

Mechanisms for Reconstructing Linguistic Interaction in Light of the Pragmatic Approach within AI-Supported Learning Contexts

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Abstract

This article aims to analyze the mechanisms for reconstructing linguistic interaction within interdisciplinary learning contexts in light of the transformations brought about by artificial intelligence, drawing upon a pragmatic perspective that reconsiders the nature of the relationship between language and knowledge. The study is based on the problem that the transition from the multiplicity of knowledge domains to their integration cannot be achieved merely through their juxtaposition; rather, it remains dependent on the existence of linguistic interaction capable of organizing them within a coherent semantic structure, especially in a context characterized by the proliferation of discourses and the multiplicity of their sources. The research adopts an analytical pragmatic approach that seeks to deconstruct the structure of linguistic interaction in light of digital transformations and subsequently reframe it through the analysis of three central mechanisms: reformulation as a practice of reconstructing meaning, negotiation of meaning as an argumentative process for regulating interpretations, and the expansion of the pragmatic space as a reorganization of the conditions governing discourse production. The study concludes that artificial intelligence does not produce meaning in itself; instead, it redistributes the conditions of its production, thereby necessitating a shift from a technical conception of interaction toward a pragmatic one centered on its organization. Furthermore, the study demonstrates that linguistic interaction constitutes the structure within which cognitive integration is formed, rather than merely serving as a medium for its transmission. Consequently, reconstructing such interaction becomes a fundamental approach to reframing learning within contemporary interdisciplinary contexts.

Keywords: *Linguistic Interaction, Interdisciplinary Education, Pragmatic Approach, Artificial Intelligence, Meaning Production.*

Received: 12/05/2025 Accepted: 15/11/2025 Published: 02/01/2026

Introduction

The contemporary educational field is witnessing profound transformations in the modes of knowledge production and organization, amid the increasing complexity that characterizes current issues and the growing presence of artificial intelligence as a new actor within the educational sphere. In this context, interdisciplinary education has emerged as an epistemological horizon seeking to transcend cognitive fragmentation through the development of approaches capable of accommodating the overlap of disciplines. However, despite the significance of this transformation, it raises a fundamental problem that concerns not the limits of knowledge itself, but rather the manner in which knowledge is constructed through interaction. The transition from the multiplicity of knowledge domains to their integration does not occur automatically; rather, it remains contingent upon the existence of linguistic interaction capable of organizing such knowledge within a coherent semantic structure.

This interaction itself is undergoing qualitative transformations under the influence of artificial intelligence, as discourse production is no longer confined to the human actor alone, but is increasingly generated through mediating systems that reshape its conditions and boundaries. Such a shift necessitates a reconsideration of the nature and function of linguistic interaction within the educational process.

Accordingly, the central problem of this article revolves around the following question:

How can linguistic interaction be reconstructed within interdisciplinary learning contexts in the age of artificial intelligence in a manner that enables the transition from the circulation of discourse to the production of meaning?

The study is based on the hypothesis that transcending the limitations of traditional educational models cannot be achieved merely through the integration of technologies themselves, but rather through the

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reframing of linguistic interaction within a pragmatic perspective capable of accommodating cognitive plurality and transforming it into a coherent semantic structure.

To address this problem, the study adopts an analytical pragmatic approach based on deconstructing the relationship between linguistic interaction and the transformations introduced by artificial intelligence, followed by an analysis of the mechanisms through which this interaction may be reconstructed within the educational sphere. Accordingly, the research is structured around three interconnected dimensions: interdisciplinary education in relation to linguistic interaction in light of contemporary transformations; the impact of artificial intelligence on reshaping such interaction; and finally, the analysis of mechanisms for reconstructing interaction from a pragmatic perspective.

Interdisciplinary Education in the Age of Artificial Intelligence: Toward Reframing Linguistic Interaction

Interdisciplinary education represents one of the most prominent cognitive transformations in contemporary educational thought, as it seeks to transcend rigid disciplinary divisions through the development of approaches that allow the integration of multiple forms of knowledge within a shared interpretive framework. However, this conception cannot be reduced to the mere juxtaposition of disciplines; rather, it presupposes the reorganization of knowledge itself within a system that enables connections among its various dimensions. In this context, Julie Thompson Klein emphasizes that interdisciplinarity is not achieved simply through combining bodies of knowledge, but through reconstructing them within a unified epistemological horizon, making it more of an epistemological project than a methodological procedure [1].

Despite the significance of this definition, it raises a fundamental issue concerning the conditions necessary for achieving such integration. The transition from plurality to unity does not occur automatically; instead, it remains dependent upon the existence of mechanisms capable of regulating the relationship between different forms of knowledge within discourse. Consequently, the issue is not the diversity of knowledge itself, but rather how this diversity can be transformed into meaning. Here, the linguistic dimension emerges as the domain in which this transformation takes place, since knowledge is not constructed outside discourse, but rather through it.

This issue has become increasingly pronounced in light of the transformations brought about by artificial intelligence. Learners are no longer confronted with a limited knowledge structure; instead, they are immersed in an open environment of multiple and continuously generated discourses. Kasneci's study indicates that generative language models contribute to expanding the possibilities of interaction with knowledge by providing diverse forms of discourse; however, they simultaneously create challenges concerning the learner's ability to organize this abundance within a coherent semantic structure [2]. Thus, the problem is no longer one of insufficient knowledge, but rather one of unstructured informational excess.

Conversely, several critical studies have highlighted the limitations of this transformation. Bender and colleagues demonstrated that machine-generated discourse, despite its apparent coherence, is fundamentally based on statistical simulations of language rather than on semantic understanding grounded in communicative intentionality [3]. Consequently, relying on such discourse without pragmatic awareness may lead to the production of superficial knowledge lacking semantic depth, thereby reintroducing the question of interaction as a prerequisite for meaning production rather than merely a medium for its circulation.

Within this framework, pragmatic linguistics provides a theoretical approach capable of reframing this issue by focusing on how meaning is constructed through interaction. Neil Mercer demonstrated that shared knowledge is not built through the transmission of information, but rather through linguistic interaction in which meanings are reorganized within collective discourse, making interaction a condition for knowledge construction rather than its outcome [4]. Likewise, Rupert Wegerif argues that dialogic learning is based on expanding the semantic space that allows meanings to be reinterpreted; nevertheless, such expansion

acquires value only when framed within a pragmatic process capable of regulating the multiplicity of discourses [5].

Accordingly, interdisciplinary education in the age of artificial intelligence should not be understood merely as the integration of knowledge domains, but rather as an interactive process through which meaning is constructed through language. Hence, the central issue lies not in organizing content itself, but in reframing the linguistic interaction that enables the transformation of cognitive plurality into a coherent semantic structure. This justifies the need to analyze such interaction from a pragmatic perspective, as it constitutes the primary foundation for reconstructing knowledge within educational contexts.

Artificial Intelligence and the Reshaping of Linguistic Interaction: Toward Questioning the Pragmatic Conditions of Meaning Production

If linguistic interaction, as previously demonstrated, constitutes the structure within which cognitive plurality is transformed into a coherent semantic construction, then the transformations generated by artificial intelligence necessitate a reconsideration of this interaction—not in terms of its existence, but in terms of its operating conditions and limitations. The issue is no longer related to the necessity of interaction itself, but rather to its nature within a context where discourse production is no longer confined to the human actor alone. Instead, it is increasingly generated through systems capable of continuously producing discourse in multiple forms and with a high degree of apparent coherence. Consequently, the question is no longer: *How is meaning constructed through interaction?* but rather: *How can its pragmatic character be preserved in the presence of mediating systems that reshape the conditions of its production?*

In this context, artificial intelligence does not merely introduce a new channel of expression; rather, it transforms the very structure of discourse itself, rendering it continuously reformulable, instantly modifiable, and infinitely generative. Yet, despite the fact that these characteristics expand the possibilities of interaction, they simultaneously raise a significant issue concerning the nature of the meaning produced within this form of discourse.

The abundance of linguistic forms, instead of deepening understanding, may lead to a kind of semantic fluidity in which expressions proliferate without resulting in the actual construction of meaning. In such a situation, interaction shifts from being a process of meaning production to becoming merely an exchange of similar formulations that do little more than redistribute linguistic material without reorganizing it.

This issue becomes even more complex when one considers that discourse generated within this context is not grounded in communicative intentionality in the pragmatic sense, but rather in patterns of linguistic association based on probabilities of usage [4]. Consequently, interaction with such discourse does not automatically lead to the production of meaning; instead, it requires interpretive intervention capable of reintegrating it into an organized semantic context.

However, this transformation should not be understood solely in terms of its problematic dimension. At the same time, it opens a new horizon for reshaping interaction, since the multiplicity of linguistic forms places the learner in a situation where meaning is no longer a ready-made entity, but rather an object of continuous engagement involving selection, comparison, and reconstruction.

Accordingly, artificial intelligence does not produce meaning as much as it redistributes the conditions governing its production by shifting the center of gravity from discourse itself toward interaction with discourse. Nevertheless, this transformation remains dependent upon the existence of a pragmatic framework capable of regulating such interaction so that it does not become mere consumption of discourse, but rather a practice of reconstructing it.

From this perspective, the reshaping of linguistic interaction in the age of artificial intelligence cannot be understood merely in technical terms. Rather, it requires a pragmatic framing focused on how meaning is reorganized within discourse itself, which in turn necessitates analyzing the mechanisms that transform interaction into a space for meaning production rather than merely a medium for its circulation.

Mechanisms for Reconstructing Linguistic Interaction in Light of the Pragmatic Approach

If the previous analysis has demonstrated that the transformations brought about by artificial intelligence are not limited to expanding the possibilities of discourse production, but also extend to reshaping the very conditions of linguistic interaction itself, then the question that emerges at this level is not concerned with merely describing these transformations, but rather with how they may be utilized to reconstruct interaction in a way that ensures the production of meaning rather than its mere circulation. As previously shown, the problem does not lie in the abundance of discourse itself, but in the absence of mechanisms capable of organizing it within a coherent semantic process. Consequently, reconstructing linguistic interaction requires moving beyond the level of describing transformation toward the level of analyzing the mechanisms that may redirect it with the aim of restoring its pragmatic character.

From this perspective, a number of mechanisms can be identified, not as technical procedures, but as linguistic practices operating within interaction itself and framing the production of meaning from within.

Reformulation: From Re-Expression to the Reconstruction of Meaning

Reformulation constitutes one of the pragmatic mechanisms that clearly reveals the dynamic nature of meaning within linguistic interaction. Discourse is not understood as a complete structure transmitted unchanged, but rather as an open material capable of being reorganized according to contextual requirements [6]. From this perspective, reformulation is not merely a secondary linguistic skill; rather, it reflects a qualitative transformation in the learner's relationship with discourse, shifting from a position of passive reception to one of active engagement with it.

Within this framework, reformulation cannot be reduced to a mere stylistic variation of expressions. Instead, it is grounded in a dual process based on deconstruction and reconstruction. Through reformulation, the semantic structure of discourse is deconstructed, its components are examined, and then rebuilt in light of a new context or a different perspective. Thus, reformulation does not reproduce meaning in its original form; rather, it reshapes it in ways that allow subtle semantic differences to emerge, reflecting a transformation in understanding rather than a mere change in wording.

This dimension becomes particularly evident when discourse shifts from a declarative form to an interpretive one, or from neutral presentation to directed interpretation. Such transformations reveal that reformulation is not simply the transfer of meaning, but rather its reorientation within a different semantic horizon.

This dimension becomes even more complex within the context of artificial intelligence, where the learner is no longer confronted with a single discursive formulation, but rather with multiple possible linguistic representations. In such a situation, reformulation ceases to be a linear process based on substitution and instead becomes an analytical practice grounded in comparing multiple formulations, identifying the subtle differences among them, and selecting what best aligns with the pragmatic context [7]. Consequently, interaction is transformed into a space for testing meaning rather than merely receiving it.

Despite the richness of these possibilities, they contain a subtle paradox: reformulation may easily slip into a purely formal level if it is not framed by pragmatic awareness capable of regulating it. In the absence of such awareness, the process may become nothing more than a redistribution of expressions without affecting the underlying semantic structure, thereby producing discourse that appears diverse in form while remaining fixed in meaning.

Accordingly, the pragmatic value of reformulation does not lie in the multiplicity of expressive forms, but rather in its capacity to transform the learner's position within interaction, so that the learner no longer remains a mere consumer of discourse, but becomes an active participant in reconstructing it. Such a transformation can only occur when reformulation is practiced as a conscious interpretive activity that reconsiders meaning through its deconstruction, reconstruction, and testing within different contexts.

Therefore, reformulation essentially represents a mechanism for redistributing semantic authority within interaction, whereby meaning no longer remains confined to its original source, but instead becomes an object of negotiation and reconstruction. This is precisely what makes reformulation a fundamental entry point for reframing linguistic interaction as a space for the production of meaning rather than merely a medium for its transmission.

Negotiation of Meaning: From the Multiplicity of Interpretations to the Argumentative Regulation of Signification

If reformulation, as previously demonstrated, enables the deconstruction of meaning and its reorganization within discourse, it nevertheless remains insufficient on its own to guarantee the stability of meaning within interaction unless it is integrated into a broader process concerned with regulating and directing possible interpretations. From this perspective, the mechanism of negotiating meaning emerges as a more complex level in the functioning of linguistic interaction. The issue here is not merely the reconstruction of discourse, but rather the reorganization of the relationships among the interpretations generated by that discourse. Indeed, within the pragmatic perspective, meaning cannot be reduced to a linguistic structure open to analysis; rather, it is formed through an interpretive interaction in which multiple viewpoints intersect, differing according to contexts and frames of reference. Consequently, interaction does not necessarily produce a single meaning, but instead opens the way for semantic multiplicity that remains in need of regulation.

Within this framework, negotiation of meaning should not be understood as a simple exchange of opinions, but rather as an argumentative process through which interpretations are tested, their coherence is questioned, and they are reformulated in light of objection and modification. Thus, meaning is not constructed through prior consensus, but through an organized struggle among interpretations seeking to establish their legitimacy within discourse [8].

This argumentative dimension acquires even greater significance within the context of artificial intelligence, where the proliferation of discourse may lead to the fragmentation rather than the construction of meaning. In light of the multiplicity of available linguistic formulations, the learner no longer encounters a single discourse that can merely be reformulated, but rather a network of possible interpretations requiring organizational intervention. Here, interaction ceases to be a mere response to discourse and instead becomes a process of selection and framing through which certain interpretations are integrated while others are excluded.

Such selection cannot be arbitrary; rather, it must rely on pragmatic criteria related to the degree of coherence between meaning and context, as well as its capacity for justification within discourse. Consequently, negotiation of meaning does not aim to reach a final and fixed meaning as much as it seeks to construct a meaning capable of continuity within interaction—that is, a meaning that retains sufficient coherence to allow its circulation and further development.

In this context, interaction assumes the role of a space for argumentative production, where interpretations are not presented as mere givens, but as positions requiring support and justification. This transforms linguistic interaction into a field for testing meaning rather than merely exchanging it, thereby enabling a shift from the logic of the “multiplicity of discourses” to the logic of their “organization” within a coherent semantic structure [9].

Accordingly, negotiation of meaning represents a central mechanism in reconstructing linguistic interaction because it ensures the transition of meaning from a state of fluidity to one of regulation without depriving it of its dynamic character. At the same time, it prepares the ground for the emergence of a more complex level of interaction, one that extends beyond regulating interpretations toward reorganizing the very space in which those interpretations are produced. This leads directly to the following mechanism.

Expanding the Pragmatic Space: From Regulating Interpretation to Reorganizing the Structure of Interaction

If negotiating meaning enables the regulation of interpretations within interaction, such regulation remains limited unless accompanied by a reconsideration of the space within which these interpretations are generated. Meaning is determined not only by what is said, but also by the conditions under which it is said—that is, by the interactive structure framing the production and circulation of discourse.

In this context, the pragmatic space should not be understood as a neutral framework that merely contains interaction; rather, it constitutes an active element in shaping it, as it determines the nature of relationships among participants, the patterns of discourse circulation, and the possibilities for meaning production. Consequently, any transformation within this space necessarily affects the very nature of interaction itself.

Digital transformations—particularly those associated with artificial intelligence—have profoundly reshaped this space. Interaction is no longer confined to a linear relationship between sender and receiver; instead, it has acquired a networked character in which multiple actors intersect and discourse pathways become increasingly intertwined. However, despite enriching the possibilities of interaction, this expansion simultaneously raises a significant issue concerning the coherence of meaning within such an open space [10]. The multiplicity of actors and the proliferation of discourses may lead to the fragmentation of semantic structure, where meanings coexist without being integrated into a unified system. In such a case, the issue is no longer the production of meaning itself, but rather the preservation of its coherence within an interaction characterized by multiple sources and trajectories.

Therefore, expanding the pragmatic space cannot be understood merely as a quantitative addition to interaction; rather, it requires a qualitative reorganization of the relationships operating within it. This includes, fundamentally, a redistribution of roles among participants. The learner no longer remains in the position of passive reception, but becomes a linguistic actor participating in discourse production. Likewise, the teacher no longer functions as the sole source of meaning, but instead becomes the organizer of the interactive process, while artificial intelligence operates as a mediating agent that expands the possibilities of discourse without monopolizing its direction.

Such organization does not occur automatically; instead, it requires the construction of a pragmatic framework capable of regulating the movement of discourse within this space, thereby enabling a shift from interaction based on mere coexistence to interaction grounded in interconnection. In this regard, the effectiveness of interaction cannot be measured by the number or diversity of contributions, but rather by its capacity to generate a coherent semantic network in which meanings are linked within a structure that remains intelligible and open to further development [11]. Consequently, expanding the pragmatic space does not imply the unlimited openness of interaction; rather, it necessitates framing interaction within a process capable of transforming plurality into integration. This makes the organization of space a prerequisite for the continuity of meaning rather than merely a backdrop for its emergence.

From this perspective, it may be argued that the reconstruction of linguistic interaction can only be completed when the space within which it occurs is itself reconsidered, such that interaction is understood as a dynamic system in which relationships among actors, discourses, and meanings are continuously reformulated. Ultimately, this leads to a conception of interaction grounded not in the mere exchange of statements, but in the production of a shared semantic structure within an organized pragmatic space.

The analysis of the preceding mechanisms demonstrates that reconstructing linguistic interaction cannot be achieved through activating a single isolated procedure; rather, it requires the integration of complementary levels operating within discourse and reorganizing it from within. While reformulation enables the deconstruction and reconstruction of meaning, negotiation of meaning regulates interpretations within an argumentative process, whereas expanding the pragmatic space ensures the reorganization of the conditions under which such meaning is produced.

However, the significance of this integration does not lie merely in the multiplicity of mechanisms themselves, but rather in the nature of the relationships that connect them. These levels do not operate in

parallel isolation; instead, they intersect within a dynamic process through which meaning is continuously reconstructed. Every act of reformulation generates a new interpretation, every negotiation redirects that interpretation, and every transformation of the interactive space redefines the conditions of its production. Consequently, interaction cannot be understood as a sequence of separate operations, but rather as a dynamic pragmatic system within which meaning is reformulated across multiple interconnected levels.

Within this context, meaning no longer appears as a final entity transmitted through interaction; instead, it becomes a temporary outcome of an ongoing process of construction, constantly reshaped whenever the conditions of interaction change or its elements are reorganized. This necessitates a shift from a conception that views interaction merely as a medium for transmitting knowledge toward one that regards it as the very space within which knowledge itself is formed.

Accordingly, reconstructing linguistic interaction cannot be limited to improving the quality of discourse or diversifying forms of expression. Rather, it requires reorganizing the relationships among participants, meanings, and the space in which these meanings are produced. From this perspective, the pragmatic approach provides a theoretical framework through which interaction may be understood as a dynamic structure for meaning production rather than merely a framework for its circulation.

The scientific value of this perspective does not reside in proposing a technical alternative, but rather in redirecting attention toward interaction itself as the fundamental entry point for reconstructing knowledge, especially within contexts characterized by the multiplicity and complexity of discourses. Consequently, any attempt to reform learning cannot be satisfied merely with the integration of new tools; instead, it remains dependent upon the reframing of linguistic interaction that structures the production of meaning within it.

Conclusion

In light of the analysis that sought to deconstruct the relationship between interdisciplinary education and the transformations brought about by artificial intelligence, and subsequently to reframe linguistic interaction from a pragmatic perspective, it becomes evident that the issue is no longer related to the abundance or diversity of knowledge itself, but rather to the manner in which such knowledge is organized within interactive processes capable of transforming plurality into a coherent semantic structure. From this standpoint, a number of central conclusions may be drawn:

- Interdisciplinary education cannot be achieved merely through the juxtaposition of knowledge domains; rather, it remains dependent upon the existence of linguistic interaction capable of reorganizing them within a unified discourse.
- The limitations of traditional educational models do not lie in their cognitive content, but in their reduction of linguistic interaction to a purely transmissive function, thereby obstructing the construction of complex meaning.
- Artificial intelligence has transformed the structure of interaction by expanding the possibilities of discourse production without, in itself, guaranteeing the construction of meaning.
- The abundance of discourse within AI-supported environments may lead to semantic fluidity unless framed within a pragmatic process capable of regulating meaning production.
- Reformulation represents a mechanism for reconstructing meaning through the deconstruction and reorganization of discourse rather than merely diversifying forms of expression.
- Negotiation of meaning constitutes the argumentative dimension of interaction, whereby interpretations are regulated through justification and redirection within discourse.

- Expanding the pragmatic space requires reorganizing relationships within interaction in ways that transform plurality into a coherent semantic network.
- Linguistic interaction should not be regarded merely as a medium for transmitting knowledge, but rather as the very space within which knowledge is formed, which necessitates its reframing within a pragmatic perspective.

Accordingly, reconstructing linguistic interaction within contemporary learning contexts cannot be reduced to integrating artificial intelligence as a mere tool; rather, it requires reconsidering the pragmatic mechanisms that frame the production of meaning. This opens a new research horizon centered on exploring ways of activating these mechanisms within concrete educational practices, thereby enabling a transition from the conceptual level to the pedagogical level without undermining the pragmatic dimension that constitutes the foundation of this perspective.

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