



Narrating Pedagogical Identity: Mathematics Lecturer Generation Z in the Digital Teaching Era

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Abstract

This study explores the pedagogical identity becoming of Generation Z mathematics lecturers within digital learning contexts. Using a qualitative narrative inquiry design, the study involved two Gen Z mathematics lecturers from Indonesian universities. Data were collected through in-depth interviews and analyzed through narrative storytelling and interpretive thematic analysis. The findings reveal that pedagogical identity develops through a dynamic, non-linear process of becoming shaped by reflection, adaptation, and the negotiation of pedagogical experiences. Technology functions not merely as an instructional tool but as a pedagogical space that shapes teaching practices, relational interactions, and professional meaning-making. The lecturers continuously negotiate closeness, authority, and emotional relationships within digitally mediated classrooms. The study proposes a conceptual model that shows how pedagogical identity emerges from the interconnected experiences of personal history, pedagogical practice, socio-emotional relations, and digital pedagogical spaces.

Keywords: Pedagogical identity; Pedagogical becoming; Generation Z lecturers; Narrative inquiry; Digital pedagogy.

Abstrak

Studi ini mengeksplorasi pembentukan identitas pedagogis dosen matematika Generasi Z dalam konteks pembelajaran digital. Menggunakan desain penyelidikan naratif kualitatif, studi ini melibatkan dua dosen matematika Generasi Z dari universitas di Indonesia. Data dikumpulkan melalui wawancara mendalam dan dianalisis melalui penulisan ulang narasi (*restorying*) serta analisis tematik interpretatif. Temuan menunjukkan bahwa identitas pedagogis berkembang melalui proses pembentukan yang dinamis dan nonlinier yang dibentuk oleh refleksi, adaptasi, dan negosiasi pengalaman pedagogis. Teknologi berfungsi bukan hanya sebagai alat instruksional, tetapi juga sebagai ruang pedagogis yang membentuk praktik pengajaran, interaksi relasional, dan pembuatan makna profesional. Para dosen terus-menerus menegosiasikan kedekatan, otoritas, dan hubungan emosional di dalam kelas yang dimediasi secara digital. Studi ini mengusulkan model konseptual yang menunjukkan bagaimana identitas pedagogis muncul dari pengalaman yang saling terkait antara sejarah pribadi, praktik pedagogis, hubungan sosial-emosional, dan ruang pedagogis digital.

Kata Kunci: Identitas pedagogis; Pembentukan pedagogis; Dosen Generasi Z; Penyelidikan naratif; Pedagogis digital.

1. INTRODUCTION

In the digital classroom, the lecturer is not only teaching but also continually negotiating how they present themselves, interact, and are perceived as a teacher. The development of digital technology has changed the methods of learning designed and implemented in higher education, including the use of Learning Management Systems (LMS), interactive media, and deep *artificial intelligence* (AI). activity learning every day. Transformation. This pushes learning toward greater flexibility, openness, and technology-based approaches (Akour & Alenezi, 2022; Bonfield et al., 2020). Furthermore, digital transformation affects pedagogical practice, communication, and learning, as well as the relationship between professional lecturers and students in environments where college study is increasingly digitalized (Choi-Lundberg et al., 2023; Imran et al., 2023; Mondragon-Estrada et al., 2023). In other words, change is not only about using technology as a tool but also about changing lecturers' methods of understanding and practicing pedagogy, as well as how they position themselves in a digital learning environment.

Technology presents a new possibility at a time, causing tension. On the one hand, technology allows lecturers to create more interactive learning and to be closer to experienced students. On the other hand, the space of digital classes is also changing patterns of communication, relationships, pedagogy, and the ways authority is built into learning. The situation becomes more complex in education, requiring mathematics lecturers not only to convey concepts but also to help students build meaningful understanding of them through interaction, representation, experience, and reflective learning (Faria & Tinti, 2024; Marshman & Goos, 2025). Technology integration in digital learning also requires lecturers to continue negotiating the connections among pedagogy, content, and technology in daily practice (Drugova et al., 2021). Thus, changes in digital pedagogy affect not only learning strategies but also the formation of a lecturer's pedagogical identity.

Identity pedagogy is understood not as a permanent professional attribute, but as a developing process of becoming through experience, reflection, and negotiation with various pedagogical and social demands (Rushton et al., 2023; Liang et al., 2024). In practice, lecturers continue to build and interpret the return method they teach, use technology, build relationships with students, and interpret their role in the context of continuous education (Orfali et al., 2024). Identity pedagogy, in turn, is shaped not only by what lecturers know but also by how they experience and interpret practice teaching.

Dynamics become more interesting when associated with emergence—Generation Z as a group, young lecturers in college. As a growing generation in a digital environment, Generation Z has a close relationship with technology and tends to be more open to flexible, interactive, and learning-based experiences (Szymkowiak et al., 2021; Chan & Lee, 2023). Characteristics are also related to the Generation Z trend of building more communicative, participatory, and relational learning (Biswas, 2021; Cutillas et al.,

2025). However, closeness to technology is not always aligned with a stable identity pedagogy. In practice, Generation Z professional lecturers need to negotiate relationships with students, build authority in the classroom, adapt to institutional expectations, and adopt digital pedagogy (Hayashi et al., 2022; Lan, 2024). Becoming lecturers in the digital era means not just addressing technological problems, but also engaging in continuous pedagogical change in the classroom.

Several studies have discussed identity among professional lecturers and teachers in various contexts, including the transformation of identity in online learning (Celebi & Eraldemir-Tuyan, 2022), the development of identity through teaching experience (Simon, 2024), and the connection between technology and pedagogical practice (Su, 2023). However, some big studies still put identity as an aspect of competence or adaptation to technology. Observed study identity pedagogical as experience constructed narrative through a process of reflection, negotiation, and experience life lecturers — especially lecturers mathematics Generation Z in context digital learning— still relatively limited.

In this context, narrative inquiry becomes relevant. Narrative inquiry frames experience as a story that reveals how individuals construct meaning from their professional journeys (Clandinin & Connelly, 2000; Riessman, 2008). Through this approach, identity pedagogy can be understood as a moving process among past experiences, current practices, and future orientation, all at once showing how technology, social relationships, and experience teach one another through the experience of a professional lecturer.

Based on the stated matter, the research aims to explore how Generation Z mathematics lecturers build and interpret their identities through pedagogy in the digital learning era. In particular, research aims to: (1) reveal the narrative experience of lecturers in mathematics Generation Z in building identity pedagogically, (2) understand how experience teaching in the digital era shapes identity, and (3) analyze how lecturers interpret their role in teaching students of the digital generation.

Novelty study: This lies in the effort to understand the pedagogical lecturer's identity as a process of becoming, formed through experiential narrative in digital pedagogical research. This integrates identity, pedagogical, experiential, and generational, and digital learning contexts into a narrative framework that places the experience of life as a lecturer at the center of analysis. Thus, this expected research can expand understanding of how identity is pedagogically constructed, negotiated, and interpreted in contemporary transformation education.

2. RESEARCH DESIGN

2.1 Narrative Inquiry

Study This uses a qualitative approach, employing a narrative inquiry design, to understand how Generation Z mathematics lecturers construct and interpret their pedagogical identity in the context of digital learning. Narrative inquiry was chosen for this study. This stems from the assumption that experience is understood, structured, and interpreted through a story (Clandinin & Connelly, 2000). In this context study, teaching experience is viewed not as a series of static events but as an ongoing negotiation through social relations, institutional context, technology use, and professional reflection.

Study This refers to the three-dimensional narrative inquiry framework of Clandinin and Connelly (2000), which examines experience through the dimensions of temporality, sociality, and place. Therefore, research focuses not only on what participants experience but also on how experience moves among past, present, and future orientations; how personal and social relationships influence experience; and how the digital learning context shapes the experience of professional participants.

In the study narrative, experience is understood as the main source of knowledge, while the story becomes a medium for understanding how individuals build meaning in life professionalism (Riessman, 2008). Thus, research is directed not toward generalization but toward deepening the present understanding of the process of becoming an identity-pedagogical lecturer in mathematics for Generation Z in the digital learning era.

2.2 Research Ethics

This study is conducted with notice, principles, ethics, and qualitative and narrative research methods. Before data collection began, participants received an explanation of the research objective, the data collection process, the use of the research data, and their right to withdraw from the study without consequences. All participants gave their informed consent before the study started.

Because of research, this focus on personal and professional experiences means attention is given to confidentiality, identity, and the sensitivity of narrative participants. All participant names and institutional names, and any information that may be identifying, are disguised with pseudonyms. In addition, the narrative compilation process is conducted carefully to avoid harming the participant's academic and personal standing.

As confirmed in narrative inquiry, the research narrative is a relational process that involves active involvement between researchers and participants (Clandinin & Connelly, 2000). Therefore, the interpretation and compilation narrative is carried out through a reflective and negotiating process, sustained throughout the study's duration. Summary interpretations and narrative research results are also shared with participants to ensure the suitability and representation of their experiences.

2.3 Participants and Context

This study involves two mathematics lecturers from two Indonesian universities on the islands of Lombok and Kalimantan. Participants were selected through purposive, criterion-based sampling because they are considered capable and have extensive experience in developing identity pedagogy in digital learning contexts (Creswell & Poth, 2018).

Participants first, the deep study. This is Lecturer A, a mathematics lecturer at the time. Data collection is in phases, beginning with career academic experience, teaching for around 3 years. Lecturer A actively uses digital technology in learning, including the Learning Management System (LMS), interactive media, and various digital platforms to build communication and learning with students. In practice teaching, Lecturer A shows a strong emphasis on closeness and relationality with students, as well as flexibility in learning.

Participants' second, Lecturer B, is also a Generation Z mathematics lecturer with about 2 years of teaching experience at a college. Lecturer B has experience using digital technology in learning and demonstrates pedagogical trends that reflect interpret practice. In an interview, Lecturer B may reflect on experiences adapting to the role of a young lecturer, using technology in the classroom, and navigating the tension between proximity to students and their professional roles as teachers.

Second participants chosen Because fulfil several criteria, namely: (1) including category Generation Z, namely individuals born in the range 1995–2010 (Szymkowiak et al., 2021; Chan & Lee, 2023); (2) have background behind education mathematics or mathematics; (3) have experience teaching at university; (4) using digital technology in learning; and (5) willing reflect experience professionalism in a way deep.

The selection of two participants in the study is based on the principle of depth over breadth, namely, prioritizing depth of exploration experience over the number of participants. Therefore, this research is directed toward understanding the complexity of experiencing life and practicing pedagogy in depth, rather than producing statistical representations.

2.4 Data and Analysis

Data collected through in-depth interview narrative and document support during not more than 4 months. The research began with an interview-based narrative introduction. To explore the journey, participants become mathematics lecturers and experience: previous experience, beginning teaching, use of technology in learning, as well as views on the role of Lecturers in the digital era. Interviews are semi-structured, structured, and open-ended to give participants room to share their experiences in a way that is reflective and chronological (Riessman, 2008).

Unlike interview-based questions, the study used a closed-ended approach to interview narrative. This is used to push participants to build a story about their experience; they alone. Therefore, during interviews, researchers use lighter questions, such as “How did that experience happen?” “What do you feel about that moment?”, or “Why is that experience important to you?” Approach: This allows experienced participants to develop naturally and in a non-fragmented way, resulting in short answers.

Interviews were conducted over several sessions to allow time for reflection and for the story participants' development. In addition to interviews, the research also uses document sources such as curriculum vitae, work plans, Semester Learning (RPS) documents, digital academic profiles, teaching materials, and other learning documents. For help understanding the context, professional and pedagogical practice.

All interviews were recorded and transcribed verbatim after the data collection process was completed. Analysis done in a way that is gradual and iterative, with combined principle analysis, narrative, restorying, thematic coding, and synthesis across cases. Stage 1 of the analysis is done by reading the holistic-to-all-over transcript. For understanding channel stories, experiences, important tension experiences, and reflections that arise in narrative participants before the data is split, these become codes for analysis (Riessman, 2008).

After reading the holistic data, researchers do initial coding individually for each participant. To identify related experiences with the academic journey, pedagogical practice, technology use, relationships with students, professional reflection, and the formation of pedagogical identity. Coding is done on a case-by-case basis to ensure that the specificity of each participant's experience is preserved.

Stage next done through comparison-based coding, i.e., juxtaposing pattern experiences across participants to find areas of similarity and difference in experience without removing the uniqueness of each lecturer's story. This process produces a development system that is more code stable and helps researchers understand patterns across cases in information pedagogy.

The core stage of analysis is conducted through restorative means, namely, compiling participants' return experiences in the channel into more narrative, complete, and meaningful accounts (Ollerenshaw & Creswell, 2002). In this process, participants were arranged based on the background of the experience, the meaning of the experience as a challenge, point back, change, and reflection. Restoration is done to restore connectedness between events and allows experience to be understood as a journey for a professional who continues to develop.

The narrative that has been arranged and then analyzed uses dimensions of temporality, sociality, and place to understand how past experiences, relationships, sociality, and

context mutually form digital learning identity among pedagogical participants. Analysis: This helps researchers see how identity pedagogy develops dynamically through participants' life experiences and professional practice.

At the stage end, the synthesis thematic and cross-case analysis for developing themes, meta-themes, and conceptual models about the formation of identity of pedagogical lecturers in mathematics Generation Z. The analysis process was assisted using MAXQDA Pro (26.2.0) for supporting data organization, coding, and visualization connections among themes through Code Matrix Browser, Code Relations Browser, and MAXMaps. Visualization is used to help interpret the connection between experience and narrative structure, not as a primary analytical technique.

In line with the principles of narrative inquiry, the analysis is conducted relationally and reflectively. Transcript interview, interpretation, main and narrative results, restoration, shared return to participants through the process of reflection, members, and ongoing narrative during the study. To ensure that the resulting narrative still represents participants' experiences in a meaningful, contextual way (Barkhuizen, 2014). In addition, the trustworthiness of the research was guarded through involvement of reflective researchers, documentation of the analysis process, and an interpretative narrative that is done in a way that is contextual and sustainable, as recommended in the study qualitative and narrative inquiry (Lincoln & Guba, 1985; Korstjens & Moser, 2017; Stahl & King, 2020). Reflective and ethical processes in the collection, validation, and interpretation of experiences; participants also serve as an important safeguard for the integrity of the study's resulting narrative (Freitas, 2025).

3. FINDINGS AND DISCUSSIONS

3.1 Findings

3.1.1 Lecturer A: Be Yourself Through Uncertainty and Reflection

Living with Uncertainty

Initially, the relationship between Lecturer A and mathematics developed naturally and consistently. It does not experience compulsion in learning, but rather precisely enjoys the process. "Every day that I study mathematics ... no, there is the word tired ... because I initially like that." Interest: This brings it to the choice of the field of mathematics in college. However, the decision to follow with clear direction to the profession. When faced with a choice between mathematics pure and educational, he doubted, "Confused, want to take which one... pure or education." In this situation, the role of family becomes dominant: "Parents direct, " just to be a teacher.

Even though the choice not to fully originate from his wish: "I actually do not want to become a teacher." Aspirations to become a lecturer. Actually, it has appeared, but it is still weak and has not yet become clear orientation: "There is a thought that wants to be a lecturer, but no one wants it very much. With this, the journey. At the beginning,

Lecturer A showed an interest in mathematics, not in a way that automatically produced a definite professional direction.

Journey academics also developed through an unavoidable, always-planned situation. The decision to continue Master's studies appears in the context of the pandemic: "When I entered the Master's program because of COVID... so the right choice for school." At that level, he started to realize the limitations of his experience compared to other students: "My Master's program friends may have already once taught... I am a fresh graduate." Awareness. This strengthens the feeling that he is still in the process of becoming a teacher.

Experience teaching in guidance study is then an important point in the journey, as it is said. Experience that is not born of planning a mature career, but rather from limited access to formal education. "Entering formal school was not easy, so I chose tutoring instead." However, experience precisely brings them together with comfort, new in teaching, "It turns out I like teaching. I am very comfortable." At the same time, the experience is beginning to reveal the complexity of the teaching world, especially when faced with diverse student characters.

After graduating from the Master's program, the journey to becoming a professional lecturer is not smooth. He faced various rejections: "Send application to various campuses... many do not reply or refuse." Uncertainty. This makes him start questioning the direction of his life alone: "Maybe destiny I of course No become lecturer." In this phase, being a lecturer is not about presenting firm ideals but about engaging in a continuous negotiation process that adapts to circumstances.

Teach doubt, self, and reflection.

The most powerful experience in Lecturer A's journey occurs when he truly begins to be in the room during the formal class. Doubts about himself as a teacher develop slowly since the transition period from student to lecturer. He feels not yet fully ready compared to his older colleagues, who are more experienced.

Feeling more felt when facing passive students in class. He questioned whether students truly understand the material presented, "Students are silent... I feel whether they understand or not." Situation: This raises more doubts within my capacity, myself: "I feel doubtful... this is already correct, not yet?" In fact, anxiety develops into concern about the long-term impact on learning, "fear that they graduated without understanding anything".

For Lecturer A, the experience in class No stands as an incident, a single point of meeting various experiences previously encountered, such as feeling not yet ready, limited experience, and pressure as a new teacher. He started to realize that an error in teaching

can keep going, continue to students: "If we are wrong, will keep going be wrong... mistake chain."

However, the response that emerged was not a drastic change in teaching methods, but rather continuous, repetitive reflection. He said, "Every finished teacher... me always ask ... already Correct or not yet?" Reflection: Then, present improvement as a personal endeavor: "I became a more prepared self before teaching." Thus, the process of becoming a Lecturer A developed through doubt, reflection, and effort to understand himself alone as a teacher.

Negotiating stability and *becoming*.

In the end, the decision to become a lecturer was more influenced by practical considerations than by the realization of ideals from the beginning. Stability factor becomes the main consideration: "I am afraid to take big risks... I choose more stable paths." Opportunity to become a lecturer. Alone present through the CPNS (Probationary Civil Servant) path, not through the career plan arranged with ripe.

In the undergraduate profession, said Lecturer A, one develops one's own rhythm and approach. He stated, "I am relaxed just ... later part Serious lately. Attitude This No solely form passive, but part from method manage himself in term long: " if I spend ambition at the beginning ... later bored."

Therefore, becoming Lecturer A is not shown as fully resolved/finished. He still sees himself as an individual looking for direction. "I have not found one's identity, I become a lecturer, understood as a continuous learning process, ongoing: learning every day ...upgrade yourself."

Study teaching in the AI era

In the field of face development technology, Lecturer A shows a reflective attitude. He realized that technology and AI cannot be avoided in contemporary learning: "We must side by side with AI... but no one may stop learning." On the other hand, he also expressed concern about the impact of excessive AI use on students' learning.

Technology for Lecturers is understood more as a set of tools that make learning easier and more communicative. However, he still believes that technology needs to be controlled pedagogically to avoid reducing students' thought processes.

At the end of his reflection, a starting awareness of the need to continue developing: "Now it is time to dig again." Thus, awareness still walks side by side with uncertainty about the direction of his future life. Thus, Lecturer A's journey shows that identity pedagogy develops slowly through reflection, doubt, and negotiation, changing both the self and the profession's demands.

3.1.2 Lecturer B: To become Through Adaptation and Negotiation

Learn return mathematics

Unlike Lecturer A, Lecturer B's relationship with mathematics began with an experience that was not entirely positive. He admitted, "To be honest, in the past I did not like mathematics ... I feel independent because I think that I have already separated from mathematics. However, identity as a lecturer has existed since the beginning of college: "Since beginning undergraduate studies, ambitions I of course want to become a lecturer."

Change his view of mathematics; develop through experience studying at a college high school. He started to find a different experience through a lecturer, the mentor who became a role model, "I have a lecturer, the mentor who became my role model, I want to become like his influence." Not only related to science, but also the way of teaching, "How to teach him fun ... no stiff."

This change prompts Lecturer B to look at mathematics in different ways. He realized that the relationship to mathematics can change with experience. The pedagogical education he received also changed. Because of that, his pedagogical development of identity comes not from love, beginning with mathematics, but rather from experience and transformation in learning and teaching mathematics.

Teach through technology

When teaching, Lecturer B has a close, context-related relationship with technology. It is placed in an environment that demands learning about the connectedness between mathematics and technological practice: "It turns out mathematics is very closely related to technology."

In practice teaching, he finds that the conventional approach is not always effective. "If I explain conventionally, they do not catch it." On the other hand, students more easily understand when learning is directed at practice directly, "when they directly enter their practice ... more easily understand".

However, integration technology in learning also presents significant challenges. Obstacles to infrastructure like laboratories, electricity, and Wi-Fi often influence the learning process: " Sometimes laboratory limited ..." and "Wi-Fi or electricity problematic." The situation pushes him to keep going, adapt, and prepare alternative strategies. "I have to prepare plan B". Thus, in Lecturer B's experience, technology is not only functioning as a tool to help learning but has also become a room pedagogical place identity for teaching that Lecturer B is developing.

Negotiating authority and proximity

Experience Lecturer B's teaching was also colored by negotiations between building proximity with students and maintaining legitimacy as a young lecturer. On one side, he sees that student involvement increases when learning becomes more interactive: "see

enthusiastic students ... far taller compared to the lecture.” However, he also faced situations in which students did not pay enough attention to him or even belittled him: "There is something more old ... looks belittled me".

Experience the concern about bringing up professionalism as a lecturer, "I am afraid they will consider me. There is a difference from the previous teachers. In a situation like this, he starts to confirm his position: “At that hour, I am a lecturer."

Even though, thus, Lecturer B does not build authority through too faraway stiffness. He tries to build a fluid relationship with students, "no object Eat together students ... joking around while studying", but still guards seriousness in learning, “still Serious in material.” With this, space class becomes an arena where proximity, emotion, and authority continue to be negotiated.

Become an adaptive lecturer.

Over time, Lecturer B began to see himself as an adaptive individual. “I am an easy lecturer to adapt. Experience teaches give him satisfaction alone, especially when he sees the involvement of students in learning: “seeing enthusiastic students ... gives satisfaction."

However, he also realized that professional lecturers never walk with ease. "It turns out to be a lecturer. That is enough tiring. In the face of AI development, he shows an attitude that is not fully optimistic: “I am worried students trust AI more than their lecturers. Thus, he emphasizes that there is a side of humanity that technology cannot replace.

His future outlook also began to change. seen as clearer compared to Lecturer A. He wants to be known as a nearby lecturer in technology and AI: “wants to be known as an expert lecturer in technology, AI, and programming.” Ultimately, the journey leads to awareness of himself alone: "It turns out I can become a figure as strong as that."

3.1.3 Negotiating Identity Pedagogy in Digital Space

Become a lecturer through a nonlinear process.

The narratives of Lecturer A and Lecturer B show that becoming a lecturer does not follow a completely linear, planned path. In Lecturer A, the identity as a lecturer develops slowly through many experiences influenced by external factors, such as family encouragement, the pandemic, limited opportunities at work, and teaching experiences that were not originally intended as footholds for the main career. Desire to become a lecturer. Alone appears in an ambiguous, not yet fully strong way, as seen in his statement that he "exists, but wants to be a lecturer, only no one wants it really.” Even after entering the profession of lecturer, Lecturer A still sees himself as in the process of self-search and development.

On the other hand, Lecturer B has shown a more professional orientation since the beginning of the study period. He stated that ideals have appeared since the undergraduate level. Although this is true, professional development still occurs through a combination of personal and available opportunities, including recruitment processes within institutions, through which participants gain experience. Experience shows that becoming a lecturer involves a continuous process of movement and negotiation, rather than a fixed professional identity that remains intact from the beginning.

Mathematics as an experience of real pedagogy

Experiences of second participants show that the relationship to mathematics becomes an important part of the pedagogical formation of identity, even though they develop along different trajectories. In Lecturer A, the proximity to mathematics has formed since early on and is growing in a relatively stable way. He had viewed mathematics as familiar and pleasant since school days, so his interest in the field developed naturally and sustainably. Positive relationships. This then becomes the basis for developing an academic and pedagogical identity as a mathematics lecturer.

In contrast, Lecturer B's initial response to mathematics was shaped by a negative experience. He totally openly confessed that moment, in school. He does not like mathematics. Change begins when He experiences different learning at college, especially through interactions with a lecturer who becomes a role model. Experience the change in his view of mathematics and learning. In this context, Lecturer B's pedagogical skills are not born of a love of mathematics, but rather develop through experience and transformation in learning and teaching mathematics.

These findings show that foundation identity pedagogy does not always develop through uniform experience. On one side, identity can grow through a continuity relation with mathematics. On the other hand, identity can also be developed through reinterpretation, learning from the previous one, with a negative nature.

Technology as a room pedagogical

Technology is an important part of the experience of pedagogical second participants, but is interpreted differently. At Lecturer A, technology is understood as a tool to support learning, visualization, mathematics, in-class communication, and the management of learning through the LMS. In Lecturer A's experience, technology helps create more interactive learning and makes it more accessible to students. However, he also showed an attitude reflective of AI developments, as well as concern that technology can reduce students' thinking when they rely on it too heavily.

At Lecturer B, technology holds a more central position in practical learning. Technology is used not only to support learning but also as the primary medium for connecting mathematics to practical applications, such as coding and other technological contexts. Experience teaching: Lecturer B shows that student involvement tends to increase when

learning is directed toward practice-based technology rather than a conventional approach.

Although this experience, the second participant also showed that using technology always walks side by side with various forms of negotiation, pedagogical, and structural. In Lecturer A, negotiations appear as concerns about the impact of AI on students' learning process. At Lecturer B, negotiations are more. Many limitations exist in facilities, such as laboratories, electricity, and internet connectivity, which affect the learning process. Thus, technology, in the experience of second participants, is not limited to technical elements but also serves as a pedagogical space, offering opportunities and presenting challenges in practice.

Classroom as a negotiation of emotions

The classroom became the main arena of place-identity pedagogy; the second participants developed and negotiated. In Lecturer A, the class experience was more colored by reflection, self-doubt about teaching capacity, and worry about understanding students. Responses from passive students raise questions about the effectiveness of the learning being carried out. Experience the encouragement. Lecturer A always keeps going, reflects on practice teaching, and improves preparation before entering class.

At Lecturer B, the class presents different tensions. In addition to navigating learning dynamics, it also needs to build legitimacy as a young lecturer, especially when face-to-face with more senior students. In certain situations, he feels his position is not valued, so he needs to assert his authority as a lecturer. However, Lecturer B continues to build fluid and non-fluid relations with the student through more communication, closer and more interactive.

Experienced second participants show that the classroom is not only a place where knowledge is transferred, but also a space for the emotional connection between the lecturer and the students. Keep going: negotiate relationships, trust self, build interpersonal closeness, and assert professional authority. Identity pedagogy thus develops through concrete, experiential learning in everyday practice, which continues to change and demand adjustments.

3.2 Discussions

3.2.1 Identity pedagogy as a formation process is nonlinear.

The narratives of Lecturer A and Lecturer B show that becoming a lecturer develops along tracks that are fully professional, stable, or planned. In Lecturer A, becoming appears through doubts, limitations, opportunities, and continued, repetitive reflection on his capacity as a teacher. Interest in mathematics since the beginning. No, in a way, automatic form orientation, clear professionalism. The decision to become a lecturer develops gradually through a combination of encouragement from family, teaching experience, constraints and opportunities in work, and adaptation to the various

situations professionals face. Even after entering the lecturing profession, Lecturer A still sees himself as someone who continues to learn and seek a professional direction.

On the other hand, Lecturer B showed that orientation has become clearer for more lecturers since the beginning of the lecture period. However, experience and professionalism continue to develop through adaptation to the work environment, practice teaching, and changes in the digital learning context. In the second narrative, the identity professional is not present as conditions that have already finished, but keeps going, moving through experience, reflection, and negotiation to change the pedagogical context.

Experienced second participants show that past experiences do not remain merely background in personal life but remain present in how they understand and practice teaching today, becoming a deep context. This develops through a dynamic relationship among personal experience, professional opportunities, and reflection, enabling the practice of pedagogy in everyday life. Meaning the in line with a view that places professional identity as a continuous process developed and negotiated, not as a permanent attribute of professionals (Rushton et al., 2023; Liang, 2024).

In the context of Generation Z, becoming is also characterized by greater generational flexibility, openness to change, and adaptability to new experiences (Szymkowiak et al., 2021). However, the experience of the second participant shows that flexibility, generational, Does Not necessarily produce a stable professional identity. On the other hand, identity pedagogy develops through ongoing reflection, lived experience, and teaching, all of which change over time.

3.2.2 Experience studying mathematics and identity pedagogy

The relation to mathematics becomes an important part of the form method, so that the second participant understands themselves as a mathematics lecturer. However, experiences develop through different paths for each participant. In Lecturer A, closeness to mathematics has grown since early on and continues to grow at a relatively consistent rate. Mathematics is viewed as a familiar and pleasant field, so it becomes an important part of building academic and pedagogical identity as a lecturer.

On the other hand, in Lecturer B, the relationship with mathematics is beginning to develop in response to negative experiences. His view changes as he experiences various learning opportunities in college, especially through interactions with the lecturer, who becomes a role model. Experience the No: not only does it change how Lecturer B understands mathematics, but it also influences the way he looks at learning and his position in the classroom.

Second narrative participants show that their relation to mathematics not only shapes their academic choices but also influences the methods they understand, the practices they teach, and the roles they play as lecturers. In Lecturer A, the relationship to

mathematics develops through continuous positive experience, whereas in Lecturer B, it develops through reinterpretation, learning the previous one's nature negatively. Experience: This shows that pedagogical becoming in mathematics education develops not only through mastery of content but also through personal experience of interpreting mathematics as a lively and reflective learning.

Meaning that, in line with the study, mathematics education shows that experience, learning, and relationships to mathematics influence practice teaching as well as the formation of the professional teacher's identity in mathematics (Faria & Da Silva Tinti, 2024; Marshman & Goos, 2025). In context, this experience: Studying mathematics not only becomes part of the academic journey but also continues to present itself as a lived experience that shapes the lecturer's understanding and pedagogical practice.

3.2.3 Technology as a room pedagogical and relational

In this experience, the second participant sees technology as not just a tool to support instruction. Technology has become a part of the pedagogical learning place, relationships, and professional practice. Keep going, negotiate. At Lecturer A, technology is used to enhance communication and learning, support the visualization of mathematics, and help manage classes through the LMS. However, the experience also prompts critical reflection on the use of AI in learning, particularly the possibility of reduced cognitive effort among students who rely too heavily on technology.

On the other hand, for Lecturer B, technology plays a more integral role in practical learning. Learning is not only supported by technology but also directed toward activity-based practice, such as coding and using technology directly in the learning process. In practice, it is said that technology influences how students engage in learning at a given time; lecturers' methods shape the pedagogical approach.

Experienced second participants also showed that technology is always present in the negotiation process, both pedagogically and structurally. In Lecturer A, negotiations emerge through reflection on the impact of AI on students' learning process. Meanwhile, at Lecturer B, negotiations focus more on facility limitations, such as laboratories, electricity, and internet connectivity, which affect the learning process. Thus, digital pedagogy is a deep experience for second participants. Not only related to technical ability, but also to reflective and adaptive ability in a changing learning context.

These findings show that technology in mathematics learning can be understood solely as a tool to support instruction. In the second participant's experience, technology has become a pedagogical influence, helping lecturers build relationships, improve student involvement, and support practice in everyday life. Meaning this in line with studies that place technology as part of transformational digital pedagogy that not only influences practice learning, but also pedagogical relationships, flexibility learning, as well as professional identity of teachers at the level of higher education (Bonfield et al., 2020;

Akour & Alenezi, 2022; Choi-Lundberg et al., 2023; Imran et al., 2023; Mondragon-Estrada et al., 2023). Although this experience, the second participant also showed that Generation Z's proximity to technology does not produce uniform pedagogical methods. Technological methods are interpreted and integrated into learning. Keep going, develop through personal experience, context, institutions, and practices, and use different teaching methods for each lecturer (Su, 2023; Lan, 2024).

Although this experience shows that the second participants also showed that the proximity of Generation Z to technology does not produce uniform pedagogical methods, technological methods are interpreted and integrated into learning. Keep going, develop through personal experience, context, institutions, and practices; different teaching methods for each lecturer (Su, 2023; Lan, 2024).

3.2.4 Negotiating authority, proximity, and work emotions

Classroom experience of the second participant. Not only a place for ongoing learning, but also a space for emotional legitimacy, professionalism, interpersonal closeness, and trust; self as teacher. Keep going, negotiated. At Lecturer A, the experience taught him more, colored by reflection and doubt, and helped him develop his capacity as a lecturer. Responding to passive students leads to repeated questions about whether the learning being carried out is yielding good results. Experience the encouraging Lecturer A to keep going, reflect on practice teaching, and improve preparation before teaching.

Temporarily, at Lecturer B, the classroom presents tension between building proximity with students and maintaining professional authority as a young lecturer. Lecturer B tried to build more fluid, interactive relationships with students, but, at the same time, faced situations in which the legitimacy and professionalism of their interactions were questionable, especially in face-to-face interactions with more senior students. Experience the show that relates pedagogically. No development in a simple way, but keep going, move through negotiation between interpersonal closeness, structured learning, and professional authority.

Experienced second participants show that pedagogical becoming is developed not only through competence teaching but also through the ability to manage social and emotional dynamics in everyday practice. In this context, this space class becomes an arena where identity professionals continue to develop, shaped by concrete experiences with students.

Meaning, in line with the study, identity professionals who place identity as a result of interaction, social, and emotional experiences in professional practice (Rushton et al., 2023). In the context of Generation Z, tendencies include building more open and communicative relationships (Chan & Lee, 2023), strengthening identity, and being more pedagogically flexible and relational. However, the second participant's experience shows that flexibility remains consistent with the need for guard-structure learning and the legitimacy of professionals in the classroom.

3.2.5 Conceptual contribution to pedagogical identity literature

The second narrative shows that identity pedagogy in mathematics lectures for Generation Z is evolving through a dynamic interplay among personal experience, pedagogical practice, social-emotional relations, and digital contexts. Identity pedagogy in context. This does not develop in stages, linear or professionally stable, but rather keeps moving through reflection, adaptation, and the negotiation of experience in practice, teaching daily.

Experience life, relationships to mathematics, and experience of digital learning do not present as separate elements, but rather as one another, connected in form, method, and participants' understanding of themselves as lecturers. In the experience of second participants, technology not only functions as a tool to help learning but also becomes part of the pedagogical influences the lecturer uses to build interaction, manage learning, and give meaning to their role as a teacher.

Meaning the strengthening study previously viewed identity pedagogy as something dynamic and contextual (Rushton et al., 2023; Simon, 2024; Su, 2023). However, the second participant's experience also showed that the formation of pedagogical identity in Generation Z is influenced not only by generational character but also by interactions among character and experience, teaching and context, and ongoing changes in digital learning. Findings also show that identity pedagogical lecturers develop through a continuous process of transformation that moves among personal experience, professional demands, and an ever-changing institutional context. Transformation identity often develops in ways that are reflective and contextualized through daily pedagogical activities involving mathematics (Liang et al., 2024; Özmantar & Agaç, 2025).

Characteristics of Generation Z include greater adaptability, greater comfort with technology, and greater openness to social strengthening, resulting in a more identity-reflective, relational, and contextual identity. Therefore, the conceptual model was produced in the study. This is not intended as rigid stages, but rather as a representation of the conceptual framework for how identity pedagogy continues to develop through meaningful experiences that professional mathematics lecturers repeat in practice for Generation Z.

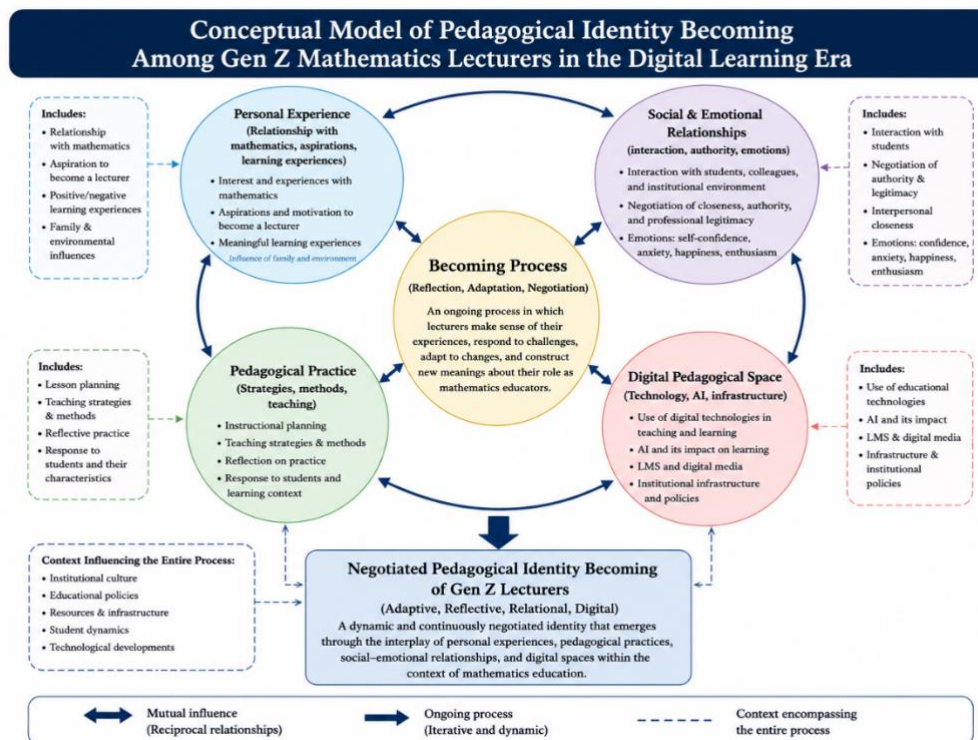


Figure 1. Conceptual Model of Identity Negotiation Pedagogical Mathematics Lecturer Generation Z in Digital Pedagogical Space

4. CONCLUSION

The narratives of Lecturer A and Lecturer B show that identity pedagogy for mathematics lecturers in Generation Z is a continuous process of becoming, moving through reflection, adaptation, and negotiation to experience pedagogy in a digital space and become in context. This is not ongoing, nor is it fully stable or linear; it develops through a dynamic relationship among personal experience, practice teaching, social-emotional relationships, and changes in context and learning. In Lecturer A, development occurs primarily through internal reflection and doubt about their capacity as a lecturer. In contrast, for Lecturer B, development occurs through adapting to technology, building relationships with the class, and navigating professional dynamics as a young lecturer. Experienced second participants show that identity pedagogy is not a final professional condition, but rather is negotiated through daily practice teaching.

Findings of this study also show that technology in learning mathematics is not just a tool to support instruction, but has become part of the pedagogical influences, methods, and relationships that lecturers build to create learning, relationships, and meaning in their role as teachers. In practice, second participants, using technology, always navigate the negotiation of opportunities, limitations, and changes in the digital learning environment. At the same time, the classroom space becomes an emotional arena in which interpersonal closeness, legitimacy, and professional and pedagogical authority are negotiated.

Thus, research expands understanding about identity pedagogy with personal experience, social relationships, and digital space as interconnected parts connected in the pedagogical process of becoming a lecturer in mathematics Generation Z. The resulting conceptual model shows that identity pedagogy develops relationally and contextually through interaction sustainably between personal experience, pedagogical practice, social-emotional relations, and digital pedagogical space. In this context, the characteristics of Generation Z are not understood as generational identity. However, as part of the experiences and contexts that influence the methods the lecturer builds and interprets, as well as the pedagogical practice.

Because of research, this focused on two lecturers' mathematics Generation Z in context; certain understanding about pedagogical becoming can still be enriched through exploration of context, institutional, disciplinary, scientific, and experiential factors, and more diverse pedagogical approaches. Further study can also help in understanding how policy education, institutional culture, and the development of digital technology influence negotiation identity, pedagogical lecturer-in-context education, and continuous height change.

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