

# Weavers: A Community-driven Approach to Enabling Sustainable EdTech Transformations in South Korea

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## **Abstract**

*This experimental design study departs from a problematization of South Korea's recent attempt to introduce AI Digital Textbooks (AIDT) as part of its national EdTech reform project, highlighting the limitations of a top-down, technology-centric policy approach. Despite the government's optimistic vision of achieving "personalized education for all," the initiative rapidly declined following widespread dissatisfaction with its limited functionality, lack of pedagogical integration, and the absence of teacher agency in its implementation. Drawing from this arguably unsuccessful case, the study applies the expanded design framework of Transformative Networked Learning (TNL) (Lee & Bligh, 2023) to propose an alternative, bottom-up model for sustainable EdTech transformations in Korean education settings and beyond.*

*The TNL framework reorients Networked Learning (NL) toward its critical pedagogical roots, emphasizing learning as a process of ontological and axiological transformation. Learning occurs through the dynamic interplay of three communities: an internal community of collaborative reflection, an external community of real-world praxis, and a society as a community of broader structural transformation. In this study, these communities are instantiated through the "Weavers" project, which brings together teachers, EdTech company representatives, and educational researchers to co-design and enact contextually relevant, critically informed lesson plans.*

*Fifteen in-service teachers (who are also doing graduate studies) and fifteen EdTech representatives participated in a series of collaborative design workshops—both online and in-person—supported by researchers from Seoul National University. Within this internal community, participants co-developed a critical understanding of EdTech adoption and collaboratively designed technology-integrated lessons. The teachers will next implement these lessons in their classrooms (external community), documenting their practices through multimodal data collection, including classroom recordings and reflective interviews. Insights gained will then circulate back into the internal community for collective analysis, feeding forward into broader society as community discussions among policymakers, administrators, and the public.*

*By embedding critical inquiry and reflective practice within the design and enactment of EdTech use, this study positions teachers not as passive recipients of policy but as active weavers of EdTech transformation. The anticipated outcomes highlight the potential of TNL as a framework for reconfiguring educational ecosystems from within, demonstrating that sustainable innovation in education arises not from technological mandates but from nurturing organic, networked collaborations among students, teachers, researchers, developers, and technologies. Ultimately, the study offers both theoretical and practical contributions toward cultivating a democratic, teacher-driven model of digital educational reform.*

## **Keywords**

*Transformative networked learning, Expanded design framework, Networked learning communities, Sustainable EdTech transformation, EdTech policy enactment*

## **Introduction**

In Fall 2023, South Korea already had news headlines circulating that it would be the first country to introduce the AI Digital Textbook (AIDT) into its classrooms in 2025 (Kim, 2023). This kind of hype about technological innovation in the education system was not a new trajectory, as the government had introduced Digital Textbooks to public schools in 2007. However, the original Digital Textbook (without AI) was not all too successful, with only around 15% of schools putting it to use because of various reasons: the appropriate environment for use was not provided, there was no big difference between the digital and paper textbooks, just using digital media was

enough to fulfill the intended pedagogical purposes, or the digital textbooks were not engaging enough to evoke student curiosity (An et al., 2020, p. 91). Despite such results, government directives continued to tap into techno-optimism to impose the next cutting-edge EdTech gadget, denying how school conditions were far from being able to accept such technologies as helpful tools. Effective teaching and learning were conjured in neglect of individual classroom contexts, placing the primary burden of implementation on teachers. Policy enactment was again a unidirectional, top-down affair for the new AIDT (Lee & Lee, 2024; 2025a).

To this problem at hand, we propose taking up the principles of Networked Learning (hereafter, NL) as a more viable alternative system for EdTech adoption. Specifically, we apply the Transformative Networked Learning (hereafter, TNL) design framework with its built-in critical awareness and cascaded social action to the South Korean context, an application akin to the social development perspective that promotes collective action (Dohn, 2019). The organic and multi-layered framework focuses less on what teachers should do out of extrinsic pressures, but rather who they can become as policy enactors and thus foster suitable change within their classrooms. NL, by recognizing the reciprocal nature of teachers (and students) and education ecosystems and the necessity of more fluid yet proactive agents, allows for a reconceptualization of transformative teaching and learning that goes beyond the so-called effective use of technologies. With this in mind, our application of the TNL design framework and ongoing observation of its fruition are expected to reveal how the NL perspective can inform and facilitate more democratic and thus, effective adoption of EdTech in today's diversified classroom settings. We also demonstrate how multiple levels of NL communities can be co-developed and inter-woven together into a shared effort to make sustainable educational changes.

## **Research Problem: The Case of South Korea**

The South Korean Ministry of Education (MoE) set aside more than \$2.8 billion over the term of four years to develop and integrate the AIDT into classrooms; these big investments allured many EdTech companies—big and small—to compete to be the distributors of the official Korean textbook for schools (Park & Yoo, 2025). Beginning March 2025, selected grades from elementary, middle, and high schools were to first use the AI-powered textbook for the subjects of math, English, and informatics, which would then extend to more grades and subjects in the following years (Park & Yoo, 2025). As a flagship of the former Minister of Education, AIDT policies worked the ground for this endeavor since early 2023 (Koo, 2025). The MoE published several policy documents with a marked optimism for incorporating the latest technological advancements into the education system (Kang et al., 2025). The AIDT was positioned as central to a “classroom revolution” (Together School, 2024), ushering in a new “Age of Personalized Education for All” (MoE, 2023) through a symbiotic relationship between the public education system and educational technologies (Lee et al., 2025; Lee et al., in press).

The positive discourses regarding AIDT also extended to mobilize individual agents of the education system. Students were fashioned to be self-directed learners or learners in need of extrinsic motivation (by the AIDT), despite their voices being largely invisible within the policy documents. Teachers were especially important agents as designated ‘leaders’ to enact the classroom revolution. “Lead teachers” were recruited and well supported to innovate classes and evaluation methods, devise action plans for schools, coach fellow teachers, and teach as lecturers for teacher training sessions with makeshift AIDT prototypes even prior to its launch (Together School, 2024). However, behind the policy documents and biased resources for the lead teachers, many teachers worried about the soon-to-be official AIDT that was not unveiled until late November of 2024, just a few months before the beginning of the new school year in March. The great reveal was a disaster, as many found little difference between the AI Digital Textbook and the former Digital Textbooks, and the AI functionalities were far below par compared to those such as ChatGPT (Choi, 2024). Furthermore, teachers were worried about student attention deterioration and increased educational inequality if the AIDT was used under poor conditions (Ahn & Yu, 2024). Thus, the hasty endeavor led to a 37% nationwide AIDT adoption rate for the spring semester, which then dropped to 19% by fall (Ji, 2025). Within the same time period, the AIDT was downgraded to be ‘supporting material’ rather than the official textbook, and the Minister of Education stepped down three months after the South Korean President’s impeachment in April 2025 (Lee, 2025).

However, this failure of the widespread adoption of AIDT was not an unforeseeable consequence. As with the many directives of South Korea’s centralized education system, the side effects of unilateral implementation came from disregarding the individual contexts of schools and classrooms. Beyond the political undercurrents of adopting the AIDT, economic and social factors also contributed to the AIDT’s unsuccessful integration into the public school system. The top-down AIDT directive landed on schools without adequate hardware infrastructure and classrooms with teachers experiencing problems with existing technologies (Yoon, 2025). Furthermore, the

values and visions of a good education inevitably vary for educational agents, whether it be amongst teachers, parents, students, administrators, and policy makers, but now even with EdTech companies (Jeon, 2025). Incorporation of new actors—in this case, technologies—into the learning scene begets change in the educational ecosystem by changing the nature of relationships within the network. Technologies can facilitate or hinder certain actions over others, not only affecting learning processes and policy outcomes, but even leading to existential crises for teachers (Ghiasvand & Seyri, 2025; Lan, 2024; Park & Yoon, 2025). Thus, by recognizing the full picture of socio-material conditions, including values and discourses, that a certain technology may bring into classrooms, teachers, as main agents (and connectors and holders) of the education ecosystem, are enabled to transform their classrooms. These small transformations, if linked together and cascaded, expanded and rose above organically, may lead to bigger societal changes that hopefully disturb and reconstruct the existing national educational systems.

Thus, this article aims to extrapolate the social change the NL approach makes possible by presenting a design framework adhering to its core principles. Conceptualizing *learning as a fundamental seed for social changes through the complex configuration of multiple interconnected networks* resists attributing the ‘success’ or ‘failure’ of education to a specific actor or factor. Rather, it pays attention to how the actual process of ‘teacher’ learning is constructed in the in-between space of the internal weavers’ community and the external communities within their local contexts, fostering a unique EdTech-led transformation in multiple classrooms across the Korean peninsula. Hence, the TNL design proposed in this article visualizes learning as a communal process connected even to the broader context of education, in which the ripples of change themselves become the essence of learning.

## Networked Learning: Origins and Critiques

Teaching and learning are not independent processes happening within the teacher or the student, but rather an interaction and intra-action of the actors involved. NL emphasizes such relational aspects of the act of learning. The processes of education are an intermingling of the agents and their environment, which are in relations of constant flux and yet, continuation. NL recognizes these components through the concept of ‘network’ in NL, where learning no longer remains a solitary act of gaining content, but one that actively connects the agents to the context of learning. In effect, NL’s most recent definition was collectively developed to be the following:

Networked learning involves processes of collaborative, co-operative and collective inquiry, knowledge-creation and knowledgeable action, underpinned by trusting relationships, motivated by a sense of shared challenge and enabled by *convivial technologies*. Networked learning promotes connections: between people, between sites of learning and action, between ideas, resources and solutions, across time, space and media. (Networked Learning Editorial Collective, 2021, p. 320)

As can be seen in the definition, NL recognizes the situated nature of education, whereby the learning happens not in a vacuum nor between agents defined in a rigid manner, but rather in the co-constructive relationship of actors and networks. However, NL is not fully described if only the connection is emphasized.

NL goes beyond simple connections when we return to its origins. Formulated with the “radical pedagogies and humanistic educational ideas from the likes of Dewey, Freire, Giroux and Rogers” (McConnell et al., 2012, p. 4), NL ascribes a critical aspect to its essence, as collaboration and knowledge creation are always a political matter whereby connection and production can never employ an equal one-to-one relationship (Jandrić & Boras, 2015). Human connection is inherently “shaped by the amalgam of ideological, political, and materialistic conditions of each ‘connected’ human being; consequently, they are value-driven, power-embedded, and unequal in multi-directional ways” (Lee & Bligh, 2023, p.170). Thus, since NL “promotes connections...across time, space, and media” (Networked Learning Editorial Collective, 2021, p. 320), it is not feasible, nor even desirable, to amputate the complexities of scenes of learning and knowledge creation. It is through the asymmetrical connections that these continued movements within the network demonstrate the embedded social action and social change possible within learning itself.

By revealing the contested sites where learning takes place, NL allows the agents to recognize the multifarious power relations in which they exist. This kind of recognition further helps them critically reappraise the seemingly black-boxed education system, and thus, better manoeuvre the pedagogical relationships and knowledge production within the system. Here, technologies can play a dual role in making as well as revealing ‘asymmetrical’

connections. From this critical perspective on technologies, it may be too “naïve” to consider technologies as “convivial” (or neutral and innocent) as they bring “challenges” and “agonies” to each context of use (Lee & Bligh in Networked Learning Editorial Collective, 2021, p. 341). Czerniewicz, in her review of the editorial collective (2021), also stresses that although using the term ‘convivial’ represents a collaborative effort to reclaim and illuminate the complex and contingent entanglements of humans and technologies in everyday life, the NL community requires a clarification of what goals such technologies serve (p. 358). That is, it further provides caution against simply dismissing the distinctive binary between human agents and technologies (Cutajar, 2021) and calls for a more critical attention to the specific socio-material affordances of the digital (Jones, 2021) and how exactly technologies “enhance,” “mediate,” or “interfere radically in (networked) learning” in different situations (Pischetola & Dirckinck-Holmfeld, 2021, p. 338).

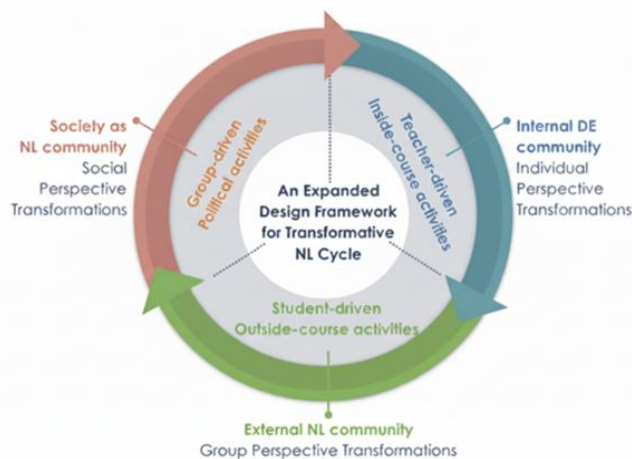
The necessity of a purpose-driven approach to employing not simply ‘convivial and innocent’ but always ‘political’ and potentially ‘dangerous’ technologies is the central focus of the present study. With this problematization in mind, this study employs a transformative NL-based design framework, which foregrounds the personal and social transformations as the ultimate aim of teacher-centered NL activities. This will be unpacked in the following section.

## **Alternative Design Framework: Transformative NL**

In the edited volume entitled *Sustainable Networked Learning: Individual, Sociological, and Design Perspectives*, NL scholars address a range of issues introduced by the prevailing use of technologies, mainly accelerated by a response to the COVID-19 pandemic: “hybridity, materialism, datafication and the changing nature of networks as AI infiltrates everything” (Czerniewicz, 2023, p. v). One of those attempts to rethink and rebuild sustainable NL was Lee and Bligh’s article (2023), which re-engages with the sociological perspectives on NL and the return to the critical origins of NL. According to the authors, there has been a critical issue in existing NL research and practices: its intense focus on the ‘network’ often comes at the expense of ‘learning.’ Subsequently, this has led to an imbalance where the technical aspects and interactions—the means—are prioritized, while the fundamental goal of learning—the purpose—is overlooked (Gourlay, 2020). In response, Lee and Bligh (2023) propose a new conceptual model of TNL by re-casting the emancipatory ideology of transformative learning theory and critical pedagogy, which were the origins of NL.

In TNL, therefore, the purpose of NL is defined as ontological and axiological development of its participants, their communities, and ultimately the society. In the authors’ research context, where doctoral students across the globe come and establish a scholarly community within their online doctoral programme offered by a UK university. Such a process is instantiated as doctoral students who are simultaneously educators in their own local contexts “becoming” critical EdTech scholars who recognize unequal sociomaterial conditions where technologies are used and social and educational inequalities that are both pre-existing and reinforced by their technological engagements. Within the TNL situation, the main roles of authors (who are both doctoral educators and critical EdTech researchers) are to establish a doctoral education (DE) community in their online programme, in which doctoral students are exposed to diverse perspectives, including critical ones of educators. Throughout the TNL processes, therefore, interactions within the internal DE community constitute an essential mechanism for generating meaningful conflict and fostering open dialogue, which are essential for perspective transformation. That is, the doctoral students explore new perspectives, reflect on their own long-held and taken-for-granted assumptions on EdTech, and subsequently, transform their perspectives and enact changes in their own teaching contexts. Personal transformations need to be carefully programmed to be cascaded into pedagogical changes in local communities—external NL communities from the central location of the authors—designers of TNL.

To achieve this, NL must be an organic process that transcends the boundaries between internal, external, and social spheres, and it is centered on the linkage of the following three communities. First, NL begins in the internal community, a safe online space designed by the instructional designers (or NL researchers). Participants are encouraged to challenge their existing assumptions and develop new, critical perspectives. Subsequently, they take initiative, applying the perspectives and action plans they have developed to an external community, such as their workplace or school. The most critical design element at this stage is the creation of a “bringing back and forth” process (p. 184), where participants bring the results of their external practices back to the internal community for shared reflection with their peers. This process integrates theory with practice and provides collective support, which is crucial when facing resistance to change in external settings. Therefore, TNL has three hierarchical goals: it seeks transformation at the individual level of teachers’ perspectives, at the collective level of their practices, and ultimately, at the broader social level of the education system.



**Figure 1: Expanded design framework for Transformative NL cycle (Lee & Bligh, 2023)**

Ultimately, the accumulation of these transformative experiences, moving between internal and external communities, provides the foundation for participants to develop into critical agents who can contribute to change in the broader society as an NL community. In summary, the expanded framework they present proposes a systematic design for an expansive learning journey that progresses from an individual’s internal change, through to the transformation of a group’s practice, to structural change across society. This flow of transformation is illustrated in Figure 1.

## Application of TNL to the EdTech Problem in South Korea

The term ‘Weavers’ refers to the team of teachers called together to bring change to their classrooms by weaving in EdTech into their classrooms, but this time with voluntary motivations and intentional choices. Teachers were to be matched up with EdTech companies of their choice in order to design a course for their classrooms that incorporates EdTech as a meaningful addition to the course assemblies. A key advantage to participating as a Weaver in the present study was that the teachers would be supported throughout their journey by educational researchers. While in the past, educational research was separated from real-life classrooms by theory and practice, the project brought together teachers with educational researchers so that the research process could be co-constituted (Choi, 1998). This has value not only for the individual classrooms but also for academia, as the balance of the two would allow for valuable knowledge generation in both areas.

Adopting the TNL framework (Lee & Bligh, 2023), the present authors have nurtured i) the Weavers community of teachers, EdTech companies, and education researchers; ii) the school community of teachers (and their students) in local schools; and iii) society as a wider EdTech community. The framework is founded on the organic interaction between two key communities in which teachers participate: an internal EdTech community and an external school community. The first internal community (the Weavers community) works as a cradle within which the conversations between the three actors (teachers, EdTech companies, and education researchers) build up a critical perspective for the teachers who then take the perspective to the external community for praxis. They share the specific goal of EdTech adoption, but they also recognize EdTech not as a simple neutral instrument, but as a complex political existence. The Weavers community becomes a foundational space for teachers to articulate pedagogical challenges, co-design EdTech-integrated lessons to address them, and prepare for and conduct collaborative reflection throughout the full process of designing and implementing such lessons for their classrooms.

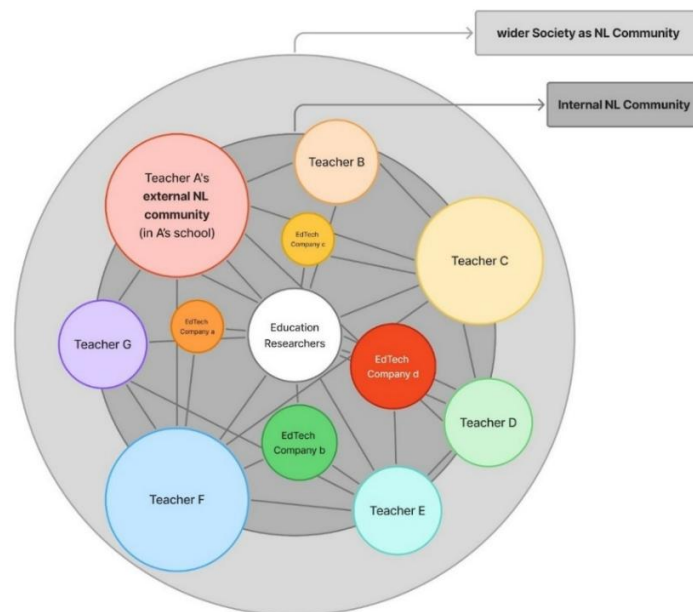
In the external community (the school community), teachers return to their respective school sites to implement the designed lessons. They form a school community that is constituted of not only students, but also administrators, parents, and fellow teachers. Within this community, the teacher performs the role of a reflective practitioner, critically enacting, observing, and analyzing the process of EdTech application. Through these actions, this external community, which was previously a place where top-down directives had to be swallowed whole, becomes a place where teachers can actively translate the directives (or any other extrinsic elements) into

their own context to be beneficial. This process, when documented, becomes a valuable resource for the bigger society.

Finally, these individual practical experiences are brought back and shared within the internal Weavers community, where they are discussed and evaluated collectively through critical analysis. Through the sharing of research outcomes, this transforms perspectives of not only the academics, but also government officials, fellow educators, administrators, and even parents who are curious. The field of education can experience change from the bottom up, with an organic connection between the policy makers and policy enactors. As a result, this TNL process, characterized by teachers cycling between the internal and external communities, transcends the contexts of individual schools. It acts as a core driver in fostering a sustainable EdTech ecosystem that promotes broader educational innovation across society.

## Illustration of Weavers: Further Research Activities

Figure 2 illustrates the expanded design framework as applied in this study. The dark gray circle represents the Internal NL community (the Weavers community). This community is centered on the education researcher and is composed of multiple EdTech companies and teachers who share the common objective of sustainable EdTech adoption in learning situations. Within this space, the various actors interact according to their specific contexts, generating meaningful conflict and open dialogue. Next, the multi-colored circles surrounding each teacher depict the external NL communities (the school community), with each color reflecting the unique context in which that teacher is situated. The color variations signify that each teacher's community differs in its school, classroom, and material circumstances. These individual communities may also include diverse actors such as students, principals, and parents. Finally, the light gray area represents the wider Society as a NL community. The individual practical experiences generated within each external community are brought back and shared within the internal community, where they are discussed collectively through critical analysis and evaluation. This NL process, characterized by teachers cycling between the internal and external communities, ultimately transcends the contexts of individual schools, leading to broader educational innovation across society.



**Figure 2: A scope of the transformative NL Design in Weavers contexts**

Specifically, fifteen in-service teachers who are also graduate students were recruited for this study through the Korea National University of Education (KNUE). As an institution that both trains pre-service teachers and operates a graduate school centered on current educators, KNUE provides access to a diverse national pool of participants. Correspondingly, fifteen EdTech representatives were selected from the companies whose

technologies the teachers chose to incorporate into their lesson designs. Given the limited participation of large EdTech corporations, the EdTech participants consisted mainly of small- and medium-sized enterprises. The education researchers consist of members from the author's affiliated institution, the Department of Education at Seoul National University. Their role was to establish relationships with the teachers and EdTech representatives while simultaneously facilitating the connections among them.

To date, this study has not yet progressed to the External and the Society as community stages; the current phase has focused on forming the Internal community and conducting collaborative design workshops to establish a common purpose and co-design lessons. Workshops were conducted in a hybrid format, utilizing both Zoom video conferences and in-person meetings, with Zoom instrumental in connecting the geographically dispersed teachers and researchers. During the first online workshop, the education researchers outlined the aim of the project and its timeline. At this stage, the project was framed as an effort to address the limitations of existing EdTech-based instruction rather than detailing specific procedures. Following this process, teachers who confirmed their participation signed up with their general background information as both a KNUE student and in-service teacher, along with information on their prior experience with EdTech use or research.

For the in-person workshops, the initial session focused on facilitating introductions, as this was the first face-to-face meeting between the teachers and EdTech representatives. Time was devoted to get acquainted with each other and build rapport through self-introductions, during which participants shared their professional backgrounds, academic majors, motivations for joining the Weavers project, and perspectives on EdTech. The teachers, having decided to participate after the online workshops, shared a common interest in EdTech while also expressing dissatisfaction with prevailing approaches to EdTech-based instruction. In contrast, the EdTech representatives generally held positive views toward EdTech and expressed a desire for their technologies to be widely and meaningfully used by teachers.

Following these exchanges, the researchers shared their critical perspective on EdTech adoption and worked to build a consensus on the merits of a bottom-up approach of TNL as a departure from traditional top-down methods. In the online workshops, the philosophy of TNL was discussed in greater depth, and teachers engaged in critical reflections on conventional EdTech approaches based on their instructional experiences and an analysis of policy discourses. In addition, the education researchers shared the project timeline for the upcoming phases. Further guidance was provided on how classroom observations could be conducted as part of a qualitative research approach, what other types of data should be collected, how they can be gathered, and the potential challenges teacher-researchers may encounter when carrying out research.

After a session dedicated to sharing the educational philosophy of TNL, detailed discussions on lesson design commenced. Initially, the education researchers facilitated teachers' reflection on their lesson designs by distributing a shared Google Slides document asking about their rationale for selecting the chosen EdTech, anticipated benefits and concerns, the problem framework and research questions guiding the lesson planning, and detailed plans for the types of data to be collected during instruction. Through this process, teachers had the opportunity to critically reflect on their own instructional plans and receive real-time feedback from the education researchers. As individual feedback was given in public, teachers actively revised their own plans after reviewing the work of their peers. Subsequently, teachers consulted with the representatives from their chosen EdTech companies to discuss how to best utilize the technology based on their specific lesson plans. Company representatives explained the constraints encountered in the teachers' lesson designs, discussed possible directions for improvement, and engaged in discussions on appropriate data collection strategies in relation to the specific characteristics of the EdTech.

Through these Internal community activities, interactions among researchers, teachers, and EdTech providers were established. However, several tensions also emerged throughout this process. From the perspective of the education researchers, there were challenges in operating and coordinating the Weavers project. The researchers occupied a central position in connecting actors from diverse regions and backgrounds, yet aligning these actors proved difficult due to competing interests. Additional practical challenges arose in coordinating meeting times and locations, as well as in preparing materials and equipment required for data collection. From the teachers' perspective, understanding TNL and implementing their designed lessons in practice was not an easy task. Although graduate students themselves, the critical perspective of TNL was a philosophical and unfamiliar concept, making it challenging to fully grasp. Furthermore, even when teachers developed lesson designs aligned with TNL, implementation was sometimes constrained by a lack of cooperation from school stakeholders, such as principals, fellow teachers, or parents. From the perspective of the EdTech providers, sometimes designed lessons did not align well with their products or involvement offered only limited benefits to the company. For example, one company withdrew after the collaborative design workshop upon concluding that continued participation would not yield sufficient financial or advertising benefits to the company. In terms of partnering

with teachers, TNL grounded lessons required revisions, selected EdTech providers had to be changed due to functional limitations, or data collection itself was difficult with specific EdTech affordances.

Despite these tensions, teachers proceeded to the External community phase with their collaborative lesson designs, implementing EdTech with a critical perspective unique to their context. Over the course of five class sessions, teachers are collecting classroom data including i) classroom video recordings, ii) teacher audio recordings, iii) student device screen recordings during EdTech use, iv) student audio recordings during EdTech use, and v) student eye-tracking data during EdTech use. Student data will be used for stimulated recall interviews with screen recordings as prompts. Further data, in the form of teacher reflective journals with prompts based upon critical perspectives towards EdTech, will not only promote adaptive lesson plans and stimulate connections between the teacher and their lesson contexts, but also reveal how teachers maneuver the External community. This data will be analyzed, evaluated, and circulated among the TNL community stakeholders as teachers move "back and forth" between the internal and external communities. The findings that emerge from these discussions are expected to foster a transformative consciousness among all participants—teachers, EdTech companies, and researchers alike—and ultimately extend this change to society.

## Conclusion

This study critiques the limitations of South Korea's top-down EdTech policy, as revealed by the failed implementation of the AI Digital Textbook (AIDT). As an alternative, it proposes a bottom-up model grounded in Lee and Bligh's (2023) TNL framework. Applying the expanded design framework of TNL to the Weavers project, an internal community was formed where teachers, researchers, and EdTech companies collaboratively design lessons. Through hybrid (online and in-person) collaborative design workshops, a critical perspective on EdTech adoption was shared, and lesson designs were planned based on the interactions among participants. In the next phase, teachers will apply these designs in their own classrooms—the external community—and bring their practical experiences back to the internal community for collective analysis. Based on the results of this analysis, the project plans to foster change that extends to society.

Although still ongoing, this study will challenge the profound limitations of top-down, technology-centric approaches to educational reform, as exemplified by the failed implementation of the AI Digital Textbook (AIDT) in South Korea. In stark contrast, by applying Lee and Bligh's (2023) TNL framework, this research seeks to illuminate a more sustainable and transformative path for EdTech adoption. Through the Weavers project, teachers are expected to be repositioned from passive recipients of policy to empowered agents of change within their own educational ecosystems. The cyclical process—where critical perspectives are co-developed in a supportive internal community and then enacted through reflective practice in the external classroom community—is anticipated to show that the success of EdTech integration hinges not on the technology itself, but on fostering an organic, teacher-driven process of critical inquiry and collaborative action. This bottom-up model, therefore, presents a powerful alternative, capable of creating meaningful and lasting change where top-down mandates have consistently failed.

The anticipated findings carry significant implications for both educational policy and teacher professional development. For policymakers, this study will suggest a critical shift in focus: away from prescribing specific technological solutions and towards cultivating the conditions for innovation to emerge from the ground up. This involves creating and funding supportive internal communities where teachers, researchers, and industry experts can collaborate to address context-specific needs. For teacher professional development, this research will underscore the necessity of moving beyond simple technical training. Instead, it advocates for a model that empowers teachers as reflective practitioners and weavers of their own educational practice, equipped with the critical awareness and collaborative networks needed to navigate and transform complex classroom environments. Ultimately, this research aims to provide empirical weight to the argument that a sustainable educational ecosystem cannot be engineered; it must be cultivated. While this study will be limited to a select group of volunteer teachers, it offers a compelling blueprint for how the organic connection between policy enactors and policymakers can be forged. Future research should explore the scalability of this framework and the long-term impacts on student learning and the broader educational culture. By documenting and amplifying these teacher-led narratives of transformation, this study can help foster a more democratic, resilient, and genuinely transformative future for education in an era of constant technological change.

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