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How faculty with critical care specialties learn in a university hospital: a qualitative phenomenological study

Hyeyoon Jeong,[1] Hyena Cho,[1] Kyoung-Woo Seo,[2] Janghoon Lee,[3] Miran Kim,[4] Jihye Yu [5]

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[1]Department of Education Policy, Organization & Leadership, University of Illinois at Urbana-Champaign, Champaign, Illinois, USA
[2]Department of Cardiology, Ajou University School of Medicine, Suwon, Korea (the Republic of)
[3]Department of Pediatrics, Ajou University School of Medicine, Suwon, Korea (the Republic of)
[4]Department of Obstetrics and Gynecology, Ajou University School of Medicine, Suwon, Korea (the Republic of)
[5]Department of Medical Education, Ajou University School of Medicine, Suwon, Korea (the Republic of)

Correspondence to
Professor Jihye Yu;
mededu8106@gmail.com

ABSTRACT

Objectives The study aims to explore the workplace learning experiences of medical faculty in critical care specialties at a university hospital, focusing on how they develop their professional identity and construct the meaning of their work.

Design Qualitative, phenomenological study.

Setting The current study was conducted at a university hospital in South Korea between November 2022 and October 2023.

Participants Five faculty members (two males and three females) from critical care specialties (eg, emergency medicine) with over 15 years of experience, each having served as faculty at a university hospital for more than 5 years.

Results Six key themes emerged: cultivating 'doctor-ishness' in the realm of critical care, beacon of inner drive: guiding professional growth, nexus for leveraging expertise and fostering professional growth, the challenging reality of becoming an 'ideal' faculty, the shifting tides of the medical profession's role and weaving workplace learning into a unique rhythm of practice. These themes collectively highlight that faculty members' workplace learning involves a transition from functional professionals to reflective practitioners.

Conclusions Workplace learning of faculty members with critical care specialties is understood as an ongoing, context-dependent and individualised process in which emotions play a crucial role in determining the depth and significance of learning and shaping professional identities. This study highlights their capacity for agency and potential, offering a perspective beyond previous research that has primarily focused on their hardships. By shedding light on their workplace learning from an insider's view and underscoring the need to support professional development in these high-stakes fields, our findings suggest theoretical and practical interventions to foster the mutual growth of faculty and hospital organisations.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ Phenomenological approach: using a phenomenological approach provided in-depth insights into the lived experiences of medical faculty members.
⇒ Rigorous validation procedures: the use of Colaizzi's method and participant validation ensured the reliability and validity of the data analysis.
⇒ Adherence to the Standards for Reporting Qualitative Research (SRQR) guidelines: following the SRQR guidelines enhanced the rigour and transparency of the study.
⇒ Context-specific findings: while the study provides valuable insights, the findings are based on a single university hospital, which may limit generalisability.
⇒ Language translation: translating the interview data from Korean to English may have resulted in some loss of nuanced meaning.

INTRODUCTION

A university hospital in Korea carries out various activities, including medical education, clinical treatment, research and public health initiatives.[1] Considering the nature of dealing with patients' health, medical expertise and knowledge of doctors are considered invaluable assets.[2] Furthermore, with the increasing demands for change and innovation in the healthcare environment, there is a growing emphasis on the importance of workplace learning within hospital settings.[3] In other words, university hospitals are required to facilitate the continuous learning and development of their members. Among those professionals, faculty members of a university hospital engage in various roles as educators, researchers and administrators, along with their clinical duties.[4] In this context, they can be conceptualised as workers, adult learners and adult educators.

For faculty members of a university hospital, it is not uncommon to experience burnout due to heavy workloads and research responsibilities.[5] This trend is particularly pronounced in critical care specialties—such as paediatrics, internal medicine, emergency medicine and anesthesiology—where managing and treating patients with life-threatening illnesses or injuries requires advanced monitoring and complex interventions. These specialties are physically demanding, often unlucrative and carry the potential risk of malpractice lawsuits. It has been reported that specialists

in the critical medical care fields in Korea face various health-related risks and work-life conflicts.[6] This situation aligns with burnout rates reported in other countries, particularly in internal medicine, family medicine, emergency medicine and neurology.[7–9] Furthermore, the environment of university hospitals, which requires faculty to juggle diverse roles and responsibilities while providing relatively low economic rewards compared with the overwhelming labour intensity, compounds these challenges.[5]

Previous studies on medical faculty have primarily focused on outcomes stemming from the demanding nature of their work environments, such as burnout, stress and job satisfaction.[5 8 10 11] While some research has introduced administrative measures to enhance faculty perceptions and experience, the emphasis has often been on proximal outcomes.[12] In contrast, few studies have explored the underlying processes—the 'why', 'how' and 'what'—that shape these experiences. Moreover, previous studies on doctors in university hospitals have mainly focused on the training of interns and residents.[13 14] While some studies have discussed interns' and residents' experiences using workplace learning theories,[15–17] there remains a scarcity of studies addressing the work and learning experiences of medical faculty members. Specifically, limited research explores the unique experiences of medical faculty who have sustained their careers in critical care specialties for many years, particularly under adverse conditions.

Considering that a linear and simplistic problem-solution approach can overlook the deeper complexities of organisational dynamics,[18 19] an integrated perspective that considers the interaction between individual agency and the workplace environment is needed. A problem-solving approach, with its focus on identifying specific issues and prioritising immediate improvements, may neglect root causes and broader context surrounding them,[20] potentially limiting the development of creative approaches to facilitate sustainable learning or long-term growth. Therefore, it is crucial to delve into the workplace learning of faculty in critical care by taking into account unique contexts, including both internal and external dynamics.

Workplace learning refers to the process of acquiring work-related competence through experiences gained from workplace interactions.[21] It involves 'learning through participation in work', which is influenced by the extent to which the workplace environment supports individuals' engagement in work activities.[22 23] According to Illeris,[24] at the individual level, 'work identity' is formed through the interplay between learning content (eg, knowledge, skills, attitudes, understandings, behaviours and competencies) and dynamics (eg, motivations, emotions and volition). As Illeris' model offers a more comprehensive understanding of how individual learning and organisational factors interrelate, it has the strength to support a sustainable and innovative approach that reflects the complex realities of professional development.

In this study, workplace learning is framed within the broader context of professional identity formation (PIF).[25] Professional identity refers to how individuals perceive themselves within their professional roles, shaped by their experiences and interactions within the workplace.[26] In this process, reflection plays a critical role, occurring through processes like single-loop learning, which corrects errors without challenging underlying values,[27] and double-loop learning, where deeper values are questioned and revised.[28] Professionals may further engage in deutero-learning, reflecting on both types of learning to foster adaptive and transformative growth.[29] This reflects that developing a professional identity as medical faculty within the university hospital setting is an ongoing journey that extends beyond acquiring knowledge and skills but also cultivating attitudes and qualities essential to these roles.[4]

In this context, the present study aims to provide a deeper understanding of how medical faculty in critical care specialties develop their professional identity and derive value and meaning from their work experiences. It highlights the educational significance of their roles and emphasises their continuous growth as learners. Rather than merely documenting their challenges, the study adopts a more comprehensive and empowering perspective by focusing on their capacity for agency and their aspirations beyond the struggles they face.[30] By shifting the focus from the difficulties they encounter to the desires they cultivate, the study seeks to illuminate their strengths and the possibilities that emerge from their experiences, offering a fuller and more hopeful outlook on their professional journey.

Accordingly, this study aims to address the following research questions: (1) How do faculty members with critical medical care specialties perceive and construct their professional identity and understand their work? (2) What factors influence their perceptions of work identity and practices, thereby shaping their learning experiences in a university hospital?

By answering these questions, this study explores, from an insider's perspective, how medical faculty in critical care specialties learn and grow through their work, revealing the mechanisms and dynamics that sustain them and shedding light on the deeper meanings they attribute to their roles. This exploration could offer insights into the complex realities of professional growth for those involved in clinical practice, education and research, and provide clues to foster mutual growth of both faculty and hospital organisations.

METHODS

Study design and participants

A qualitative phenomenological study was employed to explore the workplace learning experiences of critical care specialties, which constitute the phenomenon under investigation in this study. Phenomenological research is particularly suited to capturing the common essence

of a phenomenon as it emerges from the shared experiences of multiple individuals.[31] It is also recognised for its strength in exploring the affective and emotional aspects of human experiences.[32] Illeris's model, used in this study, expands traditional learning theories by integrating emotional and motivational factors (learning dynamics) alongside cognitive and social dimensions.[33] This comprehensive framework makes phenomenology particularly appropriate for uncovering the multilayered essence of participants' workplace learning experiences in critical care settings.

Five professors from the critical care department of a university hospital in South Korea were selected through purposive sampling[31] for their first-hand experiences relevant to this study and their ability to articulate them effectively.[34] As a phenomenological approach aims to explore the harmonious expression of participants' experiences, an excess of voices could foster discord, interfere with in-depth analyses and result in lower-quality research.[35] Therefore, a small sample size of 5–10 participants, chosen for their significant experiences and reflective abilities, is typically associated with higher quality.[35–37] The inclusion criteria were as follows: (1) working as a medical professional in 'essential specialised departments' as stipulated in the Medical Service Act of South Korea[38] for more than 15 years, (2) working as a faculty member at a university hospital for over 5 years and (3) willingness to provide rich and insightful narratives regarding their work and learning experiences. To ensure the suitability of potential participants, we cross-verified these criteria through introductions and recommendations from medical education faculty. Table 1 shows the demographic characteristics of the participants.

Data collection

Between November 2022 and April 2023, in-depth interviews were conducted with each participant 1–2 times until a consensus was reached among the researchers that data saturation had been achieved. Each interview, based on semistructured questionnaires developed from relevant literature and reviewed by experts in critical care, medical education and education, lasted approximately 90–120 min. The interviews were conducted in a natural and relaxed atmosphere in the participants' offices and conference rooms at the hospital, ensuring no stakeholders related to their work or this study were present to allow the participants to freely express their voices. All interviews were conducted in Korean, audio-recorded and transcribed verbatim. The first author translated all quotes from Korean, and a professional translator verified the validity of the translation. During and immediately after each interview, reflexive memos were used to capture subtle non-verbal expressions and the implications of what the workplace meant to them. The interviews were followed up as needed via email to confirm or clarify comments. The questions encompassed participants' motivations for choosing medicine and specialty, as well as how they perceived their work and workplace. The detailed interview protocol is provided in online supplemental appendix A.

Data analysis

The data were analysed following the qualitative research analysis method of Colaizzi,[39] with Illeris's workplace learning model[24] as a theoretical framework. As Colaizzi's method focuses on the common experiences of all participants, it was well-suited for this study as a method to explore what the participants commonly experienced as faculty members in critical care specialties. Illeris's model not only addresses individual aspects but also acknowledges social aspects, making it particularly relevant for examining learning in the context of a university hospital. By exploring both individual and social dimensions, as well as their interplay, we can gain a comprehensive understanding of the dynamics of faculty work within the hospital setting. Significant statements on the phenomenon were extracted by reading and rereading the transcripts and revisiting the audio recordings. From these statements, the researchers derived meanings and briefly summarised their implications, which were then categorised into themes and subthemes. Ultimately, a fundamental structure was formed, illustrating how the participants' work and learning took place.

Reliability and validity

To ensure comprehensive data analysis and interpretation, our research team—comprising researchers with educational backgrounds and professors in medical education—took several measures to mitigate potential bias due to our backgrounds and assumptions. First, we consciously avoided subjectively judging the participants' responses or asking leading questions. To obtain comprehensive results, two educational research experts independently reviewed the data, compared their

Table 1 Demographic profile of study participants

Sex	Age	Specialty	Years of professional experience	Tenure in university hospitals
Male	Early 50s	Pulmonology	26	17
Female	Mid-40s	Emergency medicine	20	11
Female	Mid-40s	Paediatrics and adolescent medicine	19	13
Female	Early 40s	Pulmonology	17	10
Male	Early 40s	Trauma surgery	15	5

interpretations and had their analysis further reviewed by coauthors with expertise in both medicine and medical education. Throughout the analysis, reflexive introspection, interpretive exchanges and debriefing among peers were employed cyclically.[40] Additionally, participants were involved in confirming the analysis to ensure that the final themes adequately reflected the investigated phenomena.[41 42] Senior experts with extensive experience in qualitative studies in the field of workplace learning provided consultation to further refine and enhance our findings.

Use of Standards for Reporting Qualitative Research reporting guidelines

This study used the Standards for Reporting Qualitative Research (SRQR) guidelines[43] for reporting qualitative research. The SRQR guidelines provide a comprehensive framework for ensuring the quality and transparency of qualitative research. The guidelines were followed to enhance the rigour and reproducibility of the study findings. The SRQR checklist used in this study is included as a supplementary appendix (see online supplemental appendix B).

Patient and Public Involvement

None.

RESULTS

Analysis of the interviews yielded themes that shed light on the experiences of the research participants' growth as faculty members within a university hospital. Table 2 presents the themes and subthemes identified in the analysis of the factors influencing the formation of work identities and practices. Table 3 provides examples from the interview results for each theme, illustrating how these factors manifest in the experiences of the faculty members.

Cultivating 'doctor-ishness' in the realm of critical care

Over time, participants experienced a shift towards greater flexibility in their perspectives on people and situations, marking a clear contrast to the rigidity they exhibited earlier in their careers when they held strong confidence in their medical knowledge and skills. Initially, they relied heavily on somewhat dogmatic standards to judge situations. However, as they assumed diverse roles interacting with colleagues and students, they found themselves softening these strict expectations. This evolving flexibility not only broadened their approach to clinical problems, allowing them to view situations from multiple perspectives, but also fostered a more inclusive attitude in their collaborative work with others. At the same time, by practising 'distanced empathy', participants learnt to be empathetic yet not emotionally entangled, which aligns well with the need for resilience in critical care settings. Facing life-threatening illnesses regularly, they developed strategies to manage their emotions, ensuring that negative emotions from one patient's condition did not impact their care for others. As one participant described, this involved "intentionally limiting myself from feeling too much" (P4), while another shared the importance of "shifting focus on the current patients" (P5). These strategies allowed them to function effectively within the high-stakes, emotionally demanding environment of critical care specialties, fostering their growth into skilled, resilient professionals.

Beacon of inner drive: guiding professional growth

The sense of fulfilment they experience from helping others, along with the gratitude and recognition they received, served as vital sources of resilience in managing the demands of their challenging roles. This fulfilment, rooted in both patient care and student mentorship, provided them with a sense of pride and reward that motivated them to continue pursuing "what they believed

Table 2 Themes and subthemes

Dimensions of workplace learning	Themes	Subthemes
The individual level	Cultivating 'doctor-ishness' in the realm of critical care	Developing a flexible mindset
		Practising distanced empathy
	Beacon of inner drive: guiding professional growth	Fulfilment in helping others
		Anchor of responsibility
The environment level	Nexus for leveraging expertise and fostering professional growth	Ground for using qualifications
		Ideal setting for realising potential
	The challenging reality of becoming an 'ideal' faculty	Excessive workload and inequity in evaluations
		Insufficient rewards and recognition
	The shifting tides of the medical profession's role	Prevailing rationalism in society
		Homogeneity of members within departments
The integration of individual and environment	Weaving workplace learning into a unique rhythm of practice	Professional with functionality
		Becoming a 'practitioner-philosopher'

Table 3 Examples for each themes

Themes	Examples
Cultivating 'doctor-ishness' in the realm of critical care	"As I've started supervising medical students, my personality has changed in a way that allowed me to effectively blend in with the people around me. In the past, I thought everyone should do things according to my standards and I was quite rigid. However, I've realized that the world won't collapse if things don't go exactly as planned, and I've learned to relax a bit and become more accommodating, both with myself and with the team members." (P3)
Beacon of inner drive: guiding professional growth	"There wasn't any training on critical care education, so I thought, 'This should be done separately' and started studying on my own, going to other hospitals to see how they were doing it. I even studied with pharmacists and held conferences with them." (P4)
Nexus for leveraging expertise and fostering professional growth	"Senior professors actively assisted me in setting up areas, sorting staff, and organizing residency training. Having supportive colleagues who acknowledged my potential and understood my goals pushed me forward." (P2)
The challenging reality of becoming an 'ideal' faculty	"Trauma surgery is quite different from other departments in that it involves a broad range of medical care. The thing is, we're facing a shortage of staff, so there's a lot of patient care to handle. However, the hospital expects all faculty members, regardless of their departments, to meet the same educational and research requirements. It is really challenging to juggle everything." (P5)
The shifting tides of the medical profession's role	"There's an age gap of over 10 years between me and the professor right above me, so I'm kind of on my own. The issues I'm dealing with are different from what they are going through. It makes communication a bit tough … They would still try to help if I asked, but certain concerns can only be addressed at that particular stage, so I had no choice but to overcome them by myself." (P4)
Weaving workplace learning into a unique rhythm of practice	
Professional with functionality	"About 80% of my time is spent on patient care, which includes bedside teaching on the spot. While treating patients, we get insights into how we can change our approach. That's why we do a lot of retrospective studies." (P3)
	"These days, university hospitals expect faculty to conduct more research, but I've found myself less interested in it and put more time into other areas. So, I've become kind of slow when it comes to promotions. It used to bother me, feeling 'I don't fit into the ideal the hospital wants.' However, I've decided to let go of those concerns and keep telling myself, 'I'm doing my things, and this is my own pace. As long as I'm heading in the right direction, let's just keep going at this speed.'" (P4)
Becoming a 'practitioner-philosopher'	"While a doctor may only treat individual patients, I think hospital faculty should play a more systemic role in building and developing treatment methods at a more advanced level." (P1)
	"It's all about reestablishing pediatric emergency care, such as developing training programs for doctors who need to handle pediatric emergencies and creating a system to ensure that children in our country receive qualified treatment. (excerpt) I also think faculty members should be given some autonomy in determining the percentage of clinical work, education, and research when they sign their contracts, with salaries adjusted accordingly." (P2)

to be meaningful". Directly observing improvements in patient conditions and witnessing students' growth reinforced their dedication, driving them to engage in self-directed learning beyond their assigned duties. Additionally, a strong sense of duty, often accompanied by feelings of regret or guilt after unexpected patient outcomes, guided their learning in various ways. Reflecting on such situations prompted questions like, "Did I miss something? How would it have been if I had done things differently?" (P4) and fuelled a commitment to "reviewing and studying cases to avoid such situations in the future" (P1), fostering continuous improvement.

Nexus for leveraging expertise and fostering professional growth

The participants admitted that their stay at the university hospital was, to some extent, driven by practical reasons. To leverage their qualifications as specialists dealing with critical cases, they "had no choice but to work in university hospitals" (P3), where high-level medical treatments for severe conditions were available—something absent in primary or secondary healthcare facilities.

However, their choice to build careers in a university hospital was not merely a matter of necessity. They viewed it as an ideal environment for pursuing new goals and fully realising their abilities as it affords "more opportunities to experience new medical knowledge" (P1) and access to advanced equipment and competent professionals that "allow them to perform treatments they want" (P4). Moreover, the university hospital offered continuous professional challenges, including opportunities to treat complex cases and mentor junior staff. As one participant

put it, this setting was "quite appealing … because I can constantly face new challenges" (P2).

Beyond material resources, the trust and support of colleagues and senior professors catalysed their growth. Colleagues who could help "cover each other's patients" (P5) and offer "emotional ventilation" (P3) were invaluable in sharing the burdens of demanding tasks and navigating the emotional challenges of their roles. Senior professors, in particular, facilitated access to resources for systemic improvements, empowering participants to initiate changes that enhanced their sense of fulfilment. Thus, the university hospital was regarded as a place where practical needs intersected with professional aspirations, fostering a unique space for continuous learning.

The challenging reality of becoming an 'ideal' faculty

Participants commonly experienced pressure and fatigue as the organisation demanded excellence in all areas: patient care, research and education. The uniform application of performance evaluation criteria, without considering department-specific characteristics, compounded these challenges. As one participant noted, there was significant pressure "to do everything" (P4), despite the primary focus on clinical responsibilities in the critical care department. Spending most of their time on patient care, participants perceived the evaluation criteria as unfair, particularly given the pressure to publish and meet high standards in multiple domains. This detracted from their primary responsibility for patient care and demoralised their scholarly pursuits, triggering doubts about "the sustainability of their careers" (P2) in such settings.

In addition to performance pressures, inadequate economic compensation further hindered job engagement. Participants felt that their efforts in round-the-clock critical care were not matched by sufficient rewards, weakening their dedication and motivation. While financial rewards directly impacted core job tasks, participants also valued psychological compensation, such as organisational and peer recognition, which fuelled their motivation for self-directed learning. Ultimately, both economic and psychological support were seen as crucial to sustaining commitment in this demanding environment.

The shifting tides of the medical profession's role

The prevailing rationalist perspective, which assumes that the world can be understood and managed through reason, emphasising efficiency, objectivity and practicality in decision-making, has significantly shaped doctors' perceptions of their work. Participants often felt that medical treatments were seen as a "service paid for" (P1) rather than a noble act of saving lives, leading to feelings of disillusionment due to their efforts and values "not being adequately acknowledged" (P5). This perception has diminished their willingness to go beyond their duties as they sense a lack of appreciation for the personal sacrifices inherent to their roles. Rationalism also influences how doctors perceive their work, with notable generational differences. As younger doctors tend to view their work more as a job, voluntary sacrifices are seen as irrational and therefore avoided. Participants expressed concerns that such a perspective may erode the values that doctors should uphold, which strengthens their commitment to the value of "contributing to society" (P2).

The way participants conceptualise their work is also influenced by the level of homogeneity within each department. Groups with smaller age gaps and shared visions (eg, "coordinated efforts in newborn care" (P3), "meaningful work in the emergency medical center" (P2)) more readily facilitate smooth communication and emotional bonds, fostering camaraderie and unity. Consequently, tasks are seen as "challenging but manageable when faced together." However, significant age gaps posed challenges to active interactions, not solely due to generational differences but also due to differing task-related concerns at various career stages. As tasks cannot be easily shared among colleagues of different ranks, individuals perceived them as independent responsibilities.

Weaving workplace learning into a unique rhythm of practice

Influenced by various factors and situational demands in their workplace, participants have identified themselves as 'professionals with functionality' and even expanded their self-concept to 'reflective practitioners', both of which inform their work practices.

Professional with functionality

The participants aspired to be "doctors who could function" (P3) proficiently in their roles, encompassing clinical practice, education and research. In the context of critical care specialties, these endeavours were intertwined, with clinical practice at the core and each complementing and enriching the others. Since patient care serves as the source for "gaining experiences and improving skills" (P1) and "collecting data for research" (P5), their work itself embodied a lifelong learning journey. Recognising gaps in their own expertise, they adopted a collaborative approach of working closely with seniors and even relying on interns and residents, creating a reciprocal learning environment that enhanced their functionality.

Despite the hospital's emphasis on research and the associated pressures of securing funding and meeting publication expectations, participants selectively directed their efforts towards areas of personal and professional interest, aligning their pace and focus with their core values. This individualised approach, while not fully aligned with institutional expectations, reflects their negotiation between organisational demands and personal aspirations, illustrating workplace learning as a process of continuous adjustment and self-directed prioritisation.

Becoming a 'practitioner-philosopher'

Participants evolved into 'practitioner-philosophers', embodying a mindset that went beyond technical competency to actively engage with the deeper values underpinning their work. As experts, they understood that their role was not purely technical; rather, it was infused with a

commitment to certain values essential to their profession. This perspective fostered a reflective approach towards the broader context, prompting them to explore alternative possibilities and seek improvements in the healthcare system and the university hospital environment. Driven by frustration with unmet demands, they went beyond their assigned duties by identifying systemic limitations and presenting new visions, and "making changes and taking initiatives" (P2) to address critical gaps.

In this way, participants not only developed functionality needed to perform their routine tasks effectively but also actively engaged as professionals who challenged the contexts surrounding their work and explored alternative possibilities. Rooted in their commitment to the mission of medicine, their efforts illustrate that critical thinking and reflection are fundamental to their responsibilities as both medical and educational professionals.

DISCUSSION

This study explored how faculty members with critical care specialties develop their work identities and practices in a university hospital. This holds significance for illuminating medical faculty as learners and addressing their growth in the workplace, an aspect that has previously been neglected by researchers. In essence, medical faculty's workplace learning is a journey to become a reflective practitioner and create a unique approach to work through the lens of their perceptions and interactions within the environment.[44] Going beyond developing the functional competency required as a doctor, they monitored their actions regarding "what feels right to me" and "how I can do what I think is right" within their work and the broader medical system. In this context, the workplace learning of medical faculty can be understood from a holistic perspective that encompasses metacognitive, social and functional competencies.[45]

At the individual level, participants engaged in reflective processes concerning their professional identity and practices, which can be viewed through the lens of single-loop, double-loop and deutero-learning.[28 29] Initially, they engaged in single-loop learning, applying medical knowledge and skills to patient care with a primary focus on improving the immediate condition of the patient, without deeply examining underlying assumptions. Over time, however, as they took on a range of roles and collaborated with diverse colleagues and students, they moved into double-loop learning, challenging their initial rigidity and adopting more flexible perspectives. This growth enabled them to approach clinical challenges and engage with others with greater empathy and adaptability. At a deeper level, participants practised deutero-learning by reflecting on their own learning processes, in which they balanced institutional pressures with personal values and developed a more nuanced professional philosophy. Reaching this final stage reflects a transformation in how they saw themselves and their roles in the world.[46] At this level, they started questioning, "How can I adopt a new way of being in this situation to create new possibilities and help a broader shift within the context?" As one participant described it, this involved "being someone who sees the whole system and thinks on a higher level" (P5). By integrating these levels of learning, they expanded beyond the core capacities required to function effectively as critical care specialists and emerged as practitioner-philosophers, committed not only to clinical excellence but also to meaningful contributions to the broader healthcare system.

Second, at the environmental level, participants' growth as medical faculty exemplifies practice-based development,[47] where learning occurs through experiences in various situations and contextual influences.[48 49] Their work identities and practices were significantly influenced by the hospital's environmental context, with social and material resources playing pivotal roles in shaping their learning experiences. Material resources (eg, access to medical equipment and personnel) were linked more closely to basic task performance, whereas social resources (eg, support and endorsement from fellow professors) were associated with the pursuit of professional growth and ideals.[50] This aligns with previous findings that culture and climate are the most significant organisational factors affecting innovation.[51 52] Notably, the physical and cultural aspects of the workplace are intertwined, such that administrative support fosters a sociocultural atmosphere conducive to learning. However, at the same time, the participants were not merely passive beings who succumbed to the environmental context of the workplace. Instead of solely embracing the organisation's emphasis on their role as researchers, they prioritised their identity as specialists, which was most pronounced within the context of the critical care departments, and devoted more time and effort to clinical care and related educational endeavours.

The participants actively constructed their own work identities by negotiating organisational demands with their personal aspirations. In this process, they set and pursued their own standards of mastery, guided by personal convictions and individual strengths. This approach reflects their commitment to fostering a unique, personalised form of mastery that goes beyond external demands, embodying the 'art' of individualised practice within their field.[53 54] This aligns with previous findings that medical professionals at this competence level tend to focus on enhancing their proficiency in areas where they already are good at,[55] driven by the desire to uphold their personal values, transcending standards that are set by their professional community or the institution.[54]

The reason they can sustain a self-directed attitude regarding their work freely to some extent could be attributed to the fact that they are highly trained professionals with a certain level of autonomy regarding work in their departments.[56] Since university hospitals are organisations where authority structures and operational units have 'loosely coupled relationships', administrators tend to have limited abilities to direct the work practices of the

professionals.[57] Consequently, the participants were able to shape their work identity based on their personal values and commitments and tailor their practices to align with their sense of self.[51 58] This has resulted in the formation of unique professional identities for each individual.

Third, the emotions experienced by individuals serve as a mechanism for subjective judgement in the process of identity negotiation and the development of work practices. Emotions play a particularly important role when conflicts arise between the identity assigned by the organisation and the one grounded in individual subjectivity. In such situations, individuals experience diverse emotions and construct identities by employing various strategies, ranging from accommodating organisational demands to actively resisting them.[59] As highly skilled medical professionals, the participants could secure their jurisdiction, exercising local control over their tasks and making decisions regarding what is most important to them in their professional practice, and assert and enact their own agency.[49 60] When a certain identity was overly imposed by the hospital without considering the distinct context of the critical care specialties, they felt resistance and controversy and prioritised their identity as clinicians based on their pride and convictions.

Furthermore, their sense of responsibility, interest and aspirations as professionals drove them to pursue expansive learning beyond their assigned duties. What is noteworthy here is that a sense of disappointment, uncertainty and scepticism arising from critical yet systematically neglected areas at the organisational level (eg, critical care training and paediatric emergency settings) led them to develop a critical awareness and motivated them to take active actions toward improvement.[61] Paradoxically, these constraints fuelled their pursuit of new skills and deepened their commitment to meaningful progress. The sense of accomplishment and satisfaction from these efforts serve as the foundation for their growth as reflective practitioners, enabling them to persist in challenging environments and consistently take on tasks that others may find difficult to sustain over time.[62 63] Emotions not only promote problem-solving skills and attentiveness[64 65] but also influence the strength of individuals' beliefs and the sustainability of subsequent actions. In short, emotions act as a regulatory mechanism, guiding cognition and behaviour, and serve as a driving force in shaping professional practice.

From a medical education perspective, the implications of this study are as follows. First, it illuminates medical faculty as continuous learners and demonstrates how their learning and growth are closely tied to the contextual dynamics within the workplace.[66] Future studies exploring the experiences of faculty members in other specialties will allow us to uncover subtle differences and determine which environmental interventions should be prioritised and tailored. Additionally, exploring the work experiences of faculty cohorts at different career stages could provide valuable insights into the unique challenges they face, as one participant pointed out that there are stage-specific concerns in their careers. Moreover, as distinct aspects of learning may emerge across hospitals in diverse countries and cultures, comparative studies are recommended to investigate how specific identities evolve and to provide a broader perspective.

Second, it is crucial to acknowledge and expand the role and significance of emotions in workplace learning contexts. Since workplace learning in university hospitals is situated within social, relational and political contexts, our understanding of emotions should go beyond a traditional cognitive perspective that focuses on the individual level. It turned out that emotions function as a driving force in shaping professional identity, regulating an individual's cognition, motivation and behaviour. Therefore, it is recommended that comprehensive qualitative studies explore how healthcare professionals perceive their emotions regarding their work within situational dynamics. Such studies could contribute to the development of conceptual and operational definitions of emotions in workplace learning contexts within medical education.

Finally, we suggest that the workplace learning of medical faculty members be discussed from a descriptive perspective. Compared with previous diagnostic approaches aimed at improving performance, adopting a framework centred on PIF[67] enables us to explore how faculty members navigate challenges and grow professionally without judgement or prescriptive changes. Considering that medical faculty are individuals who shape their professional journey by internalising and expanding their own orientations and values rather than merely meeting competency standards, this approach offers deeper insights into the distinctive and individualised nature of professional growth—an aspect often overlooked in a structured, competency-focused continuing professional development framework.

Drawing from these findings, we propose practical suggestions for employing and retaining clinical academics and fostering their development in hospital settings. First, it is important to provide appropriate rewards and recognition for the efforts of faculty. This includes not only financial incentives for assigned duties but also psychological rewards that encourage professional development,[50] supporting faculty members' dynamic identity development in response to the 'collective regard' they perceive from others.[68 69] Providing adequate practical support (eg, allocation of additional clinical and administrative support personnel, financial support regarding clinical and academic work) can enhance faculty's professional satisfaction and motivation in their work by minimising stress and burnout, allowing them to focus on core activities.[69 70]

Second, it is necessary to ensure the validity of evaluation criteria at the organisational level by considering the specific features of each department. The uniform application of standardised criteria without considering the specific circumstances of each specialty may lower perceived justice, potentially lowering job satisfaction

and organisational commitment and hindering innovative behaviour.[71 72] Considering that faculty members' work performance varies by specialty and individual values, allowing them to establish evaluation criteria can significantly enhance perceived fairness.[73] For instance, they could be given the autonomy to set the proportion of work based on their aspirations and preferences and receive performance appraisals accordingly, given that professionals' satisfaction is likely to improve with a sense of control over one's tasks and working environment.[74 75]

Moreover, university hospitals should support faculty members both emotionally and practically to build on areas in which they already excel, rather than compelling them to correct and improve deficiencies regarding organisational standards. Faculty members may benefit from support in formulating goals authentic to their unique practice and having 'space' to experiment.[20] This resonates with the finding that 'job crafting', which allows individuals to shape work according to their needs and preferences, can stimulate sustained engagement and productivity in their professional activities.[76 77] By encouraging professional freedom and distinctive approaches to growth plans, we can move beyond a problem-centred approach to an asset-based perspective, laying the foundation for developmental interventions. For example, faculty and organisations could uncover existing advantages and better understand areas in which they can maximise their potential through appreciative inquiry, which uses dialogue to help individuals identify their strengths and opportunities. Modifying work structure by incorporating more diverse and challenging activities[70] and allowing faculty to spend at least 20% of their time on preferred professional activities[78] could be possible interventions. For these interventions to be successfully implemented in workplace settings, most importantly, leadership and management should be open so that faculty feel safe and supported in sharing their ideas and concerns.

Third, university hospitals should promote faculty learning by activating developmental networks among them. Establishing high-quality connections among colleagues fosters positive dynamics by facilitating the expression of emotions and the sharing of new ideas.[79–81] This can improve professional engagement, fulfilment and productivity and reduce the risk of burnout.[50] Specifically, it is crucial to create a context in which individuals with similar specialties and age ranges can freely interact and discuss time-specific concerns regarding their career development. This resonates with the findings of previous studies suggesting that the social learning atmosphere constructed by an organisation could promote open communication and empowerment.[82 83] Mechanisms for promoting collegiality and shared reflection run by Balint groups[84] and Schwartz rounds[85] serve as good precedents to which many hospitals can refer.

This study attempted to view how medical faculty with critical care specialties develop by navigating various challenges and realising their potential within a university hospital from a workplace learning perspective and to illuminate them as continuous learners. However, this study has several limitations. First, the generalisability of the findings may be restricted as the participants came from a single hospital. However, the primary objective of a qualitative approach does not lie in generalising its findings but rather in exploring the experiences of individuals in a specific context and capturing their vivid stories. Second, the participants might have responded in a socially desirable manner due to the study's educational perspective. Despite efforts to ensure the confidentiality of all data, there is a possibility of participants over- or under-reporting certain aspects. Future research should extend this investigation to diverse contexts and specialties by employing robust methodologies. Third, while this study offers a detailed look at workplace learning among faculty in critical care specialties, it does not directly address strategies for faculty retention or burnout reduction. Therefore, it would be beneficial in future research to explore how the identified themes relate to broader issues in medical education, such as sustaining and revitalising faculty across generations. Extending the investigation to diverse contexts and specialties through rigorous methodologies would further enrich our understanding of these dynamics.

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ORCID iD

Jihye Yu http://orcid.org/0000-0002-8039-6580

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