Experiential Noise and Learning: A First-Person Perspective for Noise-Sensitive Learners

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Abstract

This paper examines learning, understanding, and creativity from a first-person experiential perspective, focusing on individuals who are particularly sensitive to fluctuations in experiential noise. Rather than advancing a universal learning theory, the paper introduces *experiential noise* as a descriptive construct and analyzes how learning unfolds within what is termed *noise-space*, identified with the lived experiential state $E(t)$.

For noise-sensitive learners, meaningful progress is characterized by a detectable decrease in experiential noise over time. This dynamic, expressed as $\mathrm{d}f_{\mathrm{noise}}/\mathrm{d}t < 0$, serves not as an optimization objective but as a phenomenological indicator of increasing experiential coherence. Understanding and creativity are interpreted as processes of terrain recognition within noise-space, differing primarily in whether the terrain has already been stabilized through existing knowledge or remains largely unexplored.

The analysis is intentionally restricted to this population and is offered as a structural lens rather than a prescriptive framework. Readers are invited to assess whether the described experiential patterns resonate with their own learning processes.

1 Experiential Noise

In this paper, *experiential noise* refers to a first-person measure of internal instability arising during learning and thinking processes. It does not denote emotion itself, nor subjective preference, but rather the degree of misalignment between ongoing cognitive activity and the learner's internal experiential state.

Experiential noise is directly accessible only from the first-person perspective. It manifests as a loss of internal coherence, increased cognitive strain, or a subtle sense that reasoning is proceeding without reliable internal calibration. Importantly, a low level of experiential noise does not imply the absence of difficulty, but rather indicates that difficulty is being integrated in a stable and sustainable manner.

For noise-sensitive learners, experiential noise functions as a critical indicator of epistemic reliability. When experiential noise remains low and stable, reasoning and learning tend to proceed

without significant distortion. When it rises, however, conclusions may appear logically consistent while becoming increasingly disconnected from the learner's actual understanding.

This paper treats experiential noise as a descriptive rather than normative construct. No claim is made that experiential noise operates identically across individuals, nor that minimizing it is universally desirable. The analysis is restricted to learners who identify themselves as particularly sensitive to experiential noise.

For noise-sensitive learners, a successful learning process can be characterized by a long-term decreasing trend in experiential noise. Formally, this can be expressed as

$$\frac{\mathrm{d}f_{\text{noise}}}{\mathrm{d}t} < 0,$$

where f_{noise} denotes the level of experiential noise perceived from the first-person perspective.

This condition does not imply that experiential noise must decrease monotonically at every moment. Short-term fluctuations, temporary increases, or local instability are often unavoidable and may even accompany meaningful learning transitions. However, when considered over a sufficiently long timescale, a stable and sustainable learning process for noise-sensitive learners tends to exhibit an overall downward trajectory in experiential noise.

In this sense, the criterion $\mathrm{d}f_{\text{noise}}/\mathrm{d}t < 0$ should be understood as a descriptive indicator of learning stability rather than a prescriptive optimization target. It provides a way to distinguish between learning processes that are gradually integrating difficulty and those that are accumulating unrecognized distortion.

2 Noise-Space as an Experiential Structure for Noise-Sensitive Learners

For noise-sensitive learners, learning and thinking unfold within what we refer to as a *noise-space*. In this paper, the experiential state $E(t)$ is identified with the noise-space at time t. Rather than treating noise-space as an object perceived by an underlying experiential layer, we use $E(t)$ to denote the noise-space itself as it is directly lived and inhabited from the first-person perspective.

From an abstract or mathematical viewpoint, $E(t)$ can be represented as a high-dimensional space, capturing the complex interaction between environmental conditions, cognitive demands, and accumulated experiential history. Crucially, this experiential state should be understood as the result of an integration over the learner's prior experience across time. Whether formed through thinking, action, or direct exposure, $E(t)$ arises only through first-person experience and cannot be reliably transmitted through verbal description or abstract instruction alone.

However, such representations should not be mistaken for how noise-space is actually experienced. At the experiential level, noise-space does not appear as explicit dimensions or variables, but as a qualitative sense of terrain—such as smoothness, roughness, openness, or constraint—within which thinking and learning take place. For noise-sensitive learners, access to this terrain often requires reconstructing a line of thought or re-entering an experiential configuration similar to that of the original situation, particularly when difficulty or instability is involved. Through such

reconstruction, the internal structure of noise-space can be directly encountered.

Importantly, the "terrain" of noise-space revealed in this way is not tied to specific objects or situational details. Instead, it reflects a structural configuration of experiential stability and instability that can recur across different contexts. By engaging with similar experiential conditions over time, noise-sensitive learners gradually develop a more accurate sense of the gradients, constraints, and navigability of the noise-space itself.

This perspective also clarifies why learning cannot be reduced to the passive reception of answers. For noise-sensitive learners, understanding does not arise primarily from being told what is correct, but from reconstructing the experiential conditions under which a conclusion becomes meaningful. This often requires actively imagining, and in some cases re-experiencing, the difficulties faced by the person originally confronting the problem.

In this sense, difficulty itself is not incidental to learning, but constitutes the "terrain" of the noise-space. Without entering this terrain, answers remain low-dimensional descriptions that are insufficiently grounded in experience. By contrast, engaging with the difficulty allows the learner to inhabit the relevant noise-space and grasp its internal structure directly.

The same logic explains why engaging in multiple forms of work or roles can be valuable for noise-sensitive learners. Such experiences are not primarily about acquiring surface-level skills, but about encountering different forms of difficulty as lived experiential terrain. By inhabiting these terrains firsthand, learners develop a deeper capacity for empathy and a more reliable sense of global coherence, as their judgments are informed by a richer integration of previously encountered noise-space configurations.

Only by having fully inhabited the terrain of a given noise-space can noise-sensitive learners later recognize meaningful gradients within similar terrains. When a learner has genuinely experienced the difficulty that constitutes the structure of a noise-space, changes within that space become perceptible rather than abstract.

In particular, when encountering a tool, method, or conceptual move that is genuinely effective within a familiar terrain, the learner can directly sense a downward gradient in experiential noise. That is, the value of such a tool or method is not primarily inferred from external justification, but felt through the experiential signal that

$$\frac{\mathrm{d}f_{\text{noise}}}{\mathrm{d}t} < 0.$$

This gradient becomes perceptible precisely because the surrounding terrain has been sufficiently explored and integrated beforehand.

For noise-sensitive learners, experiential value is therefore inseparable from prior engagement with difficulty. Without familiarity with the terrain, even effective tools or correct methods may fail to register as valuable. Conversely, when the terrain is well understood, the reduction in experiential noise provides an immediate and reliable indication of the practical and experiential significance of what has been acquired.

When encountering a tool, method, or conceptual move that is genuinely effective within a familiar terrain, noise-sensitive learners often experience a pronounced downward gradient in experiential noise. Rather than a marginal improvement, such encounters can produce a substantial

decrease in f_{noise}, making the effect immediately perceptible from the first-person perspective.

Many foundational scientific frameworks exhibit this same functional property. Historically, formulations such as Newtonian mechanics or Maxwell's equations did not merely provide correct predictions; they dramatically simplified the experiential landscape of physical reasoning. By unifying disparate phenomena under coherent structures, these frameworks induced a large negative gradient in experiential noise, allowing practitioners to reason with greater stability and confidence.

From this perspective, the lasting significance of such discoveries lies not only in their empirical adequacy, but in their capacity to stabilize the noise-space itself. When a conceptual structure reliably reduces experiential noise across a wide range of situations, it generates a sustained sense of psychological steadiness, enabling continued exploration without persistent internal tension or defensive effort.

3 Understanding and Creativity as Terrain Transfer in Noise-Space

From the perspective developed above, both understanding and creativity can be viewed as forms of terrain recognition and transfer within noise-space. In each case, the learner engages with an experiential state $E(t)$ whose structure must be inhabited and explored before meaningful judgments or actions can emerge.

Understanding corresponds to the recognition of terrain within noise-spaces that are already partially mapped through existing knowledge. When learning established concepts or methods, the learner encounters noise-space configurations that resemble those previously integrated by others. Through experiential reconstruction and engagement with difficulty, the learner comes to recognize the gradients, constraints, and stable regions of these familiar terrains. In this sense, understanding involves aligning one's experiential state with a noise-space whose structure is known, but not yet personally inhabited. For noise-sensitive learners, moments of genuine understanding and creative insight are consistently accompanied by a detectable decrease in experiential noise. Although the surrounding noise-space may remain complex, the recognition of coherent terrain—whether within an established configuration or an unexplored one—induces a negative noise gradient,

$$\frac{\mathrm{d}f_{\text{noise}}}{\mathrm{d}t} < 0.$$

In the case of understanding, this decrease arises as the learner aligns with a noise-space whose structure has already been stabilized in existing knowledge. In the case of creativity, the decrease emerges when a previously unstructured region of noise-space begins to reveal coherent gradients for the first time. Despite this difference, the experiential signal is the same: a reduction in psychological instability that marks the successful recognition of navigable terrain.

This shared dynamic explains why understanding and creativity are often subjectively experienced as moments of relief or increased steadiness. For noise-sensitive learners, such moments are not merely affective rewards, but reliable indicators that experiential coherence has increased and that reasoning or exploration is proceeding along a viable path.

Creativity, by contrast, involves terrain recognition in noise-spaces that lack prior maps. Rather than navigating a well-characterized configuration, the learner enters regions of noise-space where gradients are unclear and stability has not yet been established. Here, creativity does not consist in arbitrary novelty, but in the gradual identification of viable terrain—discovering where experiential noise decreases and where coherent structure can emerge within an unfamiliar space.

Despite this difference, understanding and creativity share a common experiential mechanism. In both cases, progress depends on the learner's ability to inhabit a noise-space long enough to perceive meaningful gradients in experiential noise. The distinction lies not in the process itself, but in whether the terrain being recognized corresponds to previously established knowledge or to a configuration that has not yet been stabilized.

Viewed in this way, creativity is not separate from understanding, but represents its extension into unexplored regions of noise-space. Both rely on the transfer of terrain recognition across similar experiential states $E(t)$, and both depend on the same capacity to detect decreases in experiential noise as indicators of emerging coherence.

4 Conditions Under Which Experiential Noise Escalates

This section examines conditions under which experiential noise tends to increase sharply for noise-sensitive learners. These conditions do not exhaust all possible sources of noise, but represent recurrent patterns observed across learning and thinking contexts.

4.1 Environmental Constraints and Long-Term Physical Conditions

Physical and environmental factors such as temperature, bodily comfort, and the long-term stability of the surrounding environment play a significant role in shaping experiential noise. Conditions that allow slow accumulation of understanding and sustained cognitive engagement tend to support lower experiential noise, while environments that continuously impose physical discomfort or instability can raise noise even before cognitive demands increase.

Such physical and cultural conditions are often overlooked precisely because they operate continuously in the background. However, for noise-sensitive learners, these persistent constraints form a foundational layer upon which learning stability depends. Environments that can be steadily inhabited and psychologically carried over time provide essential support for low-noise cognitive processes.

This perspective may offer a partial explanation for why certain historical and cultural environments have been particularly conducive to sustained scientific inquiry, without implying a simple or exclusive causal relationship.

4.2 Externally Imposed Pressure and Disruptive Interruptions

Experiential noise tends to rise sharply when learners are subjected to strong external task metrics, forced learning conditions, or frequent interruptions during thinking processes. For noise-sensitive learners, such pressures consume experiential bandwidth, leaving insufficient capacity for continuous internal calibration.

Under these conditions, experiential noise may increase while the learner simultaneously loses the ability to perceive the surrounding noise-space. As a result, individuals may continue reasoning without recognizing that their internal stability has already degraded. This loss of situational awareness exacerbates distortion, as corrective signals from the experiential layer fail to register in time.

4.3 Premature Low-Dimensional Compression of High-Dimensional Experience

A central source of experiential noise escalation arises when high-dimensional experiential states are prematurely compressed into low-dimensional representations. In general, cognitive processes can be understood as involving gradual compression from rich, high-dimensional experiential input toward more compact, low-dimensional descriptions.

Linguistic and conceptual judgments such as "x is y" mark points at which such compression occurs. For noise-sensitive learners, this compression must proceed gradually and only after experiential states have sufficiently stabilized. When low-dimensional descriptions are imposed too early—particularly under conditions of elevated noise—the compression process itself becomes a source of further instability.

For these learners, effective thinking typically requires an initial period of low experiential noise, minimal external interruption, and the absence of rigid task metrics. Within such conditions, high-dimensional experience can be slowly sensed, articulated, and eventually compressed without triggering sharp increases in experiential noise.

5 Creativity, Time, and the Limits of Formalized Instruction

The preceding analysis suggests that creativity, for noise-sensitive learners, is not a short-term outcome that can be reliably produced through procedural instruction. Instead, creative insight tends to emerge only over extended periods—sometimes spanning years or even decades—within environments that are experientially stable, permissive, and capable of carrying prolonged uncertainty.

Such environments are characterized less by explicit structure than by their capacity to remain inhabitable over time. When learners are afforded sufficient psychological safety and continuity, noise-space configurations can gradually stabilize, allowing high-dimensional experiential states to be explored without premature compression. Under these conditions, creative structure may eventually emerge as a natural consequence of sustained experiential integration, rather than as the result of deliberate optimization.

This perspective also implies that cross-domain learning, while often valuable, is not universally appropriate. For some noise-sensitive learners, frequent shifts across domains may disrupt the continuity required for noise-space stabilization. What matters is not the breadth of exposure per se, but whether the learner can inhabit and integrate each experiential terrain without inducing persistent increases in experiential noise.

Within this framework, the role of educators is necessarily limited. Because noise-space is deeply personal and shaped by individual experiential history, teachers cannot directly prescribe

creative trajectories or impose standardized pathways toward insight. Their most constructive role may instead lie in gentle guidance—helping learners attend more carefully to their own experiential signals and recognize when experiential noise is rising or falling.

Overly formalized or step-by-step instructional methods, when applied indiscriminately, risk disrupting this process. By enforcing premature low-dimensional compression, such methods may reduce the space in which exploratory thinking can unfold, simultaneously elevating experiential noise and narrowing the learner's effective search space. While formalization is indispensable in many contexts, its timing and degree are critical for noise-sensitive learners.

Although scientific discoveries can retrospectively appear as natural outcomes of correct dimensional reduction, this perspective risks obscuring the long periods of experiential accommodation that precede them. Creativity, in this account, is less the product of formal procedure than the result of being carried—over long durations—by environments that are sufficiently gentle, supportive, and resilient to allow coherent structure to surface naturally.

Conclusion

This paper has examined learning, understanding, and creativity from a first-person experiential perspective, with a particular focus on learners who are sensitive to fluctuations in experiential noise. Rather than proposing a universal learning theory or a prescriptive educational framework, the analysis has remained descriptive, aiming to articulate structural regularities that recur within the lived experience of noise-sensitive learners.

Central to this account is the notion that learning unfolds within an experiential state $E(t)$, identified here with noise-space, and that meaningful progress is consistently accompanied by a detectable decrease in experiential noise. Across learning, understanding, and creative exploration, such progress is marked by a negative noise gradient,

$$\frac{\mathrm{d}f_{\mathrm{noise}}}{\mathrm{d}t} < 0,$$

which functions not as an optimization objective, but as a phenomenological indicator of increasing experiential coherence and stability.

Within this framework, tools, methods, and conceptual structures acquire experiential value insofar as they reliably reduce experiential noise within a terrain that has been sufficiently inhabited. Understanding and creativity differ primarily in whether the relevant noise-space has already been stabilized through existing knowledge or remains largely unexplored. Despite this difference, both processes rely on the same experiential mechanism: sustained engagement with a noise-space until coherent gradients become perceptible.

The analysis further suggests that creative insight, particularly for noise-sensitive learners, is unlikely to be the product of short-term procedural instruction. Instead, creativity tends to emerge over extended timescales—sometimes spanning years or decades—within environments that are experientially stable, gentle, and capable of carrying prolonged uncertainty. Such environments allow high-dimensional experiential states to be explored without premature compression, enabling coherent structure to surface gradually rather than being forced into form.

This perspective also clarifies the limits of formalized and step-by-step instruction. While formal methods are indispensable in many contexts, their indiscriminate application may disrupt the natural formation of experiential search spaces for noise-sensitive learners, elevating experiential noise and narrowing the range of viable cognitive trajectories. Because noise-space is deeply personal and shaped by individual experiential history, educators cannot prescribe creative paths, but may instead offer gentle guidance that helps learners attend to their own experiential signals.

No claim is made that the dynamics described here apply uniformly across all learners, nor that experiential noise should be minimized in all circumstances. Rather, this paper offers a lens through which noise-sensitive individuals may better understand their own learning processes, recognize conditions that support or undermine experiential stability, and appreciate creativity not as a procedure to be executed, but as a structure that emerges when experience is allowed to be carried over time.

Readers are invited to assess independently whether the experiential patterns described resonate with their own learning and thinking, and to treat experiential noise not as a defect to be eliminated, but as a signal whose long-term dynamics may reveal the conditions under which learning, understanding, and creativity can unfold sustainably.

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