

## Ethnographic Analysis of Intergenerational Vocational Skill Transmission Among Construction Workers in Indonesia: A Socio-Cultural Framework for Informal Apprenticeship Systems

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### ABSTRACT

The transmission of vocational skills in informal sectors remains a critical yet underexplored dimension of labor sustainability in developing economies. This study investigates the intergenerational inheritance of construction-related skills among workers in Indonesia through an ethnographic lens. Grounded in qualitative research paradigms, the study explores how socio-cultural norms, experiential learning, and informal apprenticeship structures facilitate the continuity of vocational competencies across generations. Drawing upon established frameworks of learning-by-doing and informal education systems, the research develops a socio-cultural model explaining skill transmission dynamics. Data interpretation reveals that familial lineage, community-based learning environments, and embodied practice significantly shape vocational knowledge continuity. The findings contribute to theoretical discussions on informal learning systems and offer policy implications for strengthening vocational education frameworks. The study also critically evaluates limitations associated with informal apprenticeship systems, including skill standardization challenges and vulnerability to economic shifts.

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## 1. INTRODUCTION

Vocational skills play a fundamental role in shaping labor markets, particularly in developing economies where informal employment dominates. In Indonesia, the construction sector relies heavily on skilled labor developed through informal learning pathways rather than formal educational systems. This raises critical questions regarding how such skills are transmitted across generations and sustained within socio-economic contexts.

The problem addressed in this study lies in the lack of structured understanding of intergenerational vocational skill inheritance within informal sectors. While formal education systems have been extensively studied, informal apprenticeship mechanisms—especially those embedded within familial and community structures—remain under-theorized. This gap limits the development of effective vocational policies that align with real-world labor practices.

The relevance of this research stems from the growing need to integrate informal learning systems into broader vocational education frameworks. Previous studies highlight the importance of experiential learning and on-the-job training in skill acquisition (Gavrel, Lebon, & Rebière, 2016), yet the socio-cultural mechanisms facilitating such processes require deeper exploration.

The primary objectives of this study are:

- (1) to analyze the patterns of intergenerational vocational skill transmission among construction workers,
- (2) to identify socio-cultural factors influencing informal apprenticeship systems, and
- (3) to develop a conceptual framework that explains these dynamics within the Indonesian context.

The scope of this research is limited to ethnographic insights derived from construction labor environments, focusing on qualitative interpretations rather than quantitative generalizations. Its significance lies in bridging the gap between informal labor practices and academic discourse, contributing to policy and theoretical advancements.

## 2. LITERATURE REVIEW

The literature on vocational skill development emphasizes the dichotomy between formal education and experiential learning systems. Coombs and Ahmed (2001) introduced the concept of non-formal education pathways, highlighting their relevance in contexts where formal systems are inaccessible. This perspective is particularly relevant to construction workers, who often rely on hands-on experience rather than institutional training.

Creswell (2014) and Denzin and Lincoln (2000) provide foundational methodological frameworks for qualitative and ethnographic research, emphasizing the importance of contextual understanding in social phenomena. Ethnography, as elaborated by Murchison (2010), enables researchers to capture lived experiences, making it an appropriate approach for studying vocational skill transmission.

Theoretical insights from Gavrel et al. (2016) suggest that learning-by-doing is a highly efficient mechanism for skill acquisition in labor markets, often outperforming formal education in practical skill development. This notion aligns with findings in construction industries where experiential learning dominates.

Studies on labor productivity and skill acquisition further reinforce the importance of practical exposure. Kazaz and Ac (2015) and Kazaz et al. (2016) highlight how construction workers develop competencies through repeated practice and peer interaction. Similarly, Haryadi (2010) discusses the challenges faced by construction workers in adapting to globalization, emphasizing the need for skill enhancement mechanisms.

Research on lifelong learning (Aleandri & Refrigeri, 2013; Laal et al., 2014) underscores the continuous nature of skill development, suggesting that vocational competencies evolve over time through cumulative experiences. Höghielm (2010) also points to the role of adult education in supporting vocational learning, particularly in informal contexts.

However, existing literature reveals significant gaps. While studies acknowledge experiential learning, they often overlook the socio-cultural dimensions that sustain intergenerational transmission. Furthermore, there is limited focus on how familial structures and community networks influence skill inheritance.

This study positions itself within these gaps by integrating ethnographic analysis with socio-cultural theory, offering a comprehensive framework for understanding informal apprenticeship systems.

## 3. METHODOLOGY

### 3.1 Research Design

This study adopts a qualitative ethnographic research design to explore the lived experiences of construction workers. Ethnography is particularly suited for examining cultural practices and social interactions within natural settings (Murchison, 2010). The approach allows for an in-depth understanding of how vocational skills are transmitted across generations.

### 3.2 Theoretical Framework

The research is grounded in three theoretical perspectives:

1. Learning-by-Doing Theory

This theory posits that skills are acquired through repeated practice and experiential engagement (Gavrel et al., 2016). In construction work, tasks such as masonry, carpentry, and structural assembly are learned through observation and participation.

### 2. Socio-Cultural Learning Theory

This perspective emphasizes the role of social interaction and cultural context in knowledge acquisition. Skills are not merely technical but embedded within cultural practices and traditions.

### 3. Informal Apprenticeship Model

Unlike formal training systems, informal apprenticeships operate without standardized curricula, relying instead on mentorship and experiential learning.

### 3.3 Data Collection Methods

Data were collected through participant observation, semi-structured interviews, and field notes. Construction sites were selected as primary research settings to observe real-time interactions and learning processes.

Participant observation allowed the researcher to engage with workers directly, capturing nuances of skill transmission. Interviews provided insights into workers' personal experiences, particularly regarding how they acquired skills and passed them on to younger generations.

### 3.4 Analytical Framework

Data analysis followed thematic coding techniques, identifying recurring patterns related to skill transmission. Themes included:

- Familial influence in skill acquisition
- Role of peer learning
- Importance of practical exposure
- Cultural values associated with craftsmanship

The analysis also incorporated comparative evaluation with theoretical frameworks to ensure conceptual alignment.

### 3.5 Model Development

Based on empirical findings, a socio-cultural framework was developed comprising three core components:

#### 1. Intergenerational Transfer Mechanism

Skills are passed from older to younger individuals within family units.

#### 2. Community-Based Learning Environment

Construction sites function as informal learning spaces where workers share knowledge.

#### 3. Experiential Reinforcement Loop

Continuous practice reinforces skill mastery, aligning with learning-by-doing principles (Gavrel et al., 2016).

### 3.6 Limitations of Methodology

The ethnographic approach, while rich in detail, limits generalizability. Additionally, reliance on qualitative data may introduce subjective interpretations. However, methodological rigor was maintained through triangulation and systematic analysis.

## 4. RESULTS

The findings reveal that intergenerational vocational skill transmission among construction workers is deeply embedded in socio-cultural structures. The most prominent pattern observed is the role of family lineage in skill inheritance. Many workers reported learning construction skills from parents or relatives, indicating a strong familial transmission mechanism.

Another key finding is the significance of peer-based learning. Construction sites function as collaborative environments where workers exchange knowledge through observation and practice. This aligns with the concept of learning-by-doing, where skill acquisition occurs through repeated engagement (Gavrel et al., 2016).

The study also identifies the absence of formalized training structures, which results in variability in skill quality. While experiential learning ensures practical competence, it lacks standardization, leading to inconsistencies in workmanship.

Cultural values play a crucial role in sustaining vocational practices. Workers often associate their skills with identity and pride, reinforcing the motivation to transmit knowledge across generations. This cultural dimension enhances the sustainability of informal apprenticeship systems.

However, the findings also highlight challenges, including limited access to advanced training and vulnerability to technological changes. These factors may hinder the long-term viability of informal skill transmission systems.

## 5. DISCUSSION

The findings support existing literature on experiential learning and its effectiveness in skill acquisition. The prominence of learning-by-doing observed in this study aligns with the theoretical assertions of Gavrel et al. (2016), emphasizing the efficiency of practical engagement over formal education in certain labor contexts.

From a theoretical perspective, the study extends socio-cultural learning theory by incorporating intergenerational dynamics. Unlike traditional models that focus on individual learning processes, this research highlights collective and familial dimensions of knowledge transmission.

The practical implications are significant. Policymakers should consider integrating informal apprenticeship systems into formal vocational frameworks. This could involve recognizing prior learning experiences and providing certification mechanisms for skilled workers.

However, the study also identifies limitations within informal systems, including lack of standardization and limited adaptability to technological advancements. These challenges underscore the need for hybrid models that combine experiential learning with structured training programs.

Comparatively, the findings resonate with studies on labor productivity (Kazaz et al., 2016) and lifelong learning (Laal et al., 2014), suggesting that continuous skill development is essential for sustaining workforce efficiency.

## 6. CONCLUSION

This study provides a comprehensive ethnographic analysis of intergenerational vocational skill transmission among construction workers in Indonesia. By developing a socio-cultural framework, it highlights the importance of familial, community, and experiential factors in sustaining informal apprenticeship systems.

The research contributes to academic discourse by bridging gaps between informal learning practices and theoretical frameworks. It also offers practical insights for policymakers aiming to enhance vocational education systems.

Future research should explore quantitative validation of the proposed framework and examine the impact of technological integration on informal learning systems. Strengthening the synergy between formal and informal education pathways remains a critical area for development.

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