THE UNFINISHED TASK AS ATTRACTOR: THE COHERENCE-RESTORATION RATE IN LEARNING

(Незавершённая задача как аттрактор: темп восстановления когерентности в обучении)

An honest epistemic stratification of the Zeigarnik effect, the Ovsiankina effect, and discharge-through-planning, via reuse of the ODTOE contraction modulus $q(B, S)$ and the coherence-restoration rate Γ_{rest}

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ABSTRACT

The classical Zeigarnik effect (superior recall of interrupted tasks) ranks among the least stable results in twentieth-century psychology: a recent quantitative meta-analysis by Ghibellini & Meier (2025) across 37 studies reports a pooled effect of $d_z = 0.15$, with an interrupted-to-completed recall ratio of 0.99, and concludes verbatim that the classical memory effect "lacks universal validity." This paper takes that fragility as a starting point for formalization. The adjacent and substantially better-replicated Ovsiankina effect (the tendency to resume an interrupted action), together with the Masicampo and Baumeister findings on discharge through plan-making, forms the empirical anchor of the constructive part of the work. An unfinished learning task is modeled as an iteration $\Psi_k \to \Psi^*$ of the self-observation operator that has not reached its fixed point; the pull toward closure is given the form of the contraction modulus $q(B, S) = B\,S + (1 - B)\sqrt{1 - S^2}$ and the coherence-restoration rate $\Gamma_{\text{rest}}(B, S) = -\ln q(B, S)/\tau_0$, both reused without re-derivation from the ODTOE corpus preprints. Several concurrently open learning loops are modeled via a multiplicative split of attentional focus $F_i = F_{\text{total}}/n$ inside the already-existing formula D1.1; an n-body extension of the pair (B, S) is considered and rejected as unnecessary invention. A distinction is introduced between phantom closure of a task (marking it "done" without retrieval) and true retention (closure through retrieval practice), by analogy with the corpus pair $S_{\text{true}}/S_{\text{phantom}}$; the subscript S_{learn} is introduced for this paper's retrieval-mastery coherence, distinguishing it from the two senses of S already occupied in the corpus (collective belief coherence and superconducting phase coherence). The number of concurrently open learning loops qualitatively forms a single interior region of maximal pull: zero loops give zero pull, an unbounded number of loops dilutes per-loop focus F_i and per-loop coherence, and no numeric optimum is derived or claimed from the constants π/φ. Four falsifiable predictions (P1–P4) are stated, each with an explicit falsifier, and every claim in the paper is tagged on the scale L1-FACT / L2-ODTOE / L3-DICTIONARY (HYPOTHESIS) / PREDICTION. The paper does not re-derive the interior optimum ρ^*, the ideal error

δ_{ideal}, or the RT-2 loop presented in *ODTOE_human_ai_learning_coherence*, and instead cites that work directly as adjacent material. The paper unfolds within the ODTOE program (Observer-Dependent Theory of Everything), in which all mathematics, physics, and the phenomenology of consciousness are projections of a single primary act of distinction.

Keywords: Zeigarnik effect, Ovsiankina effect, goal planning, unfinished task, coherence, contraction modulus, coherence-restoration rate, phantom closure, retrieval practice, Observer-Dependent Theory of Everything, ODTOE, falsifiability.

АННОТАЦИЯ

Классический эффект Зейгарник (превосходство памяти на прерванные действия) относится к числу наиболее нестабильных результатов психологии XX века: свежий количественный метаанализ Ghibellini & Meier (2025) по 37 исследованиям сообщает пуловый эффект $d_z = 0{,}15$ с отношением незавершённых к завершённым воспоминаниям $0{,}99$ и заключает дословно, что классический эффект памяти «lacks universal validity». Настоящая статья принимает эту хрупкость как отправную точку для формализации. Соседний и существенно лучше воспроизводимый эффект Овсянкиной (тенденция к возобновлению прерванного действия) вместе с находками Masicampo и Baumeister о разгрузке через планирование образует эмпирический якорь конструктивной части работы. Незавершённая учебная задача моделируется как итерация $\Psi_k \to \Psi^*$ оператора самонаблюдения, не достигшая неподвижной точки; притяжение к завершению получает форму модуля сжатия $q(B,S) = BS + (1-B)\sqrt{1-S^2}$ и темпа восстановления когерентности $\Gamma_{\text{rest}}(B,S) = -\ln q(B,S)/\tau_0$, переиспользуемых без повторного вывода из корпусных препринтов ODTOE. Несколько параллельно открытых учебных петель моделируются мультипликативным расщеплением фокуса внимания $F_i = F_{\text{total}}/n$ внутри уже существующей формулы D1.1; n-тельное расширение пары (B,S) рассмотрено и отклонено как избыточное изобретение. Вводится различение фантомного закрытия задачи (отметка «сделано» без извлечения) и истинного удержания (закрытие через практику припоминания) по аналогии с парой $S_{\text{true}}/S_{\text{phantom}}$ из корпуса; для обозначения ретривал-мастери когерентности данной статьи вводится нижний индекс S_{learn}, отличающий её от уже занятых в корпусе значений S (коллективная вера и сверхпроводящая фазовая когерентность). Число одновременно открытых учебных петель качественно образует не более чем одновершинную область: ноль петель даёт нулевое притяжение, неограниченное число петель разбавляет фокус F_i и когерентность на петлю — численный оптимум из констант π/φ не выводится и не заявляется. Сформулированы четыре фальсифицируемых предсказания (P1–P4) с явными фальсификаторами, каждое утверждение статьи промаркировано по шкале Л1-ФАКТ / Л2-ODTOE / Л3-СЛОВАРЬ (ГИПОТЕЗА) / ПРЕДСКАЗАНИЕ. Работа не переоткрывает внутренний оптимум ρ^*, идеальную ошибку δ_{ideal} и петлю RT-2, изложенные в *ODTOE_human_ai_learning_coherence*, а прямо ссылается на них как на смежный материал. Работа разворачивается внутри программы

ODTOE (Observer-Dependent Theory of Everything; наблюдатель-зависимая теория всего), в которой вся математика, физика и феноменология сознания суть проекции единого первичного акта различения.

Ключевые слова: эффект Зейгарник, эффект Овсянкиной, планирование целей, незавершённая задача, когерентность, модуль сжатия, темп восстановления когерентности, фантомное закрытие, ретривал-практика, наблюдатель-зависимая теория всего, ODTOE, фальсифицируемость.

I. INTRODUCTION AND MOTIVATION

An unfinished task holds attention in a way familiar to anyone who has set aside an unfinished text, an unsolved problem, or an incomplete course: the mind returns to the interrupted point without conscious effort. This observation became, in 1927, the starting point of one of the most cited effects in twentieth-century psychology, the Zeigarnik effect [1], and has since produced a century-long line of studies, replications, refutations, and applied extensions. This paper uses that observation as an occasion for formalization. The applied context of the task is the engineering of learning systems and T-shape skill-development trajectories — sustained engagement with partially mastered material is the typical working regime here: any educational platform must decide what to do with a topic a learner has set aside midway.

The formal apparatus of the Observer-Dependent Theory of Everything (ODTOE) supplies a language for such states through observer coherence and the fixed point of self-observation (Section V). This paper carries that language over to a specific case: a learning task not brought to its internal completion criterion is an iteration of the self-observation operator that has not yet reached its fixed point. Applying the apparatus to the topic requires discipline: the central historical effect motivating the topic is empirically fragile, and this is reported openly in Section III before the formal part of the paper engages it. This paper treats a famous but empirically contested effect as an occasion for formalizing the pull toward an unfinished state.

II. EPISTEMIC STRATIFICATION

Every claim in the paper is tagged with one of four labels, applied consistently throughout the text.

- **L1-FACT**: an external empirical claim with a verifiable source (author, year, DOI where available).
- **L2-ODTOE**: a claim reused from the ODTOE corpus without re-derivation; the source is given by an explicit reference to the preprint.
- **L3-DICTIONARY (HYPOTHESIS)**: an interpretive mapping or dictionary hypothesis of this paper, derivable neither from an external fact nor from a corpus invariant.

- **PREDICTION**: a falsifiable claim with an explicitly stated falsifier.

This stratification is itself a methodological contribution of the paper: it makes visible the boundary between what is confirmed by external literature, what is inherited from an already-verified corpus apparatus, and what this paper proposes for the first time as an interpretive hypothesis. Conflating these three categories is a typical source of excess confidence in interdisciplinary bridges — the present work makes the separation explicit at the level of every paragraph where it applies.

III. THE CANONICAL LAYER: THE ZEIGARNIK AND OVSIANKINA EFFECTS

Bluma Zeigarnik conducted in 1927 a series of twelve experiments in which participants performed a set of simple tasks, some of which the experimenter interrupted before completion [1]. The ratio of recall of interrupted to completed tasks (IR/CR) in her data was on the order of 1.8–2.1: interrupted tasks were recalled noticeably better than completed ones (**L1-FACT**, [1]). The theoretical frame for this result belongs to Kurt Lewin and his notion of quasi-need: an unfinished action leaves the system in a state of tension, which discharges upon completion and, until then, keeps the corresponding material available in memory (**L1-FACT**, quoted in MacLeod, 2020 [2]). A closely related early result by Birenbaum (1930) showed that forgetting an intention to perform an action follows its own dynamics, distinct from forgetting the factual content of the task, which is consistent with the subsequent fuzzy-trace theory (**L1-FACT**, [3], quoted in [2]; cf. [4]).

In the same line of research, but independent of the memory effect, Maria Ovsiankina in 1928 described a different, though related, phenomenon: the tendency to spontaneously resume an interrupted action at the first opportunity, without instruction from the experimenter and without any requirement of recall [5] (**L1-FACT**). The Ovsiankina resumption effect concerns the behavioral pull toward completing a begun action and has been treated from the outset as a construct distinct from the Zeigarnik memory effect.

III.1. The honest boundary of replication

The century-long history of testing the Zeigarnik effect is a case study in uneven reproducibility, documented in the review by MacLeod (2020) [2]. A positive replication by Marrow (1938) yielded an IR/CR ratio ≈ 1.77, comparable to Zeigarnik's original result (**L1-FACT**, [6], quoted in [2]). Butterfield (1964), however, described the effect as far from invariant and frequently reversed depending on experimental conditions (**L1-FACT**, [7], quoted in [2]). Van Bergen (1968) conducted a systematic review of 44 replication attempts and obtained a pooled IR/CR ratio ≈ 0.88 (a reversed effect, in which completed tasks were recalled better than interrupted ones) and recommended closing the topic as empirically unreliable (**L1-FACT**, [8], quoted in [2]): fewer than a third of the 44 replications confirmed the original effect.

The recent quantitative meta-analysis by Ghibellini and Meier (2025) pools this heterogeneous literature across 37 studies and reports a pooled effect of $d_z = 0.15$, with an interrupted-to-completed recall ratio of 0.99 (**L1-FACT**, [9]). The authors conclude verbatim that the classical Zeigarnik memory effect "lacks universal validity" [9], whereas the Ovsiankina resumption effect represents "a general tendency" [9], supported substantially more robustly across the full set of included studies.

This paper accepts that boundary as a structural constraint on the domain, stated openly. The formal apparatus of Sections V–VII targets primarily the Ovsiankina phenomenon and discharge through planning (Section IV), while the classical Zeigarnik memory effect retains the status of a historically motivating but explicitly fragile empirical occasion.

IV. MECHANISM: RUMINATION AND PLANNING

Martin and Tesser (1996) developed a theory of goal-instrumental rumination: an unfinished goal generates recurring thoughts about it insofar as those thoughts are instrumental to attaining the goal; rumination stops upon actual attainment of the goal, and likewise upon its cancellation or replacement (**L1-FACT**, [10]).

A key control result for the constructive part of this paper belongs to Masicampo and Baumeister (2011a): forming a concrete action plan for an unattained goal removes the cognitive intrusion of thoughts about that goal to the same degree as actual attainment of the goal, while the goal itself remains objectively unfinished (**L1-FACT**, [11]). This separates closing a task from completing a task: an action plan can discharge the psychological tension of a task without resolving the task on its merits. A complementary result by the same authors (2011b) shows that unattained goals impair performance on tasks requiring executive function, meaning that holding an unfinished goal carries a measurable cognitive cost beyond simple background irritation (**L1-FACT**, [12]).

Atkinson (1953) proposed a moderation frame through need for achievement, interacting with success or failure at the task: the strength of the interruption effect depends on how deeply the task is embedded in the individual's motivational structure, operationalized through success/failure, as distinct from the undocumented construct of "someone else will finish it for me" (**L1-FACT**, [13], quoted in [2]). This paper uses precisely the Atkinson frame wherever a moderator of the effect is needed, and does not invoke ego-involvement as a separate named moderator, given the absence of a reliable primary source for it.

V. THE ODTOE APPARATUS: REUSE WITHOUT RE-DERIVATION

This section collects the L2-layer corpus invariants; formulas are cited without re-derivation.

An observer's baseline coherence relative to a configuration is given by the multiplicative belief anchor

$$B(O,C) = F(O,C)^{w_1} \cdot E(O,C)^{w_2} \cdot (1-\sigma(O,C))^{w_3} \cdot \Lambda(O,C)^{w_4}, \tag{1}$$

where F is the focus of attention, E is emotional coherence, $(1-\sigma)$ is internal consistency, and Λ is empirical reinforcement (**L2-ODTOE**, [14], D1.1). The weak-link property holds: any factor collapsing to zero collapses B entirely (**L2-ODTOE**, [14]).

A recognized state (mastered material, a completed task) is modeled as a Banach-stable fixed point of the self-observation operator

$$\Psi^* = \Phi(\Psi^*) = \iota\big(\hat{O}_\Psi(\Psi)\big) \tag{2}$$

(**L2-ODTOE**, [14], U4.2). The stability of approach to the fixed point is governed by a single contraction modulus

$$q(B,S) = B\,S + (1-B)\sqrt{1-S^2} \tag{3}$$

(**L2-ODTOE**, [15], eq:qmodulus), where S in formula (3) is the collective (or, in a single-observer context, reference) coherence carried over from the original formalism. The derivative $\partial q/\partial B = S - \sqrt{1-S^2}$ changes sign at $S = 1/\sqrt{2} \approx 0.70710678$ (**L2-ODTOE**, [15], eq:dqdB), an invariant carried into this paper unchanged and without re-verification, since Section VII depends only on the general form $q < 1$ in the interior of the square.

The rate of coherence restoration after departure from the fixed point is given by

$$\Gamma_{\text{rest}}(B,S) = \frac{-\ln q(B,S)}{\tau_0} \tag{4}$$

(**L2-ODTOE**, [16], eq:gammarest), where τ_0 is the microscopic tick of a single iteration, an empirical parameter and the sole carrier of dimension in the entire model. Formula (4) is the central reused construction of this paper: the smaller the contraction modulus q, the higher the guaranteed rate at which the system returns to the fixed point after a departure.

If formula (3) is applied to the present paper on the diagonal $B = S$, it is appropriate to fix the correct numerical frame as it stands after the correction of a race condition in the corpus (commit f572ef9). The true minimizer of the diagonal section is $v^* \approx 0.56228513453$, with value $q^* = 0.67813000236$ (**L2-ODTOE**, [15]). The golden-ratio point $\varphi^{-1} = 0.61803398875$ is not the minimizer of the diagonal: there, $q(\varphi^{-1},\varphi^{-1}) = 0.68224911725$, whereas the selection of φ^{-1} rests on an external KAM argument about the survival of the worst-Diophantine torus and is carried in the corpus strictly with the status of **HYPOTHESIS** (**L2-ODTOE**, [15]). If this paper mentions φ^{-1} at all, it does so only within this frame: as a KAM-selected hypothesis, never as a minimizer of q.

Finally, the coherence of a configuration is bounded above by a dimensionless ceiling

$$S \leq S_{\max} = 1 - (\pi - 3)^2 \approx 0.97995152045 \tag{5}$$

(**L2-ODTOE**, [15], eq:smax); an irreducible mismatch residue on the order of two percent persists under any architecture of a learning system.

Formulas (1)–(5) are carried into this paper in full under the principle of reuse: none of them is re-derived here, and each is cited to its source.

VI. AN OPEN LOOP AS AN UNFINISHED ITERATION

A learning task is modeled as a sequence of approximations $\Psi_k \to \Psi^*$ of the self-observation operator (2), where Ψ^* is the state of mastered material (objectively verifiable competence), and Ψ_k is the learner's current state at step k (**L3-DICTIONARY (HYPOTHESIS)**: this mapping is a new contribution of the paper, standing independently of any external fact or corpus invariant). The tension of an unfinished task at the moment of interruption is defined by the distance $\|\Psi_k - \Psi^*\|$ in configuration space: the farther the current state is from the fixed point at the moment of interruption, the higher the residual pull, formalized by the restoration rate (4).

VI.1. Multiple open loops: an explicit route decision

A real learner rarely holds exactly one unfinished task: several learning loops are typically open in parallel (an unfinished chapter, an unsolved problem, an incomplete course). Two routes for formalizing this multiplicity were available.

Route (a), considered and rejected. Extend the pair (B, S) to an n-body system $(B_i, S_i)_{i=1}^n$, with its own dynamics for each loop and coupling terms between loops. Such an extension would introduce a new degree of freedom for the model (inter-loop interaction) that has, at present, neither an empirical anchor nor a necessity for the predictions stated in this paper, and was rejected as invention beyond what the observed phenomenon requires.

Route (b), adopted. A multiplicative split of attentional focus inside the already-existing formula D1.1 (1), introducing no new variables:

$$F_i = \frac{F_{\text{total}}}{n}, \qquad i = 1, \ldots, n, \tag{6}$$

where F_{total} is the observer's total attentional-focus resource and n is the number of concurrently open loops (**L3-DICTIONARY (HYPOTHESIS)**). Formula (6) is conservative: it postulates nothing beyond the multiplicative role of F already accepted in (1), merely distributing a fixed focus resource among n competing loops. Growth of n at fixed F_{total} lowers each individual F_i, which, by the weak-link property of formula (1), lowers B_i for each individual loop.

The minimal quantum of re-attention to an interrupted task is denoted τ_0 and treated as the cognitive analogue of the microscopic iteration tick in formula (4) (**L3-**

DICTIONARY (HYPOTHESIS): the quantity requires operational grounding and is not an established fact; it is used in this paper as a working notion).

VII. PHANTOM CLOSURE VERSUS TRUE RETENTION

The ODTOE corpus introduces, for describing realities of high declared but low true coherence, the pair $S_{\text{true}}/S_{\text{phantom}}$, where $S_{\text{phantom}} \gg S_{\text{true}}$ only postpones the collapse of the lifetime law, leaving its cause untouched (**L2-ODTOE**, [15], P7). This paper carries that pair over, by analogy, into the learning context.

Terminological note (disambiguating the threefold overload of S). The symbol S is occupied three times in the ODTOE corpus: (i) as collective belief coherence in social and multi-agent configurations [15, 17]; (ii) as the coherence of the electronic condensate in the superconductivity model [16]; (iii) as the retrieval-mastery coherence of this paper. To avoid conflation, the third sense is denoted throughout by S_{learn}.

Marking a task "done" on a checklist without subsequent verification through retrieval constitutes phantom closure: $S_{\text{learn,phantom}}$ is high (the learner is confident the material is mastered), while the objectively verifiable mastery $S_{\text{learn,true}}$ remains low (**L3-DICTIONARY (HYPOTHESIS)**). Closure through retrieval practice (active reproduction of the material without cue support) raises $S_{\text{learn,true}}$ specifically: the actual retrieval-readiness underlying declared confidence. The analogy with the empirical phantomness detector $S_{\text{adjusted}} = S_{\text{team}} \times \bar{B}$ from the multi-agent corpus [17] is held at the level of structural correspondence (agreement without quality in one domain corresponds to confidence without mastery in the other) and serves here purely as a content-level parallel; the domains differ, and no numerical identity between them is postulated.

This distinction directly carries the control result of Masicampo and Baumeister (Section IV) into ODTOE terms: an action plan can discharge the cognitive tension of an unfinished task, raising declared closure upward while leaving the shift in $S_{\text{learn,true}}$ undetermined. The gap between the two kinds of closure is the paper's central engineering conclusion, formulated as prediction P1 in Section IX.

VIII. THE NUMBER OF OPEN LOOPS: AN HONEST BOUNDARY BETWEEN QUALITATIVE AND NUMERIC

From the structure of the corner degeneracies of formula (6) follows a qualitative conclusion that the pull toward completion, as a function of the number n of concurrently open loops, forms a single interior region (**L3-DICTIONARY (HYPOTHESIS), qualitative derivation**). At $n = 0$ (no open loops) the pull toward completion is absent by construction: the restoration rate (4) has no object to apply to. As $n \to \infty$, the per-loop focus F_i in formula (6) tends to zero, which, by the weak-link property of formula (1), lowers B_i for each individual loop and thereby degrades per-loop coherence. Both extreme regimes (zero and unbounded loop count)

yield a degenerately low aggregate pull toward completion; the region between them forms a single interval of heightened engagement. The shape of this conclusion, an inverted-U curve, is strictly qualitative: the paper does not locate the peak of this curve numerically and does not derive a value for it from the constants π or φ.

> **[FACT: external source, independent of the ODTOE apparatus]** Classical estimates of working-memory capacity place the number of simultaneously held units on the order of four (Cowan) or seven plus-or-minus two (Miller). These numbers are given here strictly as an external psychological fact about working-memory capacity, structurally separated from the qualitative conclusion of this section: the ODTOE apparatus does not predict and does not reproduce either of these numbers, and this paper does not claim a numeric optimum for the number of concurrently open learning loops.

IX. ENGINEERING RULES FOR LEARNING

The gap between phantom and true closure of a task (Section VII) yields a direct engineering rule: the completion criterion for a learning module should rest on retrieval practice. A static "passed/not passed" metric, once fixed as a target, becomes an attack surface for gaming the metric without actual mastery of the material; the stability of such a metric requires metric plasticity $dM/dt \geq dE/dt$, a criterion carried without re-derivation from [18] (**L2-ODTOE**). Applied to learning, this means: the criterion for closing a topic must be revisited no less often than learners find new ways to circumvent it.

Section VIII of the paper *ODTOE_human_ai_learning_coherence* [19] develops an adjacent but separate question: the interior optimum of material-presentation difficulty ρ^*, the ideal error δ_{ideal}, and the self-regulated-learning loop RT-2 (forethought–performance–reflection) with AI as a co-regulator. This paper does not re-derive any of these three constructions and refers the reader interested in that adjacent material directly to [19]; the contribution of this paper is confined to the open loop as an unfinished iteration and to phantom closure, neither of which paper [19] addresses.

A second rule follows from Section VIII: a learning system engineered to keep open a small but nonzero number of parallel learning branches k^* occupies the region of heightened engagement instead of either extreme regime of zero or diluted attentional concentration (**HYPOTHESIS**: testable by controlled manipulation of the number of concurrently open branches; status is exploratory). A practical consequence of Section VII: closing a learning loop is preferable through unprompted retrieval checking of the material.

X. FALSIFIABLE PREDICTIONS

P1 (delayed-recall gap under phantom closure).
Learners who close a topic through a shallow "passed" mark ($S_{\text{learn,phantom}}$-type closure) will show a larger gap between immediate self-rated mastery and delayed (on the order of one week) objective recall than learners who close the topic through active retrieval practice ($S_{\text{learn,true}}$-type closure). *Falsifier:* the absence of a significant between-group difference in the gap (immediate self-rating minus delayed recall), or a gap in the opposite direction, in a pre-registered two-group experiment.

P2 (resumption priority set by the q-modulus).
When several open learning loops compete for spontaneous re-engagement of attention, the loop resumed first will correlate with the lowest current contraction modulus q (the highest Γ_{rest}); this ordering is the primary predictor, ahead of objective proximity to completion or recency of last engagement. *Falsifier:* resumption order correlates better with completion proximity or with recency of engagement than with the ordering derived from the q-modulus, or shows no reliable ordering at all.

P3 (single interior peak as a function of loop count, qualitative).
The strength of pull toward completion, as a function of the number of concurrently open learning loops, forms a non-monotonic dependence with a single region of maximal engagement across the entire tested range of loop counts. *Falsifier:* a strictly monotonic (always-increasing or always-decreasing) dependence across the entire tested range.

P4 (discharge through planning without completion).
Forming a concrete implementation plan (time, place, sequence of actions) for an open learning topic will reduce subsequent measures of intrusive thought and attentional pull toward the topic to a degree statistically indistinguishable from the reduction produced by actual completion of the topic, replicating the result of Masicampo and Baumeister (2011a) [11] specifically in an educational context (an extension test, beyond a pure replication). *Falsifier:* planning produces a significantly smaller reduction than completion, or no reduction at all, in the educational-topic domain.

XI. LIMITATIONS AND CONCLUSION

The paper fixes explicitly three boundaries of applicability left outside what is proven. The timing of interruption relative to a task's objective proximity to completion is stated in some sources as a moderator of the effect's strength, but remains an untraced claim from a pop-science source and is not included in the paper's formal apparatus. Applied examples such as learning applications with progress bars and deliberately unresolved cliffhangers belong to the domain of speculative popular extrapolation of the Zeigarnik effect and are not used here as evidence of mechanism. The intersection

of working-memory capacity (Baddeley & Hitch, 1974 [20]; Baddeley, 2000 [21]) with the number of concurrently open learning loops remains an open gap in the literature.

The formal contribution of this paper is the transfer of the already-verified coherence-restoration-rate apparatus $\Gamma_{\text{rest}}(B, S)$ to a new domain through an explicit, conservative route decision (multiplicative focus splitting instead of an n-body extension) and through a method of honest epistemic stratification, separating a reused corpus invariant from a new dictionary hypothesis and from an established external fact. This pair, reuse of formula (4) without re-derivation together with the discipline of explicitly tagging every claim, constitutes the outcome of the present work, while the fate of the specific psychological effect that supplied the historical occasion remains a matter for further empirical testing against predictions P1–P4.

Conflict of interest. The author declares no conflict of interest.

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