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A Stepwise, Ethnography-Informed Observational Learning Framework for Novice Learners: Implications From Undergraduate Medical Education

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ABSTRACT

This study explored how a stepwise, ethnography-informed observational learning framework, drawing on cultural anthropology, supports learning and meaning-making in the early phase of undergraduate medical education. The program combined preparatory lectures, field observation, a staged writing process, in which rapid notes served as scaffolding for learning through polished field notes, and reflection through sharing and comparison. Qualitative analysis focused on students' polished field notes and reflective writings, revealing a clear shift from fragmented, immediate observational records to structured, contextualized descriptions of clinical settings. Students attended to multiple layers of practice, including interpersonal interactions, actions, spatial organization, and medical tools. Through comparison with peers' observations, learners recognized the multiplicity of perspectives and reflected on the quality and communicability of their own descriptions. Questionnaire data further indicated increased interest in cultural anthropology and enhanced patient-centered perspectives following the program. These findings demonstrate the utility of this design model for supporting novices' contextual understanding and professional perspective formation in early clinical exposure. The study offers a transferable model for fostering insight into the human side of practice in other person-centered work environments.

Keywords: Medical education, Cultural anthropology, Field notes, Early clinical exposure

INTRODUCTION

In many professional domains, novices are increasingly exposed to complex real-world settings early in training. Although such early exposure is expected to enhance motivation and contextualize learning, insufficient workplace affordances and learner engagement often leave novices without guidance on what to attend to or how to interpret their experiences, resulting in fragmented learning (Billett, 2001). This challenge is also evident in early undergraduate medical education. Preclinical medical students engage in clinical observation through early clinical exposure before acquiring well-developed interpretive lenses. While early clinical exposure has been shown to enhance motivation and professional awareness, prior research has

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highlighted limitations, including reliance on self-reported outcomes, unclear long-term effects, and limited analysis of how experience is transformed into learning (Dornan et al., 2006). Educational design principles that render novices' meaning-making processes observable and supportable therefore remain insufficiently developed.

In response to these challenges, cultural anthropology offers a useful approach for fostering context-sensitive observation and interpretation. In ethnographic practice, observation and fieldnote writing serve as a foundation through which processes of interpretation and meaning-making are developed (Emerson et al., 2011). Experience is not treated as self-evident; rather, it is externalized, examined, and reconstructed through descriptive writing and reflection. Building on these practices, this study focuses on processes of shared examination through comparison, as well as reflective interpretation.

In this study, we design and implement a stepwise, ethnography-informed observational learning framework for novice learners and apply it to early undergraduate medical education (Table 1). The framework integrates preparation for observation, observation in practice settings, descriptive practices that externalize experience (rapid notetaking followed by immediate rewriting into polished field notes), and structured reflection through sharing and comparison. By conceptualizing meaning-making as a mediated, stepwise process supported by description and dialogue, we examine how preclinical medical students develop richer, more contextualized perspectives during early clinical exposure.

Table 1: A stepwise, ethnography-informed observational learning framework for novice learners.

Framework Step	Educational Activities
Step 1: Preparation	Introductory lectures on anthropological perspectives and observation exercises
Step 2: Field Observation	Observation in clinical and laboratory settings
Step 3: Description	
Step 3a: Rapid Notetaking	On-site shorthand recording of observations
Step 3b: Polished Notes	Immediate rewriting and reorganization of observations after the practicum
Step 4: Reflection through Sharing and Comparison	Sharing of polished field notes, dialogic comparison, mutual questioning and evaluation, and individual reflection

METHODS

Context and Participants

The study was conducted in a compulsory early clinical exposure course for first-year medical students in the preclinical phase at Kanazawa University School of Medicine, Japan (N = 110). The course was implemented between April and July 2025. Students were informed about the study and were given the opportunity to opt out; analyses used learning products from students who did not opt out.

Educational Program

The educational framework and program were collaboratively designed and implemented by the authors, integrating perspectives from medical education and ethnographic practice. The program guided students through four stages: Step 1 (Preparation), two 90-minute sessions introducing anthropological perspectives and observation exercises (Ito, 2021); Step 2 (Field observation), a five-day small-group rotation involving observation across diverse clinical and laboratory settings; Step 3 (Description), on-site rapid notetaking followed by immediate rewriting into polished field notes after each practicum; and Step 4 (Reflection through Sharing and Comparison), small-group presentation, peer questioning and evaluation, followed by individual reflection and selective whole-class sharing of polished field notes.

Data Sources and Analysis

Three data sources were collected and analyzed: (1) polished field notes produced in Step 3, (2) reflective writings collected in Step 4 following sharing and comparison of field notes, and (3) questionnaires administered after Step 1 and Step 4 assessing prior knowledge, interest, and perceived relevance of anthropology-informed observation. Rapid notes were used only to support the production of polished field notes and were not formally analyzed.

Qualitative data (field notes, reflections, and free-text questionnaire responses) were analyzed inductively using an interpretive approach, focusing on how students restructured clinical encounters into communicable descriptions and developed interpretive perspectives through rewriting and comparison. Questionnaire items were summarized descriptively to contextualize qualitative findings. Emerging interpretations were discussed and refined with a co-author, and convergence across data sources was examined to enhance credibility.

Ethical Considerations

The study was approved by the Kanazawa University Medical Ethics Committee (No. 2023-366). An opt-out consent procedure was used, and all data were anonymized prior to analysis.

RESULTS

Result 1. Epistemic Lenses Structuring Students' Observations in Polished Field Notes

Analysis of polished field notes (N = 110) identified four recurrent epistemic lenses through which students organized their observations of clinical settings (Table 2). Table 2 provides representative mini-vignettes drawn from recurring patterns across the dataset to illustrate each lens typologically rather than as individual cases. Rather than simply listing clinical tasks, students described clinical settings through interrelated relational, behavioral,

spatial–organizational, and technological–informational dimensions, indicating a systematic shift in what was made visible and reportable through writing.

Table 2: Epistemic lenses (observational domains) identified in polished field notes.

Epistemic Lens/Domain	Description	Representative Mini-Vignette (Paraphrased)
1. Interpersonal interactions	Relational dynamics shaping care encounters	*"When the patient hesitated, the nurse paused, lowered her voice, and said, 'Let's take it step by step.' The nurse maintained eye contact and waited briefly before continuing."*
2. Actions and behaviors	Embodied sequences of situated practice	*"The nurse moved in a repeated sequence between the bed, the monitor, and the medication tray: checking labels, adjusting tubing, repositioning the patient's arm, and then recording the values."*
3. Spatial and organizational structures	Material–organizational arrangements structuring workflow	*"In the corridor, the central route was kept wide and unobstructed. Carts and equipment were placed along the wall, and staff workspaces were compact compared with the open patient pathway."*
4. Medical information, tools, and techniques	Technological and informational mediators of clinical action	*"Before administering medication, staff performed verbal confirmations and double checks, scanned the infusion line with a handheld device, and proceeded after a 'correct' indicator appeared."*

Result 2. Meaning Attribution in Polished Field Notes

Across the dataset, interpretive depth varied, reflecting different stages of meaning-making. The following six themes represent recurrent patterns of meaning attribution observed across the polished field notes.

Reframing Medical Practice From Technical Acts to Lived Experience

In their polished field notes, students often described medical practice not only as technical procedures but also as experiences intertwined with patients' bodies, time, emotions, and vulnerabilities. Diagnostic tests, treatments, and ward routines were depicted in terms such as "enduring," "feeling anxious,"

and "coming to terms with," suggesting a tendency to portray care as a series of human experiences rather than a collection of clinical acts.

Safety Understood as Systems Grounded in Human Fallibility

Students described safety-related practices—such as repeated confirmations, signage, double checks, and spatial control—as systems premised on the assumption that "humans make mistakes," rather than solely as procedural accuracy. Some notes also mentioned that while safety practices protect patients, they may at times be experienced as constraining patients' autonomy, indicating early ethical questioning.

Nursing Practice Conceptualized as Relational Work

Students repeatedly portrayed nurses as figures who observe patients' conditions, stay with them, and provide reassurance through communication. Nursing was described not only as performing procedures but also as relational work that supports patients' daily lives and anxieties within the clinical setting.

Hospital Spaces and Objects Described as Value-Laden Arrangements

Hospital spaces and material arrangements (e.g., beds, nurse stations, signage, doors, seating, and layouts) were described as configurations that implicitly guide the movements and actions of patients and staff. Students portrayed these environments not as neutral infrastructure but as arrangements associated with values such as patient priority, safety, and prompt responsiveness.

Emotional Encounters as Catalysts for Emerging Professional Positioning

In settings such as intensive care units and operating rooms, students frequently reported strong emotions including fear, awe, discomfort, and inspiration. These encounters were described as moments that prompted students to reconsider and re-position themselves in relation to their future roles as healthcare professionals.

From Observation to Inquiry

Some writings went beyond recording events and articulated questions such as "why things are this way" and "how things should be." These inquiries were directed toward ethics, safety, power, care, and professional responsibility.

Result 3. Meaning-Making Observed Through Sharing and Comparison

Reflective writings collected after small-group sharing and comparison of polished field notes (N = 110, n = 107 submissions) indicated five interrelated aspects of students' developing meaning-making. First, students recognized

the diversity of observational foci even within the same clinical site (e.g., facilities, equipment, staff–patient communication, and subtle interactions). Second, they noted the value of multi-sensory attention, describing how gestures, facial expressions, sounds, and atmosphere conveyed aspects of practice that were not captured by visual observation alone. Third, students reflected on representational techniques (e.g., sketches, diagrams, dialogue, and structured organization) as resources for making descriptions more communicable. Fourth, post-comparison reflections suggested a deepening of interpretation: students moved from recording "what happened" toward asking why practices and arrangements existed and what they signified, sometimes re-reading their own experiences in light of peers' accounts (e.g., "By reading others' notes, I realized new meanings in my own experience that I had not noticed at the time."). Fifth, reflections indicated emerging patient-centered perspectives and professional awareness, including increased recognition of the roles of nurses and other professionals and reconsideration of their own stance as future healthcare providers.

Result 4. Immediate Reactions to the Program

Questionnaire data captured students' immediate reactions after Step 1 (Preparation) and after Step 4 (Reflection through Sharing and Comparison). In the post-lecture survey (N = 110, n = 90), most respondents reported being novices in cultural anthropology (76%), while many expressed interest (73%) and perceived usefulness (87%). Open-ended comments at this stage primarily reflected initial awareness of anthropology as a lens for observation. In the post-program survey (N = 110, n = 106), positive responses increased: students reported heightened interest (79%), adoption of an anthropology-informed perspective during observation (77%), gaining new perspectives on patient understanding (93%), and broadening viewpoints through peer comparison (93%). Free-text responses emphasized that these insights were difficult to achieve through lectures alone and were enabled by field experience and reflective comparison.

DISCUSSION

This study suggests how a stepwise, ethnography-informed observational learning framework can support novices' learning in early clinical exposure by making processes of observation, description, and reflection through sharing and comparison pedagogically visible and supportable. Each result represents a different phase of this learning process, tracing a progression from reorganizing experience through writing based on field encounters, to reflective learning through sharing and comparison, and finally to early value formation.

Progressive Formation of Perspectives Through Stepwise Processes

Within the framework, the movement from rapid notetaking to polished field notes represents a designed pedagogical transition in which students were guided to begin verbalizing and contextualizing experience. Rapid notes were positioned as scaffolding for capturing immediate impressions during field encounters (and were not analyzed in this study), whereas polished field notes provided a subsequent space for narrative organization and contextual description. By verbalizing tacit impressions into polished notes, novices transform their individual, embodied experiences into explicit, communicable knowledge that can be shared and deepened within the group. Reflection through sharing and comparison further enabled students to recognize the limits of their own observations and to appreciate multiple perspectives, supporting the early development of an ethnography-informed, experience-oriented viewpoint.

Multi-Layered Observations and Their Limits

Students attended to interpersonal, spatial, behavioral, and informational dimensions of practice. At the same time, qualitative examination of the polished field notes suggested variability in the extent to which learners integrated relational, spatial, and emotional dimensions into coherent accounts. Some descriptions remained closer to enumerative listing, indicating the need for additional instructional supports that foster integration of observational elements and deeper meaning attribution.

Furthermore, the epistemic lenses identified in Result 1 may partly reflect the influence of the preparatory lectures, which oriented students' attention toward specific aspects of observation. This influence may be partly attributable to the preparatory lecture, in which the AEIOU framework (Activities, Environments, Interactions, Objects, and Users) was introduced as a heuristic to guide observation. Therefore, what became observable and describable was likely shaped not only by the field experience itself but also by the prior instructional framing.

Role of Descriptive Writing in Learning

From an ethnographic perspective, description is not merely a preliminary step prior to analysis but a central analytic practice through which experience is rendered visible, shareable, and open to interpretation (Emerson et al., 2011). This process did not uniformly result in fully developed interpretation. While Results 2 demonstrated students' emerging interpretive orientations and meaning-making tendencies, a closer qualitative reading of the dataset also suggested that some polished notes remained primarily enumerative, with limited integration across relational, spatial, and emotional dimensions. We treat these instances as indications of learners' early-stage descriptive work rather than as deficits, making visible where further instructional scaffolding may support integration.

As shown in Result 3, reflection through sharing and comparison served as a catalyst for opening these descriptions to reinterpretation. Exposure to peers' observations and interpretations enabled students to relativize their own perspectives and recognize the multiplicity of ways in which clinical situations can be perceived. This is consistent with prior work suggesting that awareness of differing values and reactions in small-group discussions contributes to the development of clinical judgment (Bansal et al., 2022). Furthermore, reflection through sharing and comparison in the present study supported not only the emergence of professional attitudes but also enabled students to perceive the significance and meaning of everyday clinical work—that is, to understand routine clinical activities not merely as procedural tasks, but as relational practices that support patients. In contrast to conventional early clinical exposure programs often emphasize participation and role acquisition, the present framework positioned descriptive practice itself as the core of learning. By treating description as an analytic and relational practice rather than a reporting task, the program enabled novice learners to engage meaningfully with clinical contexts without requiring advanced biomedical knowledge.

Experiential Understanding and Early Attitude Formation

Questionnaire findings suggested that preparatory instruction on ethnography-informed observation was deepened through field experience. Participation in staged observation, description, and structured reflection appeared to transform abstract concepts into experiential understanding. Whole-class sharing and peer comparison further supported emerging professional attitudes and values, indicating that early clinical exposure structured around ethnography-informed observational practices may catalyze early professional perspective formation.

Limitations

This study examined short-term learning processes within a single institutional context and did not assess longitudinal outcomes or later clinical behavior. In addition, the analysis relied on students' written products and reflections, representing self-reported perspectives rather than observed practice. Accordingly, generalization to other contexts should be made with caution.

Educational Implications and Future Directions

Taken together, these findings can be synthesized into a stepwise learning process aligned with the proposed ethnography-informed observational learning framework (Table 3). The results suggest that this design model can support novices' observational sensitivity, reflective engagement, and contextual understanding of clinical situations. At the same time, challenges remain, including limited integration of observational elements and incomplete meaning attribution in some notes. Future research should

examine longitudinal effects on professional development, refine instructional scaffolding for meaning-making, and explore adaptability across institutions, cohorts, and disciplinary contexts.

Table 3: Stepwise learning processes and meaning-making outcomes in an ethnography-informed observational learning framework.

Framework Steps	Learning Process	Observed Outcome
Step 1: Preparation	Acquisition of conceptual lenses and vocabulary for observation (preparatory lecture)	Increased awareness of observation as an active, selective process
Step 2 : Field Observation	Encounter with complex, ambiguous clinical environments	Heightened attention to interpersonal, spatial, and organizational aspects of practice
Step 3: Description **3a: Rapid Notetaking** **3b: Polished Notes**	Verbalization and restructuring of lived experience through writing	Transition from fragmented impressions to contextualized, narrative descriptions
Step 4: Reflection through Sharing and Comparison	Comparison of perspectives and communicative forms	Recognition of multiple viewpoints and reflexive evaluation of one's own observations
Overall Outcome	Cumulative, mediated meaning-making	Emergence of an ethnography-informed perspective and early professional value formation

CONCLUSION

A stepwise, ethnography-informed observational learning framework can support novice learners' meaning-making in early exposure to complex, person-centered clinical environments in undergraduate medical education. Rather than prescribing specific outcomes, the framework makes visible how observation, description, and reflection through sharing and comparison function as mediating practices through which novice learners begin to engage with experiential and relational complexity in healthcare settings. By structuring learning around mediated observation and descriptive practices, this framework offers a transferable design model for early undergraduate medical education and provides insights into cultivating observational sensitivity in any field where novices must navigate complex human environments.

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