Persuasive Tools as Instrumented Action: Synthesizing Habermasian Action Types with Rhetoric and Instrumental Genesis in Veterinary, Animal Husbandry, and Health Sciences Education

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Abstract: This article proposes a synthesis between (i) a modified activity-system model in which the "rules" component is replaced by *persuasion tools*, (ii) Aristotelian rhetorical justifications (*logos, ethos, pathos*), (iii) the instrumental-genesis perspective (artifact–instrument transformation through appropriation and redesign), and (iv) Habermas's typology of action orientations (communicative, strategic, normatively regulated, dramaturgical). We argue that a *persuasion tool* can be conceptualized as an instrumented, teachable, and ethically governed mediation system that can *comprise* these four Habermasian action types without collapsing them into manipulation or mere compliance. The synthesis is operationalized by designing persuasion tools as layered instruments with (1) a communicative core (reason-giving and validity-claim testing), (2) a strategic implementation layer (goal pursuit under transparency constraints), (3) a normative alignment layer (explicit legitimacy and accountability), and (4) a dramaturgical enactment layer (professional identity and trust). We then apply this framework to veterinary, animal husbandry, and health sciences education and research, emphasizing welfare-centered, democratic, and community-oriented practice in clinical encounters, herd-health programs, One Health coordination, and participatory research. The result is a policy-and-design blueprint for training professionals who can responsibly integrate evidence, values, identity, and affect in real activity systems—while developing subjects, mediations, and institutions through expansive cycles of learning and redesign.

Keywords: Persuasion Tools; Activity Theory (CHAT); Aristotelian Rhetoric (Logos–Ethos–Pathos); Instrumental Genesis; Communicative Action (Habermas).

I. INTRODUCTION

Veterinary, animal husbandry, and health sciences practice is structurally communicational: professionals must coordinate heterogeneous actors, justify decisions amid uncertainty, and negotiate welfare trade-offs under material constraints. Standard activity-theory representations treat "rules" as the normative stabilizers of collective action; however, in professional education and institutional practice, rules are rarely enacted as abstract prescriptions. They are enacted through mediational artifacts—scripts, genres, protocols, consent forms, dashboards, checklists, signage, and narratives—that *move* people to coordinate and to commit. Under a modified activity-system perspective, the "rules" node is therefore replaced by persuasion tools: instruments that mediate commitments by combining reasons, credibility, and affective orientation.

The central theoretical question addressed here is: How can a persuasion tool—built through instrumental genesis and operating via logos/ethos/pathos—comprise and synthesize Habermas's action orientations (communicative, strategic, normatively regulated, dramaturgical) without defaulting to coercion or manipulation? We answer by

treating persuasion tools as *instrumented action repertoires* designed to (a) make action orientations explicit, (b) enable ethical switching among orientations, and (c) preserve the primacy of communicative rationality in welfare-relevant activity.

➤ *The Modified Activity System and the Concept of Persuasion Tool*

In the classical activity-system heuristic—comprising subject–object–tools, mediated by community, division of labor, and rules— "rules" is a shorthand for the normative infrastructure that shapes what is permissible, expected, and accountable. In practice, norms become effective only when they are *materialized* and *communicationally enacted* in situated interaction. In the modified model, persuasion tools are the mediational means that operationalize normative guidance, coordinate expectations, and stabilize cooperation across time.

➤ *Working Definition*

A persuasion tool is an *instrumented mediation system* that:

- Orients actors to a shared object, for example, animal welfare, herd productivity, or zoonotic-risk reduction;
- Justifies action through an integrated rhetorical structure: (logos: to provide evidence and reasons; ethos: based on credibility, character, and reputation, and pathos: through an affective-motivational attunement;
- Enables accountability by making commitments inspectable explaining who claims what, on what grounds, and with what responsibilities, and
- Develops the system by supporting expansive learning cycles comprising a problem articulation → experimentation → evaluation → redesign spiral.

This definition aligns persuasion tools with a developmental, not merely regulatory, function: the outcome of the activity includes not only a product/service but also the formation of subjects, the refinement of mediations, and the maturation of the receiving institution.

➤ *Instrumental Genesis: From Artifact to Instrument, with Value and Limits*

Instrumental genesis frames how an artifact—a template, protocol, decision aid—becomes an instrument through use: users develop schemes of utilization— *instrumentation*—while simultaneously adapting the artifact to local purposes—*instrumentalization*. In this view, persuasion tools are not "implemented"; they are appropriated, transformed, and stabilized through practice (Béguin & Rabardel, 2000; Rabardel, 1995; Rabardel & Béguin, 2005).

➤ *Pragmatic, Epistemic, and Heuristic Value*

A persuasion tool's professional utility is plural:

- Pragmatic value: it helps actors *do* and coordinate work reliably, for example, triage scripts, outbreak response protocols, or clinical consent checklists.

- Epistemic value: it helps actors *know*—to represent the object, reduce uncertainty, and test claims by means of evidence tables, differential-diagnosis matrices, or welfare indicators.
- Heuristic value: it helps actors *discover* new options—by surfacing contradictions, enabling reframing, and supporting exploration, for example, "what-if" scenarios in herd management or alternative welfare interventions under constraints.

➤ *Contributions, Constraints, and Catachresis*

Because instruments constrain as well as enable, a persuasion tool must be evaluated for:

- Contributions: improved coordination, transparency, safety, welfare outcomes, learning, and trust.
- Constraints: bureaucratization, oversimplification, hidden power asymmetries, "box-ticking," or emotional disengagement.
- Catachresis: "non-intended" uses that may be misuse *or* creative repurposing. In educational design, catachresis should be treated as diagnostically valuable: it reveals misfit between institutional assumptions and real work, often indicating where redesign is needed (Béguin & Rabardel, 2000; Rabardel, 1995).

➤ *Habermas's Action Typology as a Design Space for Persuasion Tools*

Habermas distinguishes orientations of action that relate differently to the objective, social, and subjective "worlds" and to the kinds of validity claims raised in interaction. In broad terms, communicative action aims at mutual understanding; strategic action aims at success by influencing others; normatively regulated action aims at legitimate conformity to shared norms, and dramaturgical action concerns self-presentation and the management of impressions and identity (Habermas, 1984, 1987).

Rather than treating these as mutually exclusive, the professional reality of veterinary and health work is that they are routinely interwoven—for example, when a clinician seeks shared understanding with a client (communicative) while also trying to secure adherence to treatment (strategic), under professional and legal obligations (normatively regulated), while embodying trustworthiness and calm authority (dramaturgical). The design question is therefore not "which action type is correct," but how to integrate them with ethical governance and developmental intent.

➤ *Synthesizing Action Types within the Persuasion Tool*

We propose that a persuasion tool can comprise the four action orientations by being designed as a layered instrument with explicit role, claim, and accountability structures, and by enforcing a "communicative primacy" constraint: strategic and normative moves are permitted *only* in ways that remain answerable to reason-giving, legitimacy, and sincerity.

➢ *A Layered Architecture*

Table 1 A Layered Architecture

Habermasian orientation	Primary aim	Persuasion-tool layer	Rhetorical emphasis	Typical veterinary/One Health instantiation
Communicative action	Reaching understanding	Deliberation core: claim–evidence–values–options; critique and revision	Logos with explicit validity testing; ethos as openness	Shared decision-making consult; multidisciplinary case conference
Strategic action	Achieving success outcomes	Implementation layer: planning, incentives, reminders, behavioral supports (with transparency)	Logos + pathos (motivation); ethos as reliability	Adherence support plans; extension campaigns; outbreak compliance workflows
Normatively regulated action	Legitimate conformity	Legitimacy layer: explicit norms, rights, duties, welfare standards, audit trails	Ethos (professional duty) + logos (justification of norms)	Welfare protocols; biosecurity SOPs; ethics committee requirements
Dramaturgical action	Identity and impression management	Enactment layer: professional demeanor, narrative framing, ritualized trust signals	Ethos + pathos (trust, reassurance)	Clinical bedside manner; community meeting facilitation; public risk communication

➢ *The Synthesis Mechanism: "Mode Switching" Under Governance*

A persuasion tool becomes a *synthesis*—rather than a collage—when it includes a mode-switching protocol:

- Start in communicative mode: define the shared object; clarify claims and uncertainties, and elicit stakeholder values and constraints.
- If implementation is needed, shift to strategic mode *with explicit disclosure*: "Here is what we are trying to accomplish; here are the supports we propose, and here is how you can question or refuse."
- When obligations apply, activate normative mode *with legitimacy checks*: link obligations to welfare, rights, and institutional accountability; clarify due process and responsibilities.
- Throughout, manage dramaturgical dimensions *as sincere enactment*, not performance-as-deception: demonstrate competence, calm, respect, and transparency.

This structure instrumentalizes Habermas's typology by making it operational: action orientations become *selectable*, *inspectable*, and *teachable* rather than implicit and power-laden.

➢ *Preventing the "Colonization" Risk: Strategic Action Bounded by Communicative Accountability*

In welfare-relevant domains, the central ethical hazard is that strategic and normative layers dominate and communicative deliberation becomes decorative. The antidote is a design constraint: strategic and normative moves must remain revisable through reasons and critique: the tool must preserve spaces for challenge, refusal, and renegotiation. This is particularly salient in veterinary work where clients' financial constraints, cultural practices, and affective bonds can be exploited or ignored if persuasion becomes one-directional influence.

Empirically, veterinary communication research highlights the tension between partnership models and persuasion-for-behavior-change, underscoring the need to distinguish collaborative influence from manipulative tactics (Bard et al., 2017). The persuasion tool should therefore encode welfare- and autonomy-preserving norms: disclosure, consent, respect for local knowledge, and appealability of decisions.

➢ *Application to Veterinary, Animal Husbandry, and Health Sciences Education and Research*

- *Clinical Veterinary Education: Consults as Instrumented Communicative Action with Bounded Strategy*

✓ Educational design pattern: "Consultation Persuasion Tool (CPT)"

- *Core Components Students Learn to use and to Redesign:*

✓ Object statement: "What welfare-relevant problem are we jointly addressing?"
✓ Evidence and uncertainty display (logos): differential diagnosis; risk estimates; expected benefits/harms; limits of knowledge.
✓ Values and constraints elicitation (pathos + ethics): owner priorities, animal comfort, feasibility, financial limits.
✓ Professional accountability (ethos): disclose conflicts, articulate duty of care, document consent/refusal.
✓ Implementation plan (bounded strategy): adherence supports, follow-up schedule, contingency triggers.

- *Assessment can Directly Align with Competence Dimensions:*

✓ Explicitation (communication): can the student represent the object, reasons, and uncertainties clearly?
✓ Transformation (production): can the student co-produce a feasible plan and implement it?
✓ Evaluation (decision-making): can the student justify choices, revise under critique, and document accountability?

- *Animal Husbandry and Herd Health: Persuasion Tools for Multi-Stakeholder Coordination*

Herd health and production systems require integrating producers, workers, veterinarians, suppliers, regulators, and communities. Here, persuasion tools should be built as collective instruments, for example:

✓ Epistemic dashboards: mortality and morbidity trends, welfare indicators, productivity, and antimicrobial use;
✓ Normative modules: biosecurity standards, welfare codes, or inspection requirements;
✓ Strategic modules: workflow redesign, incentive structures, and training routines, and
✓ Dramaturgical modules: leadership and trust-building in meetings and conflict de-escalation scripts.

Participatory approaches in animal health emphasize that community engagement can improve surveillance, legitimacy, and uptake—especially where local knowledge is essential and trust is fragile (Catley et al., 2012). Under the present framework, participatory epidemiology can be read as *communicative action institutionalized through instruments*—meeting formats, mapping tools, or story-based elicitation protocols—while still enabling strategic implementation—vaccination campaigns or movement controls—under accountability constraints.

- *One Health Education and Research: Persuasion Tools for Cross-Sector Legitimacy and Democratic Coordination*

One Health problems—zoonoses, antimicrobial resistance, environmental degradation—are characterized by boundary-crossing authority and contested values. Interprofessional and One Health competency frameworks increasingly foreground collaboration and communication capacities, which are precisely the skills stabilized by persuasion tools (Larsen et al., 2020; World Health Organization, 2010).

- *In One Health Contexts, the Persuasion Tool must Explicitly Integrate:*

✓ Objective-world claims: epidemiological evidence, ecological data, uncertainty ranges;
✓ Social-world legitimacy: governance arrangements, rights, equity implications, procedural fairness;
✓ Subjective-world experiences: stakeholder fears, livelihoods, cultural meanings of animals, moral injury among professionals.

- *A Practical Research-Oriented Instantiation is a "One Health Deliberation Canvas" used in Graduate Seminars and Field Projects:*

✓ Stakeholder map and object contradictions, for example, livelihood vs. culling or conservation vs. community safety.
✓ Evidence table with uncertainty and data provenance.
✓ Normative justification module comprising welfare, equity, rights, and legal constraints.
✓ Implementation plan with transparent strategic supports.

✓ Reflection log on identity and role (dramaturgical layer) and affective dynamics (pathos governance).

II. DISCUSSION

➢ *What is Gained by Instrumentalizing Habermas Through Persuasion Tools?*

Three gains follow from treating Habermasian action orientations as a *design space* for instruments:

- Pedagogical clarity: students can be trained to recognize when they are implicitly shifting from communicative to strategic action, and to justify that shift ethically. This directly supports competence-oriented formation and reduces "hidden curriculum" power dynamics.
- Institutional learning: catachresis and breakdowns become data for redesign. When a tool is repurposed in the field, educators can analyze whether the repurposing reveals (a) local innovation or (b) structural coercion and misfit.
- Democratic and community orientation: by forcing explicit validity-claim work and appealability, the persuasion tool aligns professional authority with public reason rather than with mere domination—especially critical when interventions affect animals, owners, workers, and ecosystems simultaneously.

III. CONCLUSION

A persuasion tool—conceptualized as an instrument produced through instrumental genesis and justified rhetorically—can synthesize Habermas's action orientations by being designed as a layered, governable mediation system. The synthesis is not theoretical ornamentation; it is an operational architecture for welfare-centered professional education: communicative deliberation as the core, with strategic implementation, normative obligation, and dramaturgical trust enactment as bounded, accountable layers. Applied to veterinary, animal husbandry, and health sciences education and research, this approach supports democratic, community-oriented practice in which professional power is exercised transparently, revisably, and developmentally—building subjects, mediations, and institutions together.

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