Pedagogie-digitala.ro Institute for Education (Bucharest)

Revista de Pedagogie Digitala 2026, vol. 5, nr. 1, pp. 41-49

ISSN 3008-2013 doi.org/10.61071/RPD.2691

Socofagia: The Algorithmic Smoothing of Cognitive Effort and a Proposal for ARN Digital as Counter-Practice

Antonio Carlos González-López

Independent researcher, Cartagena (Murcia), Spain

antoniogonzalez2780@gmail.com

https://orcid.org/0009-0004-4568-3842

Abstract: The rapid, large-scale adoption of generative artificial intelligence is shifting human memory towards external systems of cognitive control. Presented as a conceptual and exploratory contribution within the socio-critical paradigm, with a qualitative interpretation of results, this study analyses twenty-five cases gathered through a six-item open questionnaire on technology use, externalisation of the self, decision-making autonomy, identity and relational bonds. The article introduces the concept of *socofagia*, in dialogue with Byung-Chul Han's critique of the burnout society, to name the algorithmic smoothing of cognitive effort. It then proposes *ARN Digital* (a Spanish acronym for "Necessary Real Attitude towards the Digital") as a preliminary, theory-driven practice of deliberate dosing of technology use, organised in three operational phases (detection, intervention and follow-up) and articulated through Bloom's taxonomy and Miller's pyramid. The article reports the diagnostic phase of an action-research programme; the counter-practice has not yet been implemented or evaluated. The findings reveal a productive tension. Informants report a strong sense of continuity in their identity, yet they describe a decision-making autonomy increasingly entangled with external systems, and a shift of relational bonds towards the machine when human attention is perceived as scarce.

Keywords: socofagia, ARN Digital, memory and identity, generative artificial intelligence, cognitive offloading, algorithmic smoothing, cognitive effort, critical agency

Received: 11.10.2026. Accepted and published: 26.10.2026

© Antonio Carlos González-López, 2026. Published by the Institute for Education (Bucharest). This open access article is distributed under the terms of the Creative Commons Attribution Licence CC BY, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited:

Citation:

González-López, A. C. (2026). Socofagia: The Algorithmic Smoothing of Cognitive Effort and a Proposal for ARN Digital as Counter-Practice. *Revista de Pedagogie Digitala, 5*(1) 41-49. Bucharest: Institute for Education. https://doi.org/10.61071/RPD.2691

1. Starting Point: Neither Technophobia nor Uncritical Enthusiasm

This study begins with a methodological clarification. It does not defend artificial intelligence: a tool is not pedagogically valid simply because it is new. Nor does it deny its value. The broader research programme to which it belongs has documented how technology gives agency and dignity back to people who meet barriers in the physical world. The position taken here is therefore methodological and ethical: to examine the tool before celebrating or condemning it.

From that position comes the question that opens this study. How should human memory be approached pedagogically, in terms of Bloom's objectives, when a substantial part of its function has moved to applications that act as external mechanisms of control over that same memory? And, in parallel, what happens to human bonds and to critical thinking when this shift reaches the relational and cognitive spheres as well? **The decisive question is not whether technology exists. It is which capacity it replaces, whom it benefits, and under what conditions it can be used legitimately.** The study belongs to an earlier research series (González-López, 2026a, 2026b) and constitutes, within it, the empirical fieldwork that follows the theoretical development of the paradigm.

2. State of the Question

The concern is not anecdotal. In a preprint not yet peer reviewed, Kosmyna et al. (2025), at the MIT Media Lab, report that participants who relied on a chatbot for essay writing showed weaker brain connectivity and poorer recall of their own texts than those who wrote unaided. The authors call this cost cognitive debt; it connects with what the wider literature describes as cognitive offloading. Given the size of the sample and the preliminary status of the study, these results are read here as indicative, not conclusive. Along the same lines, Mark (2023), professor of Informatics at the University of California, Irvine, documents over almost two decades of observation a steady decline in sustained attention in front of a screen: from about two and a half minutes in the early 2000s to seventy-five seconds in 2012, and to an average of between forty-four and fifty seconds in studies after 2014.

In popular writing, the term "digital dementia", popularised by Spitzer (2013), has spread as a way of describing this deterioration, and some specialists recommend deliberately recovering small everyday acts of memorisation as a form of "cognitive hygiene" against the habit of handing everything over to the phone. All of this converges with the initial premise of this line of work: technological applications as instruments of external control over human memory. The epistemic status of that convergence must, however, be stated clearly. Recent empirical literature offers evidence consistent with the starting intuition; it does not amount to a closed confirmation of the paradigm as a whole.

3. Methodology

This article is a conceptual and exploratory contribution, framed within the socio-critical paradigm, with a qualitative interpretation of results. The term action research refers to the wider research programme to which the study belongs, not to the study itself, which does not claim to complete an action-research cycle. The distinction matters. As Carr and Kemmis (1988) argue from the critical theory of education, action research does not separate researchers from what they study; it treats the transformation of practice as part of the knowledge produced. Elliott (1993) adds that the teacher-researcher does not apply external theory but generates situated knowledge from their own practice. This study takes that condition literally, since the researcher belongs to the same technological environment being studied. Sandín Esteban (2003), for her part, places the approach on the map of qualitative traditions, which prevents it from being mistaken for mere interpretive description.

Established as a research paradigm through the work of Kurt Lewin (1946), action research is usually organised in successive phases of diagnosis, in-depth inquiry, action and evaluation (Thiollent, 1997; Vasconcelos & Oliveira, 2010). This study belongs to the first two: identifying the problem and collecting qualitative data. It reports, therefore, the diagnostic phase of the programme, not a completed intervention. The structured implementation of *ARN Digital* as a counter-practice, and its evaluation, form the next cycle of this research programme, now under way.

Twenty-five informants took part (aged 18 to 70, both sexes), recruited in two phases by convenience within the researcher's personal network. All were informed beforehand of the purpose of the study and gave informed consent to the anonymised use of their answers, after being told that participation was voluntary and could be withdrawn at any time; consent was documented in a signed written form kept by the researcher; names have been replaced by pseudonyms that preserve each person's real sociodemographic profile. The instrument consists of six open questions on technology use, externalisation of the self, decision-making autonomy, an identity scale, belonging, and the value of the past. It does not seek statistical representativeness. It works instead as a reflective device: in answering, each informant examines their own practice, and that examination is the starting point of the wider action-research programme (observe, reflect, act). Informants answered in Spanish; the quotations reproduced below are the author's translation.

The answers were read in full and coded openly by the researcher, grouping recurring content into the thematic categories presented in section 4. Unexpected content, such as the spontaneous use of percentages or of numbered lists, was kept as a category in its own right rather than forced into the six items. The open coding of the whole corpus is not yet complete (see section 8).

Ten informants came from an earlier phase of data collection. The population contacted for the most recent phase numbered six hundred and twenty-five people. Only fifteen of them answered, a response rate of 2.4%. **This low rate is in itself a methodological finding.** Many people find it hard to answer in writing at all, and harder still when the questions ask them to reflect on their own identity, memory and dependence on technology. The rate is consistent with the reluctance to look inwards at one's own technology use that this study documents. Among these fifteen informants, the distribution by sex was balanced (53.3% men, 46.7% women) without any parity criterion in the design; ages ranged from 18 to 70 and occupations varied (teaching, healthcare, online retail and retired public administration, among others), with no concentration in a single profile linked to the researcher.

The instrument, designed by the author, has not undergone a formal reliability validation. Before it was administered, it was sent to five academic colleagues for an informal assessment of its suitability. Their comments pointed to difficulties with the type of some questions and with the accessibility of the language used. Despite these objections, the instrument was kept in its original form and treated as a first-generation exploratory tool whose reliability and variability remain to be validated in future research.

For the informants contacted through instant messaging, the procedure was as follows: the questionnaire was sent together with a prior question about willingness to take part, and only those who answered yes were included in the corpus. Their consent is recorded and kept by the researcher.

Administration of the instrument was not uniform. Some informants received the full questionnaire with the complete wording of each item; others answered against a bare numbering, without the full wording in view. Likewise, two interviews were held in person, with the possibility of oral clarification, while the rest were completed in writing or by voice message. This heterogeneity, stated here explicitly, means the numerical scale in the fourth item should be read as qualitative context rather than as a standardised measure.

4. Results

4.1. Remote autobiographical memory and discontinuity of identity

Asked to rate on a scale from 0 to 3 how far their present identity resembles that of ten years earlier, one informant (Ramón, a retired railway inspector) chose 0 but reversed the expected reading: "I've grown, I've improved, I have more common sense than before. That's why I'd give myself a zero on the scale: nothing recognisable, because I didn't use machines the way they're used now." **Not recognising oneself in the past is framed here as improvement, not loss.**

4.2. Technology as a cognitive prosthesis

"The phone, these days I use it; it's my missal. My daily missal, as an old hand would say" (Ramón). Another informant (Elena, a bilingual primary school teacher) fits the profile described in the literature on cognitive offloading: no awareness of loss, only a convenience that hides the shift: "we used to take a map when we travelled, and now Google tells you everything straight away."

4.3. Relational bonds: the reframing towards the machine

The relational-bonds axis announced in the methodology finds its most direct expression in Elena's account. Asked whether she shared personal matters with AI, she replied: "Since I share everything with everyone, it would be very odd to tell you I ask AI about my personal problems. But actually, I think maybe… Maybe I show more of the reality of my life to others so they'll pay attention to me, because I see that people don't give you…" Although the answer is left incomplete, it points in a clear direction: the perception that human attention is scarce pushes people to look elsewhere (to AI, to the network) for what used to be settled in direct conversation. Technology takes the place that the human bond leaves free when it weakens, by default rather than by choice.

4.4. Socofagia

In dialogue with Han's (2012) critique of the burnout society, *socofagia* is not censorship but its opposite: an excess of permission. The term is coined here.[1] Literally, it means "consuming the shelter". Artificial intelligence offers a refuge, since it saves the effort of thinking, searching and deciding, and that same refuge, used without limit, ends up consuming the human capacity it was meant to protect. The logic is the one followed in rehabilitation medicine: faced with a limitation, the affected body segment is not abandoned; the parts able to compensate for the deficit are deliberately exercised. Something similar happens with cognitive effort. To hand it over entirely to the machine is to stop exercising the very segment (memory, judgement, one's own searching) that could compensate for the deficit or even reverse it.

In pedagogical terms, the word designates algorithmic content that pleases and smooths the way instead of demanding critical effort. **This is what the article calls *algorithmic smoothing*: the removal, by design, of the resistance that thinking needs in order to work.** The concept bears a family resemblance to the "AI slop" described by Kommers et al. (2026), although the emphasis differs. Slop describes the degraded quality of mass-generated content; *socofagia* describes the effect on those who consume or imitate it: the smoothing of the user's own cognitive effort, including in exchanges between humans. One noteworthy observation illustrates this. Several human informants, answering open, reflective questions put by a human researcher, spontaneously replied in the numbered-list register typical of chatbots.

The hybrid compound (a vernacular root combined with a learned Greek combining form) follows a pattern documented in contemporary academic term formation (Arrieta de Meza et al., 2010; Esteban Asencio, 2008) and thus draws on one of the most productive morphological resources of scientific and technical neology in Spanish.

4.5. Quantified dependence and deliberate reduction

One finding not anticipated by the instrument deserves attention. Four informants spontaneously quantified their technological dependence as a percentage, although no item asked them to, placing it between thirty and seventy per cent of their daily activity. The unprompted appearance of percentages in a questionnaire of open questions suggests that quantified self-assessment of one's own technology use has already entered everyday language. More relevant still is the case of one informant (Jesús), who describes a downward path with no outside intervention: "forty per cent today; a few years ago, I'd have said sixty; little by little I'm learning not to be so dependent." The deliberate dosing that this study will propose as a counter-practice therefore already exists, spontaneously and before the study was conceived.

4.6. Critical awareness without change in behaviour

One informant (Aurora) offers the most articulate account in the corpus. She holds that privacy has been abolished, that the device listens, that tastes are shaped by social networks and advertising, and she concludes that manipulation is total. Even so, she describes intensive, sustained use of AI to draft texts and generate ideas, and she explicitly regrets having stopped reading books because of social media. **The gap between a lucid diagnosis and an unchanged practice is a finding in itself: *socofagia* does not need ignorance in order to operate.**

[1] *Socofagia* is a Spanish neologism kept untranslated in this article. It combines *soco*, a seafaring word still very much alive in the Spanish of the Canary Islands, meaning shelter from wind and weather, with *-fagia*, from the Greek for "eating" or "consuming".

4.7. The accessibility paradox

Socofagia is not distributed symmetrically. For a person with a neuromotor condition, an AI system that iterates without tiring is genuine accessibility. It gives agency back, provided the person keeps the critical capacity to question and redirect what the system produces. The same mechanism, applied to a user who lacks that capacity, becomes silent cognitive capture, understood here as the gradual transfer of judgement to the system without the user noticing that it has happened. Legitimate accessibility therefore requires two conditions at once: an iterative tool that does not tire, and a preserved idiographic capacity for critique.

4.8. A counter-example: digital agency against socofagia

Generational *socofagia* should not be taken as inevitable. A recent case, reported in the press and offered here only as an illustration, points the other way. In May 2026, young people in India turned a remark by the Chief Justice comparing them to "cockroaches" into the emblem of an online protest movement, the Cockroach Janta Party. According to press reports, the movement gathered millions of followers within days, and its campaign over leaked national entrance examinations was followed by the resignation of the Minister of Education (Méndez, 2026). The same digital infrastructure that this study associates with *socofagia* produced civic action rather than a display of profiles without consequences. The technology is the same in both cases. What separates one outcome from the other is whether use stays at the level of content consumption or becomes collective action towards a concrete goal.

4.9. Distribution of the identity scale

The identity scale, with sixteen valid numerical answers (the sixteen informants, out of twenty-five, who gave an explicit value; the other nine did not give a number), yields two cases at 0, two at 1, five at 2 and seven at 3. The concentration at the upper end suggests that most informants perceive continuity in their identity. According to the qualitative content itself, that perception coexists with a decision-making autonomy that several informants describe as entangled with external systems rather than fully their own. One methodological detail is decisive here. An informant who chose the lowest value explained that the change did not come from technology but from reading, from psychoanalysis and from life circumstances. The scale measures recognisability, not causal attribution; to read a low value as a technological effect would be to misread the instrument itself.

4.10. The limits of the item on decisions taken without a screen

The item on the last important decision taken without first consulting a screen produced mostly vague answers: "I don't remember", "a while ago", "a very long time ago", "never". Two informants denied it outright. By contrast, one informant drew a precise distinction between practical decisions (purchases, routes, paperwork, always mediated by a screen) and family or life decisions, which he settles through his own reflection and direct conversation. That distinction, absent from the wording of the item, points to a limitation of the instrument rather than of the informants, and it guides the item's reformulation in later cycles.

5. *ARN Digital*: A Counter-Practice Based on Dosing

The central proposal of this article is *ARN Digital*. *ARN* is the Spanish acronym for RNA (ribonucleic acid), and here it also stands for *Actitud Real Necesaria ante lo Digital*, "Necessary Real Attitude towards the Digital". The Spanish form is kept because the double reading is lost in English, where the letters no longer match. The name deliberately echoes DNA, the genetic term that everyday language recognises at once, while its function is defined by analogy with biological RNA, and not as a literal biochemical equivalence: the mechanism that translates code into action.

Following the biological analogy that gives the proposal its name, *ARN Digital* is organised in three operational phases, corresponding to the transcription, translation and replication functions of messenger RNA. The detection phase (transcription) uses the identity scale described in section 4.9 as its starting instrument. The intervention phase (translation) relies on a Socratic-maieutic dialogue protocol combined with principles of Hebbian learning, developed in earlier work within this line of research under the acronym RHVD, to structure the deliberate dosing of technology use. The follow-up phase (replication) draws on a fuzzy-set model applied to relational deterioration, designated VPD-

D in earlier work (González-López, 2026a), as a quantifiable criterion of progress or regression. This three-phase architecture is designed to make *ARN Digital* a replicable procedure rather than a general recommendation: each phase has its own instrument, open to independent application and verification. Table 1 summarises the three phases. **The proposal is preliminary and theory-driven; none of its phases has yet been validated empirically.**

Table 1

The three phases of ARN Digital

Phase	Purpose	Instrument	Pedagogical basis	Intended outcome
Detection (transcription)	Establish how far the person recognises their own identity and how dependent their use is	Identity scale (section 4.9)	Diagnostic phase of the research programme	A starting baseline for each person
Intervention (translation)	Dose technology use deliberately	Socratic-maieutic dialogue with Hebbian learning principles (RHVD)	Bloom's taxonomy, Miller's pyramid, bell-curve heuristic	Bounded, conscious use instead of reflex use
Follow-up (replication)	Track progress or regression over time	Fuzzy-set model of relational deterioration (VPD-D)	Fuzzy set theory	A quantifiable criterion of progress or regression

Bloom's (1956) objectives, Miller's (1990) pyramid and a bell-curve heuristic thus serve as pedagogical instruments for dosing digital use within the intervention phase. They are not neurocognitive claims.

Neuroeducation provides a further basis. If, as Mora (2013) argues, we only learn what we love, and if neural networks shape the way we teach (Ortiz Alonso, 2009), then a pedagogy that systematically hands cognitive effort over to the machine may be emptying learning of the friction that makes it possible. This is offered as a pedagogical argument, not as a neuroscientific finding.

ARN Digital is not a reactive response to generative AI. In December 2019, almost three years before large conversational models became publicly available, the author's blog published a set of personal practices for dosing the use of social networks and the mobile phone (González-López, 2019): switching off notifications, silencing the device at fixed times of day, uninstalling and reinstalling applications periodically, temporarily deactivating social media accounts, and distrusting the false intimacy of Web 3.0. Their translation to generative AI is direct: do not consult AI by reflex for every minor doubt; set bounded sessions instead of constant availability; alternate tasks with and without AI support for the same competence; practise a deliberate "detox" in tasks of memory or pure reflection; and distrust the false objectivity of what AI produces.

The apparent simplicity of these practices should not be read as a lack of methodological rigour. It shows that *ARN Digital* works on basic cognitive capacities whose erosion, and not the complexity of restoring them, is the phenomenon under study. Monastic discipline offers a relevant historical precedent: practices such as regular prayer or *lectio divina*, aimed at sustaining concentration and memory, have been formally systematised over centuries despite their apparent procedural simplicity.

The corpus also contains a sign of feasibility. The downward path described in section 4.5 shows that deliberate dosing is not a prescription foreign to the informants' experience but a practice some of them have begun on their own. *ARN Digital* seeks to systematise pedagogically, through its three operational phases, what appears there in an intuitive and isolated form.

6. Implications for System Design and Interaction with AI

If the pattern described here becomes widespread, it has direct design implications. Systems optimised solely for perceived usefulness may be optimising, without intending to, the low-friction register that this study identifies as the vector of *socofagia*. AI systems intended for reflective or synthetic tasks could benefit from explicit mechanisms that preserve productive friction: for example, bringing tensions or open questions to the surface instead of settling them prematurely in a smoothed-out list, particularly when the query itself calls for a multi-domain synthesis rather than

simple information retrieval. Evaluating AI systems by whether they preserve or erode the user's capacity to re-engage critically, alongside conventional usefulness metrics, is a concrete and measurable line of future work.

7. Limitations

This is a convenience sample of twenty-five informants within a single national and linguistic context. Its findings cannot be generalised to wider populations and are offered as a starting point for larger-scale research, not as closed conclusions. The very low response rate (2.4% in the latest phase) means that the corpus comes from people willing to write about these questions, which may leave out precisely those for whom written reflection is most difficult. The non-uniform administration of the instrument, described in the methodology, introduces variability produced by the procedure itself: the oral clarifications available in the in-person interviews were not available to those who answered in writing. The researcher also takes part in the technological environment under study. The socio-critical paradigm requires that position to be made explicit rather than hidden, but it brings an unavoidable proximity bias. Finally, the migration of the list register from human-AI exchange to human-human exchange is recorded here as a suggestive preliminary observation that needs specific study, not as an established finding.

8. Conclusion and Research Commitments

Socofagia names a mechanism of control that works through an excess of ease rather than through restriction, with early signs of a possible migration from human-AI interaction to communication between humans. **Accessibility and capture are not distinguished by the technology involved; they are distinguished by whether users keep critical agency over it.** In view of this, the line of research takes on the following commitments.

First, to continue investigating the relationship between memory, identity and artificial intelligence with rigorous methods, avoiding both apology and denial. Second, to complete the cycle of open coding across the whole corpus, including the cases that earlier phases left pending in-depth analysis. Third, to submit *ARN Digital* to empirical validation in real educational settings rather than confining it to theoretical formulation. Fourth, to declare openly the use of artificial intelligence tools in this and future work, in keeping with the critique of opacity made here. And fifth, to keep the whole of this line of work in free, open access, in keeping with the critique of paywalls that restrict educational knowledge.

9. Future Research

The findings presented here do not close a line of work; they mark out ground whose exploration needs several disciplines. Three lines of continuation follow, open to any team that wishes to take them up, each anchored in a specific result of this study.

The first line concerns neuroscience. The preliminary evidence reported by Kosmyna et al. (2025) and the neuroeducational grounds invoked in section 5 are connected in this study only with self-report data. What remains open is to test the identity-recognisability scale against objective neurophysiological measures (functional connectivity, markers of memory retention, patterns of sustained attention), and to determine whether the smoothing of cognitive effort has a stable neural correlate or is a strictly behavioural and self-perceived phenomenon.

The second line concerns rehabilitation medicine. The analogy set out in section 4.4, exercising deliberately the segment able to compensate for a deficit, has not been developed here beyond its illustrative value. What remains open is the systematic transfer of the progressive dosing protocols of physical rehabilitation to cognitive effort: graded loads, alternation of rest and exercise, criteria for progression and regression. This line is especially relevant to the intervention phase of *ARN Digital*, whose protocol needs precisely that kind of stepped structure.

The third line concerns special and inclusive education. The accessibility paradox described in section 4.7 raises a question that this study poses but does not resolve: under what concrete conditions algorithmic mediation constitutes legitimate scaffolding for students with specific educational support needs, and under what conditions it becomes

cognitive capture. What remains open is the development of empirically grounded differential criteria that would allow support teachers to tell one situation from the other in everyday classroom practice.

All three lines also lend themselves to a longitudinal design. Administering the instrument repeatedly to the same cohort, after a sufficient interval, would make it possible to separate variation attributable to technological exposure from variation attributable to the informant's life course, a distinction that the cross-sectional design used here cannot establish, as section 4.9 explicitly warns.

Ethical framework

The study followed the general principles of research ethics with human participants: voluntary participation, prior information on the purpose of the study, written informed consent, the right to withdraw at any time, anonymisation through pseudonyms, minimisation of the data collected and absence of any intervention. All informants were adults. Consent to the anonymised use of their answers was documented in a signed written form, and the signed copies are kept by the author. Names were replaced by pseudonyms and no identifying data are reported. As an independent researcher, the author is not attached to an institutional ethics committee.

Statement on the use of generative AI and assistive technologies

Generative artificial intelligence, specifically Claude (Anthropic), accessed through the claude.ai application in 2026, supported the preparation of this work in organisation, drafting, editing, translation into English and the location of documentation, working from original research notes in Spanish, fieldwork transcriptions and the author's own theoretical framework. The concepts, the original design of the fieldwork, the constructs of socofagia and ARN Digital, the interpretation of the results, the verification of sources and the final editorial judgement are entirely the author's. All content was reviewed and edited after the use of this tool, and the author takes full responsibility for the article as a whole.

References

Arrieta de Meza, B., Meza Cepeda, R. D., & Batista Ojeda, J. (2010). Procedimientos morfológicos para la creación de neologismos en el discurso académico [Morphological procedures for the creation of neologisms in academic discourse]. *Revista de Investigación Lingüística*, *13*, 219–240.

Bloom, B. S. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain*. Longmans, Green.

Carr, W., & Kemmis, S. (1988). *Teoría crítica de la enseñanza: La investigación-acción en la formación del profesorado* [Becoming critical: Education, knowledge and action research]. Martínez Roca.

Elliott, J. (1993). *El cambio educativo desde la investigación-acción* [Educational change through action research]. Morata.

Esteban Asencio, L. (2008). Uso, origen y procesos de creación de neologismos en prensa española [Use, origin and processes of neologism formation in the Spanish press]. *Círculo de Lingüística Aplicada a la Comunicación*, *33*, 3–27.

González-López, A. C. (2019, December 22). POST Núm.94: Las adicciones a las redes sociales y móvil: Respuestas recurrentes [Addiction to social networks and mobile phones: Recurring answers]. *Pedagogía Inclusiva, Currículum y Ética Digital* [Blog]. https://porlasescuelasdeeuropaladiversidad.blogspot.com/2019/12/post-num94-las-adicciones-las-redes.html

González-López, A. C. (2026a). *La dimensión existencial y generativa del Hombre Identitario Híbrido: Propedéutica de la experiencia sénior en la era del Homo Technicus Globalis* [The existential and generative dimension of the Hybrid Identity Human]. Zenodo. https://doi.org/10.5281/zenodo.19421960

González-López, A. C. (2026b). *La síntesis que cierra y abre: El Homo Technicus Globalis ante su propio futuro* [The synthesis that closes and opens]. Zenodo. https://doi.org/10.5281/zenodo.20257828

Han, B.-C. (2012). *La sociedad del cansancio* [The burnout society]. Herder.

Kommers, C., Duede, E., Gordon, J., Holtzman, A., McNulty, T., Stewart, S., Thomas, L., So, R. J., & Long, H. (2026). Why slop matters. *ACM AI Letters*, *1*(1), Article 3. https://doi.org/10.1145/3786777

Kosmyna, N., Hauptmann, E., Yuan, Y. T., Situ, J., Liao, X.-H., Beresnitzky, A. V., Braunstein, I., & Maes, P. (2025). *Your brain on ChatGPT: Accumulation of cognitive debt when using an AI assistant for essay writing task* (arXiv:2506.08872). MIT Media Lab. https://doi.org/10.48550/arXiv.2506.08872

Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues*, *2*(4), 34–46.

Mark, G. (2023). *Attention span: A groundbreaking way to restore balance, happiness and productivity*. Hanover Square Press.

Méndez, L. (2026, July 26). El Partido de las Cucarachas: El movimiento juvenil nacido en Internet que ha derrocado al ministro de Educación de la India [The Cockroach Party: The youth movement born on the internet that has toppled India's Minister of Education]. *Vozpópuli*. https://www.vozpopuli.com/internacional/el-partido-de-las-cucarachas-el-movimiento-juvenil-nacido-en-internet-que-ha-derrocado-al-ministro-de-educacion-de-la-india.html

Miller, G. E. (1990). The assessment of clinical skills/ competence/ performance. *Academic Medicine*, *65*(9), S63–S67.

Mora, F. (2013). *Neuroeducación: Solo se puede aprender aquello que se ama* [Neuroeducation: We can only learn what we love]. Alianza Editorial.

Ortiz Alonso, T. (2009). *Neurociencia y educación* [Neuroscience and education]. Alianza Editorial.

Sandín Esteban, M. P. (2003). *Investigación cualitativa en educación: Fundamentos y tradiciones* [Qualitative research in education: Foundations and traditions]. McGraw-Hill.

Spitzer, M. (2013). *Demencia digital: El peligro de las nuevas tecnologías* [Digital dementia: The danger of new technologies]. Ediciones B.

Thiollent, M. (1997). *Pesquisa-ação nas organizações* [Action research in organisations]. Atlas.

Vasconcelos, V. O. de, & Oliveira, M. W. de. (2010). Trayectorias de investigación acción: Concepciones, objetivos y planteamientos [Trajectories of action research: Conceptions, aims and approaches]. *Revista Iberoamericana de Educación*, *53*(5), 1–13.

Author Biography

Dr. Antonio Carlos González-López holds a Ph.D. in Education (cum laude) from the University of Granada and a degree in Philosophy and Educational Sciences from UNED (Spain). He has broad teaching experience in early childhood, primary and secondary education, and in on-campus and online university teaching, including the University of Murcia and UNED. His research deals with inclusive education and with human identity and cognitive autonomy in the age of artificial intelligence, within the HIH paradigm (Hombre Identitario Híbrido / Homo Technicus Globalis).