizations by facilitating understanding of the international migrant workers’ experiences. The primary objectives were to facilitate cognitive and affective learning outcomes among individuals from diverse cultural backgrounds, specifically targeting the comprehension of migration complexity and the awareness of migrant workers’ perspectives regarding overseas employment.

Although our pilot study did not directly assess the long-term impact of the simulation-based learning on organizational inclusivity, it represents a significant first step toward enhancing multicultural management capabilities in Japanese organizations by fostering both cognitive understanding and emotional awareness of international migrant workers’ experiences. Such

comprehension is essential for developing the inclusive team cultures needed in an increasingly diverse workforce (Syed & Pio, 2010). The results of the pilot study indicated success in three key areas: enhanced recognition of multi-level risks (macro, meso, and micro), effective simulation of emotional responses to risk events, and improved understanding of international labor migration dynamics. The evaluation revealed differential learning outcomes based on participants' prior knowledge. Those without previous exposure to international labor migration concepts found the simulation's complexity level challenging, particularly regarding risk elements, resulting in comparatively lower risk comprehension metrics. The analysis of temporal and financial elements demonstrated that the participants experienced financial burdens more acutely than temporal constraints. While the simulation incorporated temporal penalty mechanisms, particularly for Japanese-bound migration scenarios, the findings suggest the need for more pronounced temporal differentiation across destination countries.

Notably, the simulation successfully replicated the experience of constrained agency in international labor migration, where external factors, such as immigration policies, can significantly impact outcomes despite thorough preparation. This effectiveness was evidenced through both quantitative measurements and qualitative feedback, expressing frustration with uncontrollable variables.

Future developments in simulations should address the following four critical points. First, enhanced mechanisms are needed to deepen understanding of not only comprehensive migration processes but specific risk elements, including features that ensure all participants experience the critical risks firsthand. Second, refinements should strengthen the simulation's capacity to promote cultural synergy among team members, a core component of effective multi-cultural management, such as implementing repeated sessions rather than one-time events. Third, implementing a pre-simulation knowledge assessment system would enable the appropriate calibration of risk complexity based on participants' prior understanding, thereby optimizing learning outcomes across diverse knowledge levels. Fourth, structured post-simulation debriefing protocols should be allocated sufficient time and attention as a critically important component of the educational framework, as these are essential for consolidating risk awareness and fostering an inclusive organizational culture. These enhancements would strengthen the simulation's efficacy as an educational tool for promoting inclusive organizational environments, particularly in contexts characterized by increasing workforce diversity.

Future research should examine the long-term impact of simulation-based learning on organizational inclusivity and evaluate the effectiveness of various debriefing protocols in consolidating learning outcomes.

## **5.1 Limitations**

First, the current game design must be improved to maximize educational effectiveness. To develop a game, it is necessary to repeat the processes of implementation, feedback, and modification to enhance pedagogical value. This iterative approach would facilitate the identification of optimal design parameters through empirical rules and user feedback and ultimately, create a more effective educational tool. Additionally, the current trial was limited to specific organizational contexts. Further trials should extend validation efforts to organizations with different structural characteristics to assess the game's applicability across diverse contexts. Such cross-organizational validation would provide valuable insights into the game's effectiveness as an educational tool in different institutional contexts.

The second limitation is the game's content specificity, as this game prioritizes the realism of its content, which was developed based on data from Indonesia. Therefore, experiences depicted in the game may differ from those of migrant workers from other sending countries. However, other research has confirmed that the major and critical challenges faced by migrant workers are largely consistent across contexts, suggesting the effectiveness of the game across situations. In the future, it will be necessary to consider developing a version based on issues common to multiple sending countries. Nevertheless, as such an approach may reduce the game's sense of realism by adopting a "lowest common denominator" perspective, careful consideration will be required.

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## Abstract (in Japanese)

### 要 約

本研究は、日本の組織におけるインクルーシブなチーム文化の醸成を目的として、国際労働移民の出発前プロセスをシミュレーションする教育用ボードゲームの開発と評価を行った。インドネシア人の移民労働希望者 128 名とステークホルダー 30 名への半構造化インタビューを通じて、移民準備段階における 5 つの主要な課題テーマを特定した。これらの知見に基づき、9 つの必須準備ステップにおける実証的に確認されたリスクと機会を組み込んだシミュレーションゲームを開発した。開発したゲームは日本の組織における多文化チームのメンバーを対象に試行された。評価結果によると、このゲームは参加者の多層的リスクの認識の向上、現実を反映した感情的反応の喚起、および移民ダイナミクスへの理解深化という 3 つの領域で効果を発揮したことが示された。しかし、学習成果は参加者の事前知識に基づいて異なり、複雑性レベルの調整の必要性が示唆された。本研究は、シミュレーションベースの学習が移民経験の理解促進とインクルーシブな組織環境の形成に効果的であると結論付けるとともに、構造化されたディブリーフィングプロトコルや長期的な影響評価を含む今後の発展領域を示した。

**キーワード：** 労働移住、包括的社会、教育ツール、多文化理解