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"Am I Using AI the Right Way?" Centering Equity and Identity in International First-Generation Graduate Students' Narratives of AI and Career Readiness

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ABSTRACT

This narrative inquiry examines how international first-generation graduate students understand AI as they consider their future careers. Drawing on Bourdieu's concepts of capital and habitus and Bandura's concept of self-efficacy, this study examines participants' narratives across three temporal dimensions: their early educational experiences, their current engagement with AI, and the future they hope to build. The findings indicate that navigating AI use may reproduce the structural inequalities these students already face in graduate education. On the contrary, learning how to use AI often depends on informal networks and hidden rules that shape access to academic support and knowledge acquisition. Unless institutions intervene more consciously, AI may strengthen existing advantages rather than expand opportunities.

Keywords: AI, career readiness, equity, first-generation graduate students, international students, narrative inquiry

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INTRODUCTION

Artificial intelligence (AI) is often presented as a democratization tool in higher education, providing students with on-demand support for writing, research, and career development. For international first-generation graduate students, this is defined as being the first in the family who have completed a bachelor's degree and to be studying for a postgraduate degree abroad (Pascarella et al., 2004), and this commitment is far from simple. Many people have successfully completed postgraduate education without inherited academic knowledge, which makes the hidden rules of the academic world easier to understand. If effective use of AI still depends on access to mentorship, peer networks and discipline-specific norms, which may not be easy to obtain, then AI may do less to reduce existing inequalities, but more like another unequally distributed form of capital (Jamal Eddine et al., 2026).

Research shows that first-generation students often face structural disadvantages because they have less access to the cultural and social resources that higher education tends to assume or reward (Bourdieu, 1990; Ivemark & Ambrose, 2021; LeBouef & Dworkin, 2021). At the doctoral level, these challenges often become even more pronounced, as students are expected to form field-specific professional identities without the inherited knowledge or familiarity that might make this process more transparent and accessible (Gardner & Holley, 2011). International students face overlapping challenges as they adjust to unfamiliar institutional expectations and try to develop their professional identities, often without the co-ethnic academic networks or family guidance that might otherwise support them (Katsumoto et al., 2023; Lee, 2017). The rise of AI as a new form of academic capital adds another challenge, especially because access to effective AI use is often shaped by the same informal channels that have long reproduced inequality.

Despite growing research interest in the role of AI in higher education (Kasneci et al., 2023; Tlili et al., 2023) and in the distinct experiences of first-generation and international students as separate groups, few studies have examined how first-generation international students relate AI to their career development. More specifically, little is known about how these students' intersecting structural disadvantages shape their access to and use of AI, their responses to AI-related uncertainty, and their developing professional identities and career aspirations.

This study employs a narrative inquiry approach (Clandinin & Connelly, 2000) to address this gap, exploring how international first-generation graduate students understand the relationship between AI and their career readiness by reflecting on their past educational experiences, current negotiations with AI, and imagined professional futures. Through in-depth interviews with three doctoral students, this study examines how these temporal dimensions interact to shape the question they repeatedly ask themselves: Am I using AI the right way?

LITERATURE REVIEW

International and First-Generation Students in Higher Education

First-generation college students, those whose parents have not yet completed a bachelor's degree (Pascarella et al., 2004), represent a growing but underserved population in higher education. Research suggests that first-generation students face unequal access to cultural and social resources, making it harder to meet institutional expectations (Ivemark & Ambrose, 2021; LeBouef & Dworkin, 2021), and are more likely to experience imposter syndrome (Gardner & Holley, 2011). These challenges are exacerbated at the graduate level: doctoral education requires knowledge in specific fields and an implicit understanding of academic identity, which first-generation students are rarely equipped to inherit (Holley & Gardner, 2012).

International students account for a considerable proportion of graduate students in American research universities (Institute of International Education, 2025), but from an intersectionality perspective, their experiences are less examined compared with domestic student groups (Brunsting et al., 2024). The

intersection of first-generation and international students may create complex navigation demands, as these students must navigate unfamiliar institutional norms and implicit forms of academic knowledge (Ivemark & Ambrose, 2021; Katsumoto et al., 2023). Research on the socialization of international students suggests that the lack of networks and family mentoring in the host country greatly shapes how these students establish professional identities and cope with uncertainty (Lee, 2017). Together, these two bodies of literature suggest that the intersection of first-generation and international student identities brings with it navigational demands that are not only cumulative but structurally overlapping, leaving students largely on their own to navigate the unwritten rules of graduate study.

The rapid popularity of AI tools in the academic environment has aroused increasing attention from the academic community to their potential and risks. Research on the application of AI in higher education shows that there are great differences in the way students use these tools, which is mainly reflected in digital literacy and access to institutional support or guidance (Anthonysamy et al., 2026; Jamal Eddine et al., 2026). Access to technology does not automatically translate into equitable outcomes; what is important is to obtain strategic and situational social and cultural resources (Madaio et al., 2022). This is especially important in the context of AI: knowing the existence of a tool is obviously different from knowing how to use it in a disciplinarily recognized, ethical and professionally beneficial way. For international students and first-generation students who navigate graduate education without inheriting academic capital, this gap between access to opportunities and meaningful use brings a structural disadvantage.

Career Readiness and Meaning-Making

Career readiness is a foundation for demonstrating the core competencies that broadly prepare the college-educated for workplace success and lifelong career management (National Association of Colleges and Employers, n.d.). Career readiness of graduate students is not only about the skills of market competitiveness; it includes self-exploration, career planning and confidence in the future career path (Bandura, 1997; Layton et al., 2022). For first-generation students and international students, shaping career meaning may be complicated by limited access to family role models for graduate-level professional life and the uncertainty of navigating unfamiliar academic and professional systems (Harlow & Bowman, 2016; Katsumoto et al., 2023). The emergence of AI as an academic and professional tool has added another dimension to this process. Students must decide how artificial intelligence can be integrated into their constantly developing identity in the higher education environment, and the norms of AI are still controversial (Kasneci et al., 2023; Tlili et al., 2023).

Existing research has often examined first-generation students, international students, and AI in higher education as separate areas of inquiry. Although emerging scholarship has begun to connect AI use with questions of student background and educational inequality (Jamal Eddine et al., 2026; Madaio et al., 2022), limited attention has been paid to students who are both first-generation and international. For these students, the challenges associated with their intersecting identities may not simply accumulate but may interact in distinctive ways. In particular, little research has explored how they make sense of AI in relation to their life histories and imagined professional futures.

CONCEPTUAL FRAMEWORK

This study draws on Bourdieu's (1990) theory of capital and habitus alongside Bandura's (1997) theory of self-efficacy. Bourdieu helps explain how unequal access to social and cultural resources shapes students' opportunities, while Bandura offers a way to understand how students perceive and act within those constraints.

Bourdieu: Capital, Habitus, and the Reproduction of Inequality

Bourdieu's (1990) conceptualization of habitus, field and capital provides the structural foundation for this study. Habitus refers to enduring dispositions formed through social trajectories. For international first-generation graduate students, habitus formed through family and community environments rarely includes tacit knowledge of how the academic field operates, creating a typical incongruity between their dispositions and the field's implied needs.

The three forms of capital are particularly important. The concrete forms of cultural capital cover knowledge and professional norms in specific fields, such as conventions of academic writing, expectations of interacting with teachers, and practice of professional networks. Social capital refers to students obtaining guidance, information and recognition through these networks. Symbolic capital refers to the qualifications that mark legitimacy in the field. International first-generation college students may have limited access to these forms of capital, including less prior exposure to academic norms, fewer social relationships established in the academic field, and symbolic capital that must be cultivated through institutional performance rather than family reputation.

The emergence of AI may reproduce this pattern. Knowledge of how to use AI appropriately in the discipline, when it is legitimate, how it should be disclosed, and the information it conveys about academic identity is transmitted through the same informal channels as other forms of cultural capital. For international first-generation students without access to these channels, the question of "Am I using AI the right way?" is not a neutral, technical query, but a domain-specific question based on their failure to inherit capital.

Bandura: Self-Efficacy and Agentic Meaning-Making

Bandura's (1997) theory of self-efficacy addresses how individuals develop beliefs in their capacity to achieve specific goals through four sources: mastery experiences, vicarious learning, social persuasion, and physiological and affective states. For international first-generation students, these may be attenuated. Vicarious learning relies on role models who have experienced similar paths, which are rarely available in these students' families. Social persuasion relies on feedback that affirms those with authority in a particular field, and this recognition is unevenly distributed among graduate students. Many students in this population experience persistent anxiety and self-doubt. For these students, mastery experiences may become the primary pathway for developing self-efficacy, as confidence is built gradually through direct experience rather than through the kinds of mentoring, role models, or peer support that are often more accessible to more advantaged students (Harlow & Bowman, 2016; Lee, 2017).

Taken together, these frameworks account for both structural inequalities and individual agency of participants in AI engagement. Bourdieu's notion of cultural capital helps to explain the implicit inequalities in access to institutional knowledge surrounding legitimate AI use, while Bandura's socio-cognitive perspective emphasizes participants' interpretive and enactive responses to uncertainty.

RESEARCH METHOD

This study uses narrative qualitative inquiry as a methodological framework. Narrative inquiry is rooted in the work of Clandinin and Connelly (2000), who argue that human experience is inherently storytelling: people live, tell, and re-tell their experiences, continually reconfiguring meaning through narrative. This orientation suits a study concerned not with measuring AI use but with understanding how international first-generation graduate students make sense of it within their broader educational and professional lives. Drawing on Clandinin and Connelly's (2000) three-dimensional narrative inquiry space, a cross-case temporal structure was employed to organize past, present, and future narratives to trace how prior educational environments, current AI negotiations, and imagined occupational futures interacted with the participants' meaning-making.

Data Collection

The study was conducted at a public research university in the United States. In February 2026, three participants were recruited through purposeful and snowball sampling, and these criteria were required. The selection criteria for participants include: (1) neither parent has completed a bachelor's degree (Pascarella et al., 2004); (2) they are currently enrolled in a postgraduate program as an international student. All participants are 18 years old and above, so they are eligible to provide informed consent. Table 1 shows the demographic information of the participants. Pseudonyms are used in both forms and manuscripts to protect the identity of participants.

Each participant completed an in-depth interview of 60 to 90 minutes through Zoom. The interview guide contained open-ended and follow-up questions, which aimed to elicit narratives of life stories. Sample questions include: "Tell me when AI really helped you and the experience of not helping you" and "Can you describe how AI affects your future career thinking experience?" The content of the interview was recorded and transcribed with the consent of the participants.

Table 1

Demographic Information of Participants

Number	De-identified name	Gender	Degree level	Home Country
1	Ivan	Male	PhD student	Southeastern Asia
2	Lily	Female	PhD student	Eastern Asia
3	Tracy	Female	PhD student	Middle East

Methods for Analysis

The study utilized a cross-case thematic narrative approach with a focus on temporality (Riessman, 2008). Each transcript was read multiple times and narrative threads were identified through iterative open coding, focusing on how participants organized meaning across time. Analysis proceeded in two stages: a within-case analysis tracing each participant's past, present, and future stories; and a cross-case analysis subsequently identifying common patterns and structural tensions between the three narratives. Interpretive memos were written throughout to document the analytic process and emerging conceptual claims.

Trustworthiness

I engaged in ongoing reflexivity throughout the data collection and analysis process, continually examining my positionality, potential biases, and how my experience as a first-generation international graduate student might shape my interpretations. An audit trail comprising interview transcripts, field notes, and analytic memos supported trustworthiness by creating a traceable record of analytic decisions, from raw data to interpretive conclusions.

Positionality

During analysis, my familiarity with these experiences supported the context interpretation, but it also brought the risk of assuming shared meanings with the participants' narratives. To reduce this risk, I used reflexive memos to distinguish between the participants' views and my own experience.

As an international first-generation graduate student, my social status is similar to that of the participants. This close relationship has promoted rapport and made me more aware of the concerns that might have been implicit, including unfamiliarity with academic norms, uncertainty about career expectations, and unequal access to guidance and support. It also shaped the research process by guiding interview prompts, follow-up questions, and how I connected participants' educational background with current experiences and future.

RESULTS

Finding 1: Prior Contexts and Inherited Career Scripts

Among these three participants, their current relationship with AI and career navigation cannot be separated from the educational culture, family expectations, and career support history they brought into the postgraduate stage. Tracy, Lily and Ivan not only brought a personal background, but also a special habit, which was formed over many years in an educational system that was not designed for them (Bourdieu, 1990).

Narrowed Pathways and the Limits of Inherited Capital

For Tracy, who grew up in the Middle East, educational achievements were closely related to family and community expectations for career reputation. In her description, excellent students were encouraged to enter narrow professions that are regarded as social reputation, while education was regarded as classroom teaching and had a lower status. She recalled:

> Because of my high grades and the social status perspective back home, I was either positioned to be a medical student or an engineer, or maybe a lawyer, but going into education was like a no-no to my advisor back at school, and to a lot of family members... everyone thought that, and actually introduced the education field as being a teacher, and that's it.

What is important in analysis is not only Tracy's lack of information, but also that her environment narrowed her sense of possibility. According to Bourdieu (1990), she had not developed a form of academic and cultural capital that may make postgraduate education look realistic. When she finally discovered the academic world, she described it as a revelation: "I thought, how about I study for a doctorate?" She did not follow the path of her predecessors; she began to realize the existence of this road. This situation continued until the postgraduate stage. She described that she was still exploring the institutional structure: "I need to understand what the candidate exam is... I can say that even now, I'm still groping." She talked about the anxiety that her family could not fully understand: "I was the first person to experience these anxieties, which made me more anxious." The double of anxiety here, first, is the experience itself, and then the sense of isolation as the first witness in the family, reflecting a habitual person facing academic rules without guidance.

Lily's account from East Asia suggests a similar structural pattern, though one partly enabled by unusually strong institutional support. Most striking was how passively she described ending up on the path to a PhD: "The decision was not made by me; everything just connected together, and they collectively pushed me to go for a PhD program." This pattern of knowledge driven by advisors and senior laboratory members rather than inherited is a typical feature of students whose families lack academic capital to actively guide the academic trajectory. Lily recognized this: "a lot of things got complemented by the program," she said, adding that her situation placed her "in a privileged place among this community." That distinction matters: her advantages were provided by institutions, not inherited through family.

Ivan's account from Southeast Asia suggests that economic insecurity played a significant role in shaping his early educational experience. He described the transition from high school to college not as a planned decision, but as a response to pressing practical realities:

> My parents don't have savings for my college education. And I think they are more dependent on me, rather than I am depending on them... I was supposed to be sad, but I didn't have the time to be sad. Because I have to kind of just continue.

The ingenuity required to manage these competing demands, without parental guidance in navigating higher education, reflects a habitus shaped by learning to rely on relational resourcefulness to access institutional opportunities in the absence of more conventional academic capital. When Ivan came to the United States to study for a doctorate, his professional identity was established through accumulated field experience rather than inherited academic knowledge.

The Structural Absence of an Academic Inheritance

All three participants lacked an academic legacy: an insider's knowledge of how the field operates, which questions are meaningful, and the academic careers of their predecessors. Tracy put it most directly: "I don't have, let's say, a parent that is already in the education field or in a university." Bourdieu (1990) argues that the academic field partly reproduces itself by rewarding the habitus it helps produce. Students who grew up with academics in the family in the United States were already familiar with the logic of the field; Tracy, Lily, and Ivan arrived without that previous understanding from the country and family background in which they grew up. Anxiety, self-questioning, and the work of self-discovery that run through these three narratives reflect what happens when habitus encounters a field with which it is not yet aligned.

Arriving at AI Without a Guide

This structural condition provides the context for understanding how all three participants later encountered AI. Tracy's observation is emblematic:

> AI is new to all of us. I think the issue is how you navigate it. Google was similar when it first came out. But I didn’t have my parents saying, "Oh, we experienced something similar with Google in academia. Let’s try approaching AI this way." I would be the one initiating those conversations, rather than my parents saying, "Let’s think this through together."

The absence of cross-generational academic dialogue had already shaped how all three navigated doctoral education, but now it affects how they utilize a tool that has not yet been decided on for how to integrate it. Students whose parents have experienced academic and technological changes in the past can provide guidance for specific fields. For international first-generation students, such a dialogue does not exist. They are tentatively exploring by themselves again.

Finding 2: Negotiating AI Use in the Present: Uncertainty, Experimentation, and the Question of Legitimacy

If the first finding established the experience of the three students entering graduate school, then this finding examines what they are working through now. In the interview, Tracy, Lily and Ivan were each in an ongoing and main process of self-direction, aiming to explore how to properly use AI, not only at the technical level, but also at the moral and professional level. For those international first-generation students who have entered the academic field but have not inherited their knowledge of unwritten rules, learning to use AI responsibly requires the improvisation they have applied in other aspects of their

graduate education. The question threading through all three narratives is one that none of them had been taught how to answer: Am I doing this right?

Experimenting Without a Framework

Each participant came to AI through trial and error by themselves, a pattern that reflects the absence of field-specific cultural capital that would otherwise make AI norms legible. Tracy described her first encounter with ChatGPT as arriving alongside a wave of unsolved questions:

> I had a lot of questions. Like, what would happen next? How is this thing running? What is plagiarism now? How should I work with AI? So I would say it came with a lot of questions, like the worries about it were much more than the fact of its benefits.

Tracy has no family in academia to normalize AI use, and no senior colleagues to demonstrate what the right practice is. She finally developed her own protocol through experiments, using AI as a thinking partner, and refused to believe its factual statement after AI generated a conference poster with the wrong date. "From that moment," she said, "I was like, okay, not to be trusted anymore, as much as I did before."

Ivan's trajectory is different, but the structure is similar. For three years, he has deliberately avoided using AI, not wanting to be reliant and full of confidence in his writing ability. This change didn't come from institutional guidance, but from a professor asking students to use Copilot to draft a syllabus. "That's really just when the light bulb kicked in," Ivan said. Since then, he has developed his own work practice, using AI to generate outlines, while providing all the evidence and writing it himself. An instructor's accidental task has far more impact on his AI practice than any work provided by the institution.

Lily's engagement was theoretically grounded, shaped by her own research critiquing AI in education. She articulated her approach with precision:

> In terms of conceptual thinking, I will remain skeptical most of the time because of the underlying algorithm. The foundational algorithm is the large language model; it has natural limitations in terms of conceptual thinking. Because the foundational algorithm they are trying to catch is trying to model the connections that have been built before. Thinking relies on new connections among different kinds of knowledge, even though those kinds of knowledge haven't been connected before.

This provides a clear framework for Lily to judge when AI is appropriate: procedural tasks are free, and conceptual work is reserved for human participation. However, even this thoughtful position was built by her through her own research, not through guidance or institutional guidance, and was self-accumulated rather than inherited.

Ethical Ambiguity as an Equity Problem

Across all three accounts, ethical uncertainty is not a problem that has been solved, but something that each participant deals with in real time and almost always alone. Tracy compared her uncertainty

about AI with the uncertainty of other unwritten professional norms, so that the structural dimension can be revealed:

> What is ethical now? What is plagiarism? How to have AI in my classroom? How much should I trust AI? I would say these are the questions that I would ask my advisor: to what extent can I question my advisor, and to what extent is it ethical to be close to my advisor?

For Tracy, AI ethics, advisor relations and disciplinary conventions are in the same field of epistemology: these are absorbed by students with academic backgrounds through proximity, while international first-generation students must infer through observation and inference. The silencing effect was direct: "Should I ask this question? Is the answer so clear, but I don't know it, that if I'm asking it, I sound too dumb? So, I avoid a lot of those conversations." The silencing of legitimate questions reflects a lack of cultural capital for recognizing which questions are considered safe to ask. Its significance lies in how this uncertainty can restrict students' participation in academic conversations and reduce their opportunities to seek clarification and guidance.

Ivan located his ethical anxiety in attribution in academic publishing: "I have to prove that I did not use AI, or if I use AI, I have to acknowledge it." He also considered whether to use AI to analyze the interview data of his dissertation but finally gave up due to data privacy issues and the intervention of the local language. This decision was made through cautious personal reasoning without institutional support. Lily identified the equity problem most precisely:

> I think we are making a narrative, like, AI now, is everything. You cannot even get a good job without the ability to use AI... I'm trying to incorporate AI into my personal CV, to be prepared for the future job market... On the other hand, I'm also trying to avoid the dominant narrative that AI is everything.

In these double-bind situations, students face two competing demands: they are expected to demonstrate AI competence to remain competitive in academic and professional markets, while also navigating ethical, privacy, and attribution concerns and resisting the assumption that AI should be used in every context. Responding to these competing expectations requires an understanding of how the academic market operates and how to present oneself within changing field norms. This knowledge may come more naturally to those who grow up inside the academic field, whereas international first-generation students often have to build it for themselves.

AI as a Surrogate Interlocutor: Filling Insufficient Social Capital

The most revealing pattern across the three narratives is that AI is at least partially a substitute for the knowledge community that participants lack. Tracy was the most direct:

> In my field, especially in my department right now, there's no one who shows the same research interest as I do. Even my advisor, she's so supportive, but not the same ideas as I do, or even the context that I come from. So, I feel like I need to have a partner with whom I'm talking. Like, I'm thinking of this problem, and I'm thinking of it this way. Does it make sense? Is it logical? I would ask those questions as if I'm having a conversation with a human being.

Tracy added that AI was not the ideal solution: "It's replaceable by a human being. I'm sure it's not something that can be done by someone else; it's just because I don't have that someone else right now." AI filled a gap left by insufficient social capital, not because it was the best interlocutor available, but because it was the only accessible one.

Reflecting on the possibility of having had AI in college, Ivan said wistfully, "I just don't know how much power it could provide." In contrast, Lily's relationship with AI was shaped by a friend in a related field. For Lily, AI played an efficiency-oriented role because she had a human alternative. These differences reflect levels of accumulated social capital and the extent to which AI compensated for its absence.

Together, these accounts show that equitable graduate education requires more than providing tools. For international first-generation students entering unfamiliar fields without inherited norms or networks, limited institutional guidance reproduces the dynamics described by Bourdieu (1990). Those who understand the rules benefit from ambiguity, while others explore alone at a cost invisible to institutions.

Finding 3: Imagining Future Career Pathways With AI: Confidence, Dependence Concerns, and the Weight of an Open Horizon

Tracy, Lily, and Ivan expressed confidence and anxiety, clarity and uncertainty about the future, sometimes within the same sentence. These responses reflect students navigating professional futures without family or social templates while developing AI-related competencies with little guidance on responsible use. For international first-generation students navigating habitus–field mismatches (Bourdieu, 1990), rather than creating neutral opportunities, AI risks reinforcing existing inequities.

A Grounded Confidence Rooted in Prior Commitment

All participants felt confident about their professional futures, but that confidence did not come from AI. Instead, it was grounded in academic commitments they had developed before AI became so prominent. Tracy reflected on how she felt pressure to shift her research toward AI before deciding to pull back:

> I would say recently I've been like, oh, maybe I should shift a bit my research interest, put AI somewhere, but then I'm like, okay, wait. For me, AI is a skill and a tool I can use, but it's not something that is really shaping my work. I can work on refugee access to schools. I might investigate how AI maybe plays a role in their own education. But not be like, okay, I don't care now about education issues, and I just research AI-related topics. It's not me anymore.

Lily expressed the same feeling differently. When asked to describe the essence of navigating career development in an AI-driven era, she said:

> Being clear and determined about what I want to do in the very beginning. AI may change the way we solve the problem, but it would never change the problem. No need to change my problem or my goals just because of AI.

This framing reflects the high sense of career-related self-efficacy accumulated in this field over the years (Bandura, 1997), which is not established through family expectations, but through continuous participation in research and practice. The reason why Lily was confident in resisting the mainstream AI

narrative is that she had established a strong enough understanding of the meaning of her work through her efforts, "Last semester was the most intense time when I was trying to criticize AI, and my advisor and I did a paper related to criticizing AI." Ivan's confidence is partly because of his previous work experience at home. AI simply did not register as a career-shaping force: "It doesn't show up," he said plainly. His career readiness was built through years of actual teaching, administration, and college instruction before his PhD, which gave him a stable self-efficacy (Bandura, 1997) that did not require the AI question to be resolved.

The Anxiety Beneath the Optimism: AI as a New Gatekeeping Mechanism

Although the confidence appeared genuine, underneath was persistent anxiety about AI becoming an implicit academic expectation. Students felt that knowing how to use AI was taken for granted, while not knowing could put them at a disadvantage. Tracy named this directly, experiencing pressure to incorporate AI into her research identity:

> It makes me feel like a burden of always having AI and using the AI language, so that I look attractive, maybe especially in the work field as a faculty member... So, this also makes me think more of working in think tanks as a policy analyst, where AI does have its role, but mostly, it's really working on a project that is really of my interest, and it does not have to have AI.

Ivan's anxiety about his professional future was displaced in time and geography. He situated his answer in the home country he was returning to rather than the U.S. academic context:

> I don't think AI is going to do so much, especially since I'm also thinking in the context of my home country, and what I know is that people back in my country haven't used AI that much either. They are more indifferent to it. Since I plan to go back to my home country, I think it doesn't show up that much in my future career picture.

Ivan was entering a career environment where AI was not yet a gatekeeping mechanism. His calmness reflected the different rules operating in the field to which he planned to return. His account suggests that pressure associated with AI as a credentialing signal may be experienced differently across *professional* fields and national contexts. For Ivan, this pressure remained distant rather than immediate.

Imagining Forward Without a Template

A recurring theme centered on navigating a career path entirely devoid of visible predecessors. Although Tracy used ChatGPT to map job titles and career trajectories, the platform provided information without addressing her foundational question: Where do I belong? Lacking the reflected appraisals from knowledgeable significant others that typically anchor career self-efficacy (Bandura, 1997), she substituted autonomous AI exploration for traditional mentorship.

Lily considered two parallel directions: critical academic research on AI and machine learning in education as research methods. Rooted in nine years of study, this choice reflected her commitment to long-term problems rather than temporary trends or specific methods. In picturing the future as a tenure-track professor, Ivan treated AI as a useful preparation aid, though never as the core of the work or what gave it purpose.

What distinguished these students' futures was not what they envisioned, but the effort involved in getting there. Their futures were shaped through sustained and often solitary effort, without the social

support, role models, and cultural familiarity that make academic pathways easier to navigate (Bourdieu, 1990). What looked like confidence from the outside was the hard-won outcome of years of navigating without a template. When universities leave academic expectations, norms around AI use, and career guidance unclear, students without access to family knowledge or established networks have to figure these things out on their own. Their growing confidence may obscure how much time and emotional effort this process takes, and how much uncertainty they face along the way. Graduate education needs to account for these unequal demands rather than treating confidence alone as evidence that students are adequately supported.

DISCUSSION

This study examined how international first-generation graduate students interpret the role of AI in shaping their career paths. Taken together, their stories show how AI adds new pressures to an already uneven graduate school environment. Unequal access to mentorship and support for these students is nothing new, yet the rise of AI has made those underlying inequalities harder to ignore and more costly to deal with.

AI Literacy as an Emerging Form of Unequally Distributed Capital

Across the narratives, AI literacy is emerging not simply as technical competence, but as situated knowledge about when, how, and for what purposes AI use is considered legitimate. Access appears to be mediated through informal channels governing the distribution of academic capital. These informal channels are also consequential for professional identity development. Recent research indicates that first-generation graduate students are less likely than their continuing-generation peers to experience collegial relationships that support their transition into independent professional roles (McCain et al., 2024). Students with academic backgrounds can explore the significance of AI in their specific fields through intergenerational dialogue. Tracy, Lily and Ivan did not have the dialogues at that time. The consequence was not that they failed to develop AI practices, but that they had to figure them out alone through trial and error, without external confirmation that they were getting it right.

Although commonly described as a democratized resource, uneven access to opportunities, AI literacy, and institutional support may reproduce or exacerbate educational inequality (Jamal Eddine et al., 2026; Madaio et al., 2022). International students may face challenges while learning unfamiliar institutional norms, adjusting to educational systems, and navigating unequal access to technology (Anthonysamy et al., 2026). International students' generative AI engagement is shaped by AI literacy, perceived usefulness, trust, social norms, and plagiarism concerns (Ittefaq et al., 2025). Structured AI literacy instruction was associated with greater self-reported confidence, understanding of ethical AI use, and critical evaluation of AI-generated content among international students (Ngo & Hastie, 2025). For first-generation students, difficulty obtaining informal institutional knowledge and support networks may compound these challenges (Grim et al., 2024; LeBouef & Dworkin, 2021). These narratives reveal that AI tools alone are insufficient; what matters is the social scaffolding around them, the collegial networks, professional norms, and contextual judgment that determine whether AI use is productive and safe.

Structural Constraint and the Cost of Self-Reliance

These students succeeded by working persistently, often on their own, with little institutional guidance. They also had limited opportunities to learn from others or receive encouragement, two sources of self-efficacy that Bandura (1997) describes as vicarious experience and social persuasion. Each has developed a feasible method by exploring alone: Tracy developed her protocol through trial and error after a costly conference poster mistake, Ivan's understanding shifted through an incidental faculty assignment, and Lily drew on years of self-taught machine learning and a friendship.

The hidden curriculum of graduate education consists of the unwritten norms, expectations, and practices that students are expected to navigate. It can place a disproportionate burden on those with limited access to insider knowledge and established academic networks (Sabnis et al., 2023). The agentic capacity these three students demonstrated is worthy of recognition. However, recognizing this capacity should not obscure the institutional responsibility to create conditions in which such extensive individual effort is less necessary.

IMPLICATIONS

The implications of these findings prompt us to take targeted institutional measures for international first-generation graduate students. First, graduate programs should create structured introductory AI training that is field-specific and explicitly addresses the questions international or first-generation students are most likely to face alone for specific fields: what is the legal use of AI in this discipline? How should AI assistance be disclosed? What are the discipline norms around AI and authorship? The programs can integrate AI literacy dialogue into introductory training, seminar courses and mentor-guided student meetings to create a space for discussing basic questions to become normal rather than stigmatized.

Second, the institution should establish a peer mentor structure to pair the newly enrolled international first-generation students with those senior students who have mastered the integration of AI in their respective fields. Because these students usually lack family networks and peer academic communities that provide informal knowledge transfer, structured close peer mentors can partially replace the intergenerational guidance that they cannot access at home.

Third, the field must resist the use of AI competency as a new marker of intellectual value. As funding priorities and job postings increasingly show that AI alignment is a prerequisite for gaining credibility, the most vulnerable students are often those who are already experiencing multiple structural obstacles. Institutions must critically examine and assess whether AI expectations embedded in practice inadvertently limit students who lack the most social and institutional resources, thus preventing them from meeting these expectations.

CONCLUSION

This narrative inquiry shows that international first-generation graduate students not only regard AI as a technical tool, but also as a new place where the existing inequality in culture and social capital is manifested. The three participants developed practices related to AI through different combinations of self-directed experimentation, existing experience and interpersonal support. AI sometimes made up for the lack of academic networks, but the uncertainty about ethics, disciplines and professional norms may also turn it into a new gatekeeping mechanism. Graduate schools should clarify AI expectations, provide guidance in specific fields, and strengthen the guidance system. Equitable integration of AI requires not only access to technology, but also the knowledge and relationships needed to use it confidently and responsibly.

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