



Research Paper

Designing a Model for the Development of Reproductive Forgetting in Primary Schools



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Abstract

The present study was conducted with the aim of designing a model for the development of “reproductive forgetting” in primary schools. In terms of purpose, this study was applied, and in terms of approach, it employed a qualitative research design using grounded theory and the systematic approach proposed by Strauss and Corbin. The research population consisted of university professors, primary school principals, and experienced teachers in Ardabil Province, who were selected through purposive sampling. Accordingly, 14 qualified experts were selected as participants using purposive sampling until theoretical saturation was achieved. Data were collected through semi-structured interviews and analyzed simultaneously using the constant comparative method through three stages of open, axial, and selective coding. The findings indicated that a total of 120 open codes, 55 concepts, 10 axial categories, and 6 main categories, including causal conditions, the central phenomenon, strategies, intervening conditions, contextual conditions, and consequences, were extracted. The central phenomenon of the study was identified as “reproductive forgetting in primary schools,” referring to a systematic process of reviewing, refining, and recreating educational knowledge, experiences, and practices. The results revealed that this phenomenon emerges from the interaction between mindset transformation and the renewal of professional knowledge and develops within the context of school culture and structure under the influence of instructional leadership. Moreover, strategies such as transforming educational processes, reconstructing professional experiences, and changing organizational behaviors play a key role in its realization. The primary consequence of this process is the professional development of teachers in primary schools. Overall, reproductive forgetting is introduced as an active, multi-layered, and organizational process that does not merely involve the elimination of previous knowledge but rather its purposeful reconstruction to improve learning and enhance the educational system. Accordingly, it is recommended that simultaneous interventions at the individual, organizational, and cultural levels of schools be implemented to realize this approach.

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Introduction

Human daily life is spent in an ever-changing environment, one that is continuously influenced by advancements in various fields of science. Humans constantly strive to adapt their lives to these changes and utilize them in ways that serve their interests (*Abd et al., 2023*). The driving force behind every society is human beings, and although individuals may possess certain inherent capacities from birth, these capacities cannot be manifested and realized without the process of development and cultivation. Therefore, the realization of any transformation in society depends on all previous educational processes, within which the role of the teacher, as the fundamental element of the educational system and the core component of society, namely the classroom, is essential and vital (*Safari et al., 2019*). Schools, like all organizations, seek to achieve their objectives (*Kovarski et al., 2020*). Organizations have identified the pathway to their development through the advancement of human capital, which is achieved through continuous learning processes such as organizing training programs, coaching, teamwork, and similar activities. Professional development refers to systematic programs aimed at enhancing the knowledge, insight, and specialized skills of human resources. Therefore, one of the most strategic pathways for sustainable organizational development is investing in employees' professional development programs. The emphasis of professional development programs lies in the strategic role of learning and development as a

challenge for human resource management units to design and implement tools that assist employees in engaging in learning activities, improving performance, enhancing professional expertise, and increasing adaptability. The effective outcomes of employee development include improved employee skills, enhanced workforce capabilities, strengthened human resources, increased motivation, and greater organizational commitment (*Ahmad & Saad, 2020*). In the era of globalization, educational institutions must align themselves with the needs of current generations (*Hoque, 2025*) and institutionalize the capacity to challenge outdated mental models, modify existing practices, and relearn a process known as “unlearning” (*J. G. Cegarra-Navarro & Wensley, 2019*). In fact, without the ability to abandon obsolete knowledge, organizational learning processes may result in the reproduction of ineffective patterns from the past, thereby limiting innovation capacity at the school level. Specifically, the present study introduces a novel concept entitled “regenerative unlearning,” which is defined as the outcome of an organizational-level transformation; a transformation that leads to consequences such as updating mental models, modifying practices, and relearning. In fact, regenerative unlearning is conceptualized as a dynamic organizational capability that enables organizations, from a collective perspective, to replace or update obsolete mental models, practices, and knowledge structures (*Cubillas-Para et al., 2024*). This concept extends beyond “mere forgetting” and emphasizes the “active regeneration of knowledge” and the

reconstruction of meaning within the organizational context. Nevertheless, a growing body of empirical evidence suggests that merely engaging in organizational learning processes is insufficient to support innovation. Indeed, the reproduction of obsolete or ineffective knowledge, practices, and routines must also be addressed to create the necessary conditions for the emergence of new and innovative insights (*J.-G. Cegarra-Navarro et al., 2025*). “Learning regenerative unlearning” is considered one of the most powerful approaches for critically examining and breaking away from the modern/colonial architecture of knowledge, as it enables individuals to move beyond the assumption that knowledge in all domains of life is solely dependent on a single, universal, and Western-oriented system of categorization. Accordingly, regenerative unlearning provides a space for understanding the limitations of the existing state of affairs and for exploring and formulating new alternatives (*Silova et al., 2025*). From this perspective, regenerative unlearning is not viewed as a passive process but rather as a conscious and critical action aimed at reconstructing knowledge and meaning. The major critique of this perspective is that a significant proportion of organizational knowledge is embedded within mental models, practices, and routines and cannot be genuinely “removed” or completely separated (*Klammer et al., 2025*). Therefore, the central issue is not the “elimination of knowledge” but rather the “reduction of the dominance and the recalibration of the influence of previous knowledge on organizational behaviors.” Education, among its various

functions, serves as a means of preparing individuals for the future ahead. Through learning, individuals are guided toward each forthcoming tomorrow. Whether education is considered a tool in the hands of policymakers for creating change, a means for preserving desirable values and traditions in the future, a space for free exploration, or a context for shaping a particular type of human being, education maintains a unique and privileged relationship with the future (*Finch et al., 2024*). Within such a context, educational systems require capabilities that focus not only on “continuous learning” but also on “purposeful forgetting and knowledge regeneration” to adapt effectively to the complexities of the future. Despite significant growth in the literature on organizational learning, unlearning, and innovation in educational organizations, existing reviews indicate several fundamental theoretical and empirical gaps in this field. First, previous studies have predominantly examined the concept of unlearning as the “elimination or abandonment of knowledge,” whereas the mechanisms of regeneration, reconstruction, and active replacement of obsolete knowledge have received limited attention. Second, a large proportion of unlearning research has been conducted in organizational and industrial contexts, with comparatively less attention given to educational environments, particularly primary schools, which possess unique characteristics in terms of learning processes, organizational culture, and the central role of teachers. Third, despite theoretical emphasis on the necessity of simultaneously engaging in learning and discarding outdated knowledge during

organizational transformation, coherent conceptual models explaining the mechanism of “regenerative unlearning” as a dynamic organizational capability within educational systems have not yet been sufficiently developed. Consequently, how this capability emerges, manifests itself, and contributes to school transformation and the development of learning and innovation capacities at the school level remains unclear. Therefore, the present study seeks to answer the following question: What is the model for the development of regenerative unlearning in primary schools?

Review of Related Literature

Ortaçtepe Hart (2026), in a study entitled “*Is It Time to Rethink Forgetting Itself? Moving Beyond Neoliberal Conceptualizations toward Intersectional and Transformative Practices*,” concluded that forgetting/unlearning is often understood within dominant frameworks as an individual, apolitical, and self-reflective process that rarely leads to broader social transformations. The findings also indicated that conventional approaches primarily emphasize individual confession and introspection rather than collective action and structural transformation. Ultimately, the study highlights the need to reconceptualize forgetting within an intersectional and transformative framework that moves beyond passive empathy and contributes to agency, social justice, and collective responsibility at the societal level.

Peng et al. (2026), in a study entitled “*Digital Metabolism: Separating Logic from*

Facts through Regenerative Forgetting Toward a Pure Logical Neural Core,” found that the implementation of targeted forgetting in language models can substantially reduce dependence on memorized knowledge and enhance reasoning-focused processes. The results further demonstrated that following this process, the model underwent structural changes and, instead of directly retrieving information, relied on chain-of-thought patterns to solve problems. This behavioral transformation was interpreted as a transition from “retrieval” to “reasoning,” which may result from reduced accessibility to existing knowledge associations. Overall, the findings suggest that regenerative forgetting can provide a novel pathway for designing modular architectures in artificial intelligence systems.

Angelini (2026), in a study entitled “*Unlearning for Learning in Simulation-Based Education*,” concluded that self-regulation and awareness of emotional responses during moments of dissonance play a critical role in transformative learning. Attention to these emotionally sensitive moments enables learners to interpret unstable and challenging experiences as opportunities for ethical awareness and identity reconstruction. Consequently, simulations function as structured and emotionally supported learning pathways in which discomfort and tension are transformed into measurable, transformative, and sustainable experiences. Through guided reflection and emotional regulation, this process contributes to the active

reconstruction of professional identity and ethical reasoning.

Cubillas-Para et al. (2024), in a study entitled “*The Gradual Movement from Regenerative Unlearning toward Digital Transformation through Customer Collaboration and Organizational Agility*,” concluded that regenerative unlearning plays a significant role in enhancing customer collaboration and increasing organizational agility, thereby contributing to strengthening digital transformation within organizations. The findings also indicated that customer collaboration directly improves organizational agility, while organizational agility significantly enhances digital transformation. Overall, regenerative unlearning, as a dynamic capability, facilitates success in digital transformation processes by strengthening external interactions and increasing internal organizational flexibility.

J.-G. Cegarra-Navarro et al. (2025), in a study entitled “*Enhancing Innovation Performance in Green Processes: The Role of Regenerative Unlearning and Knowledge Base Management*,” found that regenerative unlearning, through updating and managing the knowledge base, plays an important role in improving innovation performance in organizations’ green processes. Furthermore, this effect occurs both directly and indirectly through increasing the breadth and depth of knowledge. Overall, employing regenerative unlearning as part of a knowledge management strategy contributes to improving environmental efficiency in manufacturing industries. Therefore, this

approach can be considered a key mechanism for enhancing organizations’ green performance.

Research Methodology

The present study was conducted with the aim of designing a model for the development of regenerative unlearning in primary schools. In terms of purpose, this study is applied, and in terms of approach, it falls within the category of qualitative research. In this study, grounded theory and the systematic approach proposed by Strauss and Corbin were employed to develop the model. The research participants consisted of university professors, primary school principals, and experienced teachers in Ardabil Province who possessed relevant expertise and experience in the field under investigation. Purposive sampling was employed for participant selection. In qualitative research, this type of sampling refers to the selection of individuals who possess the richest experiences, knowledge, and awareness regarding the phenomenon under study and are able to provide a deeper understanding of it (*Klassen et al., 2012*). The sampling process continued until theoretical saturation was achieved, and ultimately, 14 qualified experts participated in the study. Data were collected through semi-structured interviews. Prior to conducting the interviews, the research objectives were explained to the participants, and their informed consent was obtained for participation and audio recording of the interviews. They were also assured that all information would be kept confidential and that they had the right to withdraw from the study at any stage of the research process.

Data analysis was conducted simultaneously with data collection and proceeded through the stages of open, axial, and selective coding. Throughout the analysis process, the constant comparative method was employed to examine similarities and differences among concepts and to identify relationships among categories. To enhance the credibility and trustworthiness of the findings, strategies such as member checking, peer review, and continuous monitoring of the coding process were utilized.

Research Findings

Following the qualitative analysis of the data and the extraction of initial codes, the identified codes were categorized into coherent concepts based on their similarities, differences, and levels of conceptual consistency. Subsequently, the extracted concepts were organized through the process of axial coding and then structured into axial categories. After continuous and iterative analysis through the three stages of open, axial, and selective coding, the research data were ultimately organized into 120 open codes, 55 concepts, 10 axial categories, and 6 main categories, including causal conditions, the central phenomenon, strategies, intervening conditions, contextual conditions, and consequences. In fact, this analytical

process revealed the dimensions and components of “the development of regenerative unlearning in primary schools” and provided the foundation for the emergence of a novel paradigmatic model in the field of learning and knowledge regeneration within the school environment. Within this framework, the central phenomenon of the study was identified as “regenerative unlearning in primary schools,” which represents a systematic process of reviewing, refining, and reconstructing knowledge, experiences, practices, and educational structures at the school level.

First Stage: Open Coding

In the first stage of data analysis, open codes were extracted through the initial conceptualization of the statements and propositions obtained from the interviews. The results of this stage are presented in Table 1. This table provides a summary of all initial codes derived from the research data concerning “the development of regenerative unlearning in primary schools.” During the development of these codes, efforts were made to avoid repetition of similar codes or codes with highly overlapping conceptual meanings in order to prevent conceptual dispersion and maintain analytical coherence.

Table 1. List of the Initial Codes Extracted from the Data

No.	Initial Codes	No.	Initial Codes
1	Reforgetting old knowledge	61	Renewal of experiences
2	Eliminating ineffective routines	62	Reconstruction of tacit knowledge
3	Changing teachers’ mental models	63	Modification of school structure
4	Reconstructing educational experiences	64	Changing implementation methods
5	Revising beliefs	65	Eliminating teaching habits
6	Modifying teaching patterns	66	Redesigning education
7	Abandoning traditional methods	67	Changing the learning environment
8	Renewing professional knowledge	68	Improving classroom performance

9	Teachers' relearning	69	Renewing teaching skills
10	Redefining the teacher's role	70	Recreating methods
11	Changing educational attitudes	71	Experiential learning
12	Breaking old habits	72	Modifying teachers' attitudes
13	Redesigning classroom instruction	73	Changing teaching styles
14	Letting go of obsolete knowledge	74	Revising educational content
15	Regenerating school knowledge	75	Eliminating mental models
16	Changing the learning culture	76	Transforming the school system
17	Modifying cognitive structures	77	Reconstructing educational practices
18	Replacing knowledge with new knowledge	78	Modifying organizational behaviors
19	Transforming practices	79	Changing professional knowledge
20	Changing educational behaviors	80	Redesigning learning experiences
21	Regenerating tacit knowledge	81	Renewing mindsets
22	Refining past experiences	82	Reinterpreting education
23	Updating skills	83	Changing learning structures
24	Practical unlearning	84	Improving educational processes
25	Flexible learning	85	Eliminating old methods
26	Modifying the evaluation system	86	Changing skills
27	Changing educational approaches	87	Regenerating teaching
28	Redesigning lesson plans	88	Enhancing teacher performance
29	Eliminating dysfunctional beliefs	89	Learning in practice
30	Modifying teaching models	90	Changing organizational attitudes
31	Changing organizational habits	91	Reconstructing patterns
32	Reviewing performance	92	Improving learning
33	Dynamic organizational learning	93	School renewal
34	Reinterpreting experiences	94	Changing hidden knowledge
35	Educational transformation	95	Reviewing teaching practices
36	Enhancing professional thinking	96	Eliminating ineffective structures
37	Modifying traditional mindsets	97	Changing teachers' approaches
38	Reconstructing routines	98	Redesigning mindsets
39	Changing teaching styles	99	Improving teaching experiences
40	Innovation in education	100	Changing professional skills
41	Changing classroom interactions	101	Reconstructing education
42	Educational reengineering	102	Adaptive learning
43	Modifying organizational knowledge	103	Changing classroom practices
44	Changing management approaches	104	Modifying teachers' beliefs
45	Educational review	105	School regeneration
46	Eliminating cognitive resistance	106	Changing learning methods
47	Changing school approaches	107	Eliminating redundant knowledge
48	Renewing teaching models	108	Organizational review
49	Regenerating experiences	109	Improving educational experiences
50	Enhancing teacher knowledge	110	Changing mental patterns
51	Changing school policies	111	Renewing classroom education
52	Redefining education	112	Redefining learning
53	Change-based learning	113	Changing teaching skills
54	Improving communications	114	Improving classroom behaviors
55	Changing thinking systems	115	Reconstructing the educational system
56	Cognitive reconstruction	116	Changing educational knowledge
57	Eliminating incorrect patterns	117	Eliminating professional habits
58	Learning transformation	118	Redesigning learning
59	Revising practices	119	Improving teaching systems
60	Changing teacher behaviors	120	Changing school patterns

Second Stage: Axial Coding

The purpose of this stage was to refine, integrate, and organize the open codes, as well as to identify the conceptual relationships among them. At this stage, the initial codes were continuously reviewed, compared, and conceptually refined. Based on their similarities and semantic affinities, the codes were grouped into homogeneous categories, and a broader concept was extracted for each category as an axial code. Axial coding in this study was conducted with a focus on “the development of regenerative unlearning in primary schools.” Accordingly, efforts were made to systematically identify the relationships among concepts associated

with knowledge revision, elimination of ineffective patterns, renewal of educational experiences, regeneration of school practices, and cognitive and organizational changes among teachers and schools. The results of this stage are presented in Table 2. This table illustrates the organization of open codes into axial categories, representing the major dimensions of the regenerative unlearning process within the context of primary schools. In fact, at this stage, the analysis moved beyond the initial description of the data, and concepts were organized into more abstract and interconnected structures to provide the necessary foundation for the emergence of the main categories during the selective coding stage.

Table 2. Axial Coding of the Model for the Development of Regenerative Unlearning in Primary Schools

No.	Axial Coding	Concepts
1	Transformation of Professional Mindsets and Beliefs	Changing teachers' mental models
2		Revising beliefs
3		Changing thinking systems
4		Cognitive reconstruction
5		Enhancing professional thinking
6		Eliminating cognitive resistance
7		Abandoning traditional methods
8		Letting go of obsolete knowledge
9		Breaking old habits
10	Renewal of Knowledge and Relearning	Renewing professional knowledge
11		Teachers' relearning
12		Replacing old knowledge with new knowledge
13		Regenerating tacit knowledge
14		Flexible learning
15		Dynamic organizational learning
16		Experiential learning
17		Adaptive learning
18	Transformation of Educational Processes	Modifying teaching patterns
19		Changing educational approaches
20		Redesigning lesson plans
21		Innovation in education
22		Improving educational processes
23		Educational reengineering
24	Reconstruction of Professional Experiences	Improving teaching systems
25		Reconstructing educational experiences

26		Reinterpreting experiences
27		Refining past experiences
28		Redefining learning
29	Transformation of Organizational Behaviors and Routines	Eliminating ineffective routines
30		Transforming practices
31		Changing educational behaviors
32		Changing organizational habits
33		Modifying organizational behaviors
34	Teachers' Professional Development	Practical unlearning
35		Redefining the teacher's role
36		Updating skills
37		Enhancing teacher performance
38	School Structural Transformation	Changing educational knowledge
39		Modifying school structure
40		Transforming the school system
41		School renewal
42		Organizational review
43	School Learning Culture and Environment	Eliminating ineffective structures
44		Reconstructing the educational system
45		Changing the learning culture
46		Changing classroom interactions
47		Improving communications
48	School Transformation Leadership and Management	Changing the learning environment
49		Modifying the evaluation system
50		Changing management approaches
51		Changing school approaches
52	School Regeneration as a Learning Organization	Changing school policies
53		Modifying organizational knowledge
54		Regenerating school knowledge
55		School regeneration

Third Stage: Selective Coding

In the final stage of data analysis, the axial categories extracted during the axial coding process were reviewed, integrated, and organized with the aim of achieving conceptual integration and presenting the final research model. At this stage, the relationships among the categories were systematically examined and structured within the six main categories of the study, including “causal conditions,” “the central phenomenon,” “strategies,” “intervening conditions,” “contextual conditions,” and “consequences.” Accordingly, the core category of the study, entitled “Regenerative

Unlearning in Primary Schools,” was identified as the central phenomenon, and all other categories were organized in relation to this core concept. This process enabled the establishment of causal, contextual, and consequential relationships among the concepts and led to the development of a coherent conceptual model. Ultimately, the final model of the study, which emerged from this stage of analysis, is presented as a diagram in Figure 1. This model systematically and comprehensively explains the mechanisms and dimensions underlying the development of regenerative unlearning within the context of primary schools.

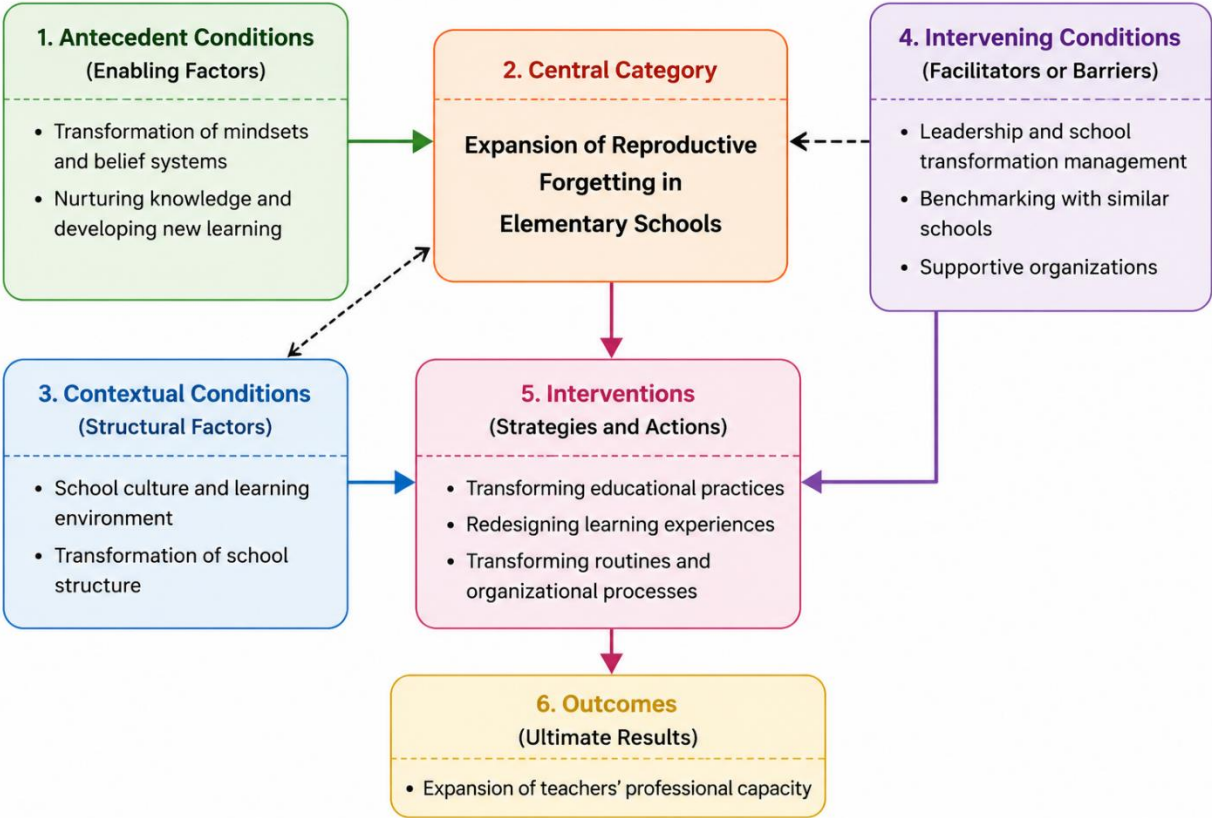


Figure 1. Paradigmatic Model of Regenerative Unlearning in Primary Schools (Based on the Strauss and Corbin Approach)

Following the development of the paradigmatic model derived from the data analysis, the qualitative model validation process was conducted to enhance the credibility and reliability of the research findings. For this purpose, two main strategies, namely “member checking” and “expert judgment,” were employed. During the validation process, the developed model was provided to the participants, and they were asked to evaluate the conceptual coherence, category alignment, and overall adequacy of the “regenerative unlearning in primary schools” model. Their suggestions and proposed modifications were also

collected and incorporated into the model through an iterative process. Ultimately, after obtaining confirmation from the participants, the final research model was established.

Discussion and Conclusion

The aim of this study was to design a model for the development of regenerative unlearning in primary schools. The findings derived from the data analysis revealed that the formation and realization of regenerative unlearning within the school context are influenced by a set of factors categorized into causal, contextual, intervening, and strategic conditions, which interact dynamically with one another. Collectively, these factors provide the necessary foundation for the

systematic review, refinement, and regeneration of knowledge, experiences, and educational practices in primary schools. Among these factors, causal conditions, as the underlying foundation for the emergence of the phenomenon, include the transformation of professional mindsets and beliefs as well as the renewal of knowledge and relearning. These conditions play a fundamental role in preparing the ground for abandoning ineffective knowledge and adopting new educational patterns. Furthermore, the interaction of these factors with contextual conditions, such as the school learning culture and environment and school structural transformation, as well as intervening conditions, including school transformation leadership and management and school regeneration as a learning organization, indicates that regenerative unlearning is not merely an individual process; rather, it emerges within and is influenced by the cultural, organizational, and structural contexts of the school. Ultimately, the adopted strategies, including the transformation of educational processes, reconstruction of professional experiences, and transformation of organizational behaviors and routines, play a decisive role in translating these conditions into practical outcomes. The primary consequence of this process is teachers' professional development and the enhancement of educational performance quality in primary schools, which are achieved through the continuous regeneration of professional knowledge and experiences.

In this study, the causal conditions consisted of two key elements: "Transformation of Professional Mindsets and Beliefs" and "Renewal of Knowledge and Relearning." The findings of the present study indicated that this process is primarily influenced by changes in teachers' mental models, revision of established beliefs, transformation of thinking systems, reconstruction of professional cognition, and enhancement of professional thinking. Furthermore, eliminating cognitive resistance, abandoning traditional methods, letting go of obsolete knowledge, and breaking old habits were identified as other key components of this category. Alongside these factors, the renewal of professional knowledge, teachers' relearning, replacement of outdated knowledge with new knowledge, regeneration of tacit knowledge, and various forms of flexible, dynamic organizational, experiential, and adaptive learning demonstrate that regenerative unlearning is, before being a structural intervention, a profound transformation at the levels of teachers' cognition, experiences, and professional learning. This set of factors indicates that regenerative unlearning represents an active mechanism for reconstructing the school's knowledge system, which emerges through reflection on past experiences and readiness to embrace new knowledge. The findings of this section are consistent with previous studies in the areas of organizational unlearning, transformative learning, and knowledge management. For instance, *Ortaçtepe Hart (2026)* emphasizes that forgetting within dominant frameworks is often conceptualized

as an individual and non-structural process and is less likely to lead to collective and transformative changes. In contrast, the findings of the present study demonstrate that regenerative unlearning within the school context possesses a systematic and structural nature and operates at both collective and organizational levels. Similarly, [Peng et al. \(2026\)](#) showed that targeted forgetting can lead to changes in cognitive structures and a transition from knowledge retrieval to reasoning. This finding is consistent with the present results regarding the abandonment of obsolete knowledge and the replacement of outdated knowledge with new knowledge. Moreover, [Angelini \(2026\)](#) highlights the role of emotional experiences and guided reflection in transformative learning, which corresponds with the components of experiential learning and tacit knowledge regeneration identified in the present study. Furthermore, [Cubillas-Para et al. \(2024\)](#) and [J.-G. Cegarra-Navarro et al. \(2025\)](#) demonstrated that regenerative unlearning, through knowledge management and the reconstruction of knowledge structures, contributes to organizational performance improvement and innovation. This finding can also be extended to the educational context and highlights the fundamental role of knowledge renewal in enhancing educational performance. From a theoretical perspective, the findings of this study can be explained within the framework of organizational unlearning theory and transformative learning theory. According to this framework, regenerative unlearning is not defined as the mere elimination of knowledge; rather, it is considered an active and purposeful process

for reorganizing the knowledge system. Within this process, changes in mental models and the reconsideration of beliefs serve as the “initial cognitive drivers,” while eliminating cognitive resistance and abandoning obsolete knowledge function as its operational mechanisms. Subsequently, the renewal of professional knowledge and the development of flexible and adaptive learning provide the foundation for sustaining this process. Overall, these causal conditions indicate that regenerative unlearning is a dynamic, multilayered, and interactive process that begins at the level of individual cognition and ultimately leads to the reconstruction of professional structures and organizational learning within primary schools.

In this study, the “strategies” consisted of three key components: “Transformation of Educational Processes,” “Reconstruction of Professional Experiences,” and “Transformation of Organizational Behaviors and Routines.” The findings of the present study indicated that the realization of regenerative unlearning in primary schools is primarily achieved through a set of operational actions at the levels of education, teachers’ professional experiences, and school behavioral structures. In this regard, modifying teaching patterns, changing educational approaches, redesigning curricula, promoting innovation in education, and improving and reengineering educational processes and teaching systems were identified as the main dimensions of educational process transformation. Moreover, the reconstruction of professional

experiences through the reinterpretation of experiences, refinement of past experiences, redefinition of learning, and practical unlearning reflects teachers' active reflection on their lived professional experiences.

In addition, eliminating ineffective routines, transforming practices, changing educational behaviors, modifying organizational behaviors, and changing organizational habits represent the structural and behavioral dimensions of regenerative unlearning at the school level. This set of strategies demonstrates that regenerative unlearning is not merely a cognitive process; rather, it represents an operational and structured intervention across different educational and organizational levels. The findings of this section are consistent with previous studies in the fields of organizational learning, educational transformation, and knowledge management. For example, *Ortaçtepe Hart (2026)* emphasizes that forgetting in dominant approaches is often limited to the individual level and personal reflection and rarely leads to structural and collective changes. In contrast, the findings of this study demonstrate that regenerative unlearning strategies in schools possess a collective, organizational, and structural nature. Similarly, *Peng et al. (2026)* showed that targeted forgetting can lead to changes in processing patterns, shifting from retrieval-based processes toward reasoning-based processes. This finding is consistent with educational practices involving the reengineering of teaching processes and changes in instructional approaches. Furthermore, *Angelini (2026)* highlights the

role of structured experiences and emotional regulation in transformative learning, which corresponds with the components of professional experience reconstruction and practical unlearning identified in the present study. Moreover, *Cubillas-Para et al. (2024)* and *J.-G. Cegarra-Navarro et al. (2025)* demonstrated that regenerative unlearning, through knowledge restructuring and increased organizational flexibility, contributes to improved performance and innovation. This finding is consistent with the role of educational process improvement and organizational behavior transformation in primary schools. From a theoretical perspective, the findings of this study can be explained within the framework of organizational unlearning theory and the transformative learning approach. Accordingly, strategies function as the operational mechanisms of the regenerative unlearning process through which ineffective knowledge is removed from educational practices and new knowledge and experiences are introduced. Within this framework, the transformation of educational processes functions as a “structural mechanism,” the reconstruction of professional experiences serves as a “cognitive–experiential mechanism,” and the transformation of organizational behaviors and routines operates as an “institutional mechanism.” This triadic structure demonstrates that regenerative unlearning at the school level is a multilayered and systematic process that simultaneously engages mindsets, experiences, and structures. Through the interaction of these three levels, the foundation for sustainable knowledge

regeneration and the improvement of educational performance in primary schools is established.

In this study, the “intervening conditions” consisted of two key components: “School Transformation Leadership and Management” and “School Regeneration as a Learning Organization.” The findings of the present study indicated that the realization of regenerative unlearning in primary schools is significantly influenced by the quality of school management and the extent to which schools move toward learning-oriented structures. In this regard, components such as changing management approaches, changing school orientations, modifying school policies, improving organizational knowledge, regenerating school knowledge, and school regeneration were identified as key elements of this category. These findings demonstrate that regenerative unlearning is not merely a process occurring at the classroom level or through individual teacher actions; rather, it is strongly dependent on the nature of educational leadership, internal school policymaking, and the school’s organizational capacity for learning and regeneration. In fact, these intervening conditions play a decisive role in facilitating or constraining the process of eliminating ineffective knowledge and regenerating new knowledge at the school level. The findings of this section are consistent with previous studies in the fields of organizational transformation, knowledge management, and organizational learning. For example, [Ortaçtepe Hart \(2026\)](#) emphasizes that forgetting within dominant frameworks is

often limited to the individual and non-structural level and rarely leads to collective and institutional changes. In contrast, the findings of this study indicate that school leadership and policies can elevate the forgetting process to an organizational and structural level. Similarly, [Peng et al. \(2026\)](#) demonstrate that the implementation of targeted forgetting can transform knowledge structures and alter processing patterns, which can be aligned at the school level with the modification of organizational knowledge and knowledge regeneration. Furthermore, [Angelini \(2026\)](#) highlights the role of structured experiences and emotional management in transformative learning processes, which is consistent with the concept of the learning school and the regeneration of organizational experiences. Additionally, [Cubillas-Para et al. \(2024\)](#) and [J.-G. Cegarra-Navarro et al. \(2025\)](#) show that regenerative unlearning contributes to improved performance and innovation through strengthening agility, knowledge management, and organizational learning. This finding can be explained through the role of school regeneration as a learning organization identified in the present study. From a theoretical perspective, the findings of this study can be explained within the framework of organizational learning theory and the organizational unlearning approach. According to this framework, intervening conditions function as institutional and managerial mechanisms that determine the direction and quality of the regenerative unlearning process. Within this context, school transformation leadership and management serve as a “guiding mechanism”

for changing school policies and orientations, while school regeneration as a learning organization provides the necessary institutional foundation for the regeneration of knowledge and professional experiences. Overall, these intervening conditions demonstrate that regenerative unlearning in primary schools is not merely an educational process; rather, it is an organizational and managerial phenomenon whose success depends on the learning and regeneration capacity of the entire school system.

In this study, the “contextual conditions” consisted of two key components: “School Learning Culture and Environment” and “School Structural Transformation.” The findings of the present study indicated that the realization of regenerative unlearning in primary schools is strongly influenced by the cultural, communicational, and structural contexts governing the school. In this regard, school structure improvement, transformation of the school system, school renewal, organizational reconsideration, elimination of ineffective structures, and reconstruction of the educational system were identified as the structural dimensions of this category. Furthermore, at the cultural and environmental level, components such as transforming the learning culture, changing classroom interactions, improving communication patterns, modifying the learning environment, and reforming the assessment system indicate that regenerative unlearning becomes possible within a dynamic, flexible, and redefined learning environment. These findings suggest that this phenomenon is not merely an individual or

educational process; rather, it is deeply embedded in the institutional structures and organizational culture of the school. Without transformation in these contexts, the institutionalization of regenerative unlearning cannot be achieved. The findings of this section are consistent with previous studies in the fields of organizational unlearning, institutional transformation, and organizational learning. For example, *Ortaçtepe Hart (2026)* emphasizes that forgetting in dominant approaches is often limited to the individual level and personal reflection and less frequently results in structural and social changes. In contrast, the findings of this study demonstrate that regenerative unlearning requires transformation in organizational structures and culture. Similarly, *Peng et al. (2026)* show that targeted forgetting can lead to changes in cognitive architecture and the reorganization of processing patterns, which at the school level can be aligned with structural reform and educational system reconstruction. Moreover, *Angelini (2026)* highlights the role of supportive and structured learning environments in shaping transformative experiences, which corresponds with components such as changes in the learning environment and classroom interactions. Furthermore, *Cubillas-Para et al. (2024)* and *J.-G. Cegarra-Navarro et al. (2025)* demonstrate that regenerative unlearning contributes to increased innovation and efficiency through the reorganization of knowledge structures and the improvement of organizational contexts. This finding can be explained through the role of school structural

transformation identified in the present study. From a theoretical perspective, the findings of this study can be explained within the framework of organizational learning theories and the institutional approach to educational transformation. Accordingly, contextual conditions function as institutional and cultural foundations that determine the possibilities and limitations for realizing regenerative unlearning. Within this framework, the school learning culture functions as a “soft infrastructure” for accepting cognitive and educational changes, while school structural transformation, as a “hard infrastructure,” enables the reorganization of the educational system and the elimination of ineffective structures. Overall, these contextual conditions demonstrate that regenerative unlearning in primary schools can only be realized through the simultaneous transformation of cultural and structural dimensions. Without these foundations, the process of knowledge and educational experience regeneration will encounter significant challenges.

In this study, the “consequences” consisted of the key component of “Teachers’ Professional Development.” The findings of the present study indicated that regenerative unlearning in primary schools ultimately leads to a set of professional outcomes at the teacher level, reflecting the reconfiguration of teachers’ roles, knowledge, and professional performance. In this regard, the redefinition of the teacher’s role refers to the transition from traditional roles of knowledge transmission toward roles as facilitators, regenerators, and professional learners.

Moreover, skill updating represents the continuous renewal of teachers’ educational, cognitive, and professional capabilities in response to emerging demands within the educational system. In addition, teacher performance enhancement reflects improvements in teaching quality, increased effectiveness of teaching–learning processes, and strengthened professional decision-making abilities in the classroom environment. This set of consequences demonstrates that regenerative unlearning is not merely a corrective process; rather, it functions as a developmental mechanism for advancing the teaching profession in primary schools. The findings of this section are consistent with previous studies in the fields of organizational learning, professional transformation, and regenerative unlearning. For example, [Ortaçtepe Hart \(2026\)](#) emphasizes that forgetting in dominant approaches often remains limited to the individual level and personal reflection. In contrast, the findings of this study demonstrate that its consequences can lead to the redefinition of professional roles and structural transformation within educational practice. Similarly, [Peng et al. \(2026\)](#) show that targeted forgetting, through changes in knowledge-processing patterns, leads to a transition from retrieval-based processes to reasoning-based processes and strengthens problem-solving abilities. This finding is consistent with the updating of skills and enhancement of teachers’ performance identified in the present study. Furthermore, [Angelini \(2026\)](#) emphasizes the role of structured experiences and guided reflection in reconstructing professional identity, which

corresponds with the process of teacher role redefinition identified in this study. Additionally, [Cubillas-Para et al. \(2024\)](#) and [J.-G. Cegarra-Navarro et al. \(2025\)](#) demonstrate that regenerative unlearning, through knowledge restructuring and improvement of organizational capacities, contributes to increased innovation and performance; a finding that aligns with teacher performance enhancement in the present study. From a theoretical perspective, the findings of this study can be explained within the framework of organizational unlearning theory and the transformative learning approach. Accordingly, the consequences of regenerative unlearning result from the interaction between knowledge reconstruction, changes in professional roles, and skill renewal. Within this framework, the redefinition of the teacher's role can be interpreted as a "professional identity transformation" that emerges through abandoning traditional roles and embracing new professional identities. Furthermore, skill updating represents "continuous professional learning," while teacher performance enhancement reflects the "practical outcome of the knowledge regeneration process." Overall, these consequences demonstrate that regenerative unlearning in primary schools is not only a corrective process but also an empowering mechanism for the sustainable development of the teaching profession and the improvement of educational system quality.

In this study, the "central phenomenon" was identified as "Development of Regenerative Unlearning in Primary

Schools," which constitutes the core of the theoretical model. The findings of the present study indicated that all causal conditions, contextual conditions, intervening conditions, strategies, and consequences are systematically organized around this phenomenon and, through their interactions, explain the process of its emergence and development within the school context. In fact, regenerative unlearning as the central phenomenon represents a purposeful process for reviewing existing knowledge, eliminating ineffective patterns, and regenerating educational experiences at the primary school level. This phenomenon possesses a dynamic, multilayered, and organizational nature. The findings of this section are consistent with previous studies in the fields of organizational unlearning and transformative learning. For example, [Ortaçtepe Hart \(2026\)](#) emphasizes the necessity of redefining forgetting from an individual level toward a collective and transformative level and conceptualizes it as a social and structural action, which is consistent with the central position of regenerative unlearning in the present study. Similarly, [Peng et al. \(2026\)](#) demonstrate that targeted forgetting can transform knowledge structures and shift processing patterns from retrieval-based processes toward reasoning-based processes. This finding supports the central role of forgetting in the reorganization of cognitive and functional systems. Moreover, [Angelini \(2026\)](#) highlights the role of structured experiences and guided reflection in the formation of transformative learning, which corresponds with the process-oriented and regenerative nature of the central

phenomenon identified in this study. Furthermore, *Cubillas-Para et al. (2024)* and *J.-G. Cegarra-Navarro et al. (2025)* show that regenerative unlearning, through knowledge restructuring and strengthening organizational capacities, contributes to improved performance, innovation, and organizational transformation. This finding confirms the central position of this phenomenon within organizational change processes. From a theoretical perspective, the findings of this study can be explained within the framework of organizational unlearning theory and the learning systems approach. Accordingly, the central phenomenon functions as the “core node of knowledge transformation,” through which other categories gain meaning and are organized in relation to it. Within this framework, regenerative unlearning is not merely the elimination of knowledge; rather, it is a systematic process of reconfiguring cognition, experience, and organizational structures within the school. This phenomenon, through interaction among facilitating, intervening, and strategic factors, leads to knowledge regeneration and improvement of educational performance quality. Overall, the central phenomenon identified in this study demonstrates that regenerative unlearning is not a random or temporary process; rather, it represents an organizing logic for transforming the educational system in primary schools, integrating and connecting all components of the model in a coherent manner.

Like other qualitative studies, this research was faced with several limitations that should

be considered when interpreting and generalizing the findings. The first limitation relates to the qualitative nature of the study and the use of the grounded theory approach. Although this approach enabled a deep and detailed understanding of the phenomenon of “regenerative unlearning,” it requires caution regarding the generalizability of the findings to other educational contexts and systems. The second limitation concerns the participant population, which consisted only of university professors, school principals, and experienced teachers from Ardabil Province. Therefore, cultural, organizational, and policy differences among various provinces and regions may influence the perceptions and interpretations of this phenomenon and limit the direct transferability of the findings to other contexts. The third limitation is associated with the exclusive reliance on semi-structured interview data. Since the collected data were based on participants’ perceptions, experiences, and narratives, the possibility of response bias, memory effects, or subjective interpretations of concepts cannot be ruled out. These factors may have influenced the depth and richness of some dimensions of the collected data. The fourth limitation relates to the emerging nature of the concept of “regenerative unlearning” within the field of education. This concept is still in the process of theoretical development, and the lack of extensive empirical research in primary school contexts has resulted in the analyses being based more on conceptual inferences and connections with interdisciplinary literature rather than on a broad body of empirical evidence. Furthermore, the

temporal limitation of the study should also be acknowledged. The data were collected within a specific time period, and gradual changes in school organizational culture or educational policies over time were not incorporated into the analyses of this study.

Based on the findings of the present study, the development of “regenerative unlearning in primary schools” can be explained as an active, systematic, and multilayered process in which the mere elimination of past knowledge is not the primary objective; rather, conscious reflection, refinement, redesign, and replacement of mental models, educational practices, and school structures are pursued. Within this framework, the practical recommendations of the study have been formulated based on the extracted categories and indicate that the realization of this phenomenon requires simultaneous interventions at the individual, organizational, and cultural levels.

At the individual level, considering categories such as eliminating cognitive resistance, breaking old habits, abandoning obsolete knowledge, and reconsidering beliefs, it is recommended that teachers’ professional development programs move beyond mere training and focus on “professional unlearning.” In this way, teachers can consciously identify, analyze, and reconstruct ineffective teaching patterns, established but unproductive beliefs, and repetitive educational habits. Furthermore, strengthening flexible learning, experiential learning, and adaptive learning can provide the foundation for regenerating professional

knowledge and enhancing teachers’ professional thinking.

At the level of educational processes, the findings indicate that transformation of teaching patterns, educational reengineering, reform of teaching systems, and curriculum redesign are essential requirements of this approach. Accordingly, it is recommended that traditional and non-interactive methods be purposefully abandoned and replaced with innovative, collaborative, and experience-based approaches. Moreover, redefining learning as a dynamic and experience-oriented process can contribute to the sustainability of educational changes.

Finally, at the cultural and learning environment level, the findings emphasize the importance of transforming the learning culture, improving classroom interactions, enhancing communication, and redesigning the learning environment. Creating a safe environment for experimentation and trial-and-error, strengthening educational dialogue between teachers and students, and moving toward formative and process-oriented assessment are among the actions that can facilitate the practical implementation of this approach.

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