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A Conceptual Culturemic Framework for Analyzing Cross-Cultural Miscommunication

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Abstract Cross-cultural miscommunication remains a persistent challenge across education, business, and digital communication, largely due to differences in cultural norms and contextual interpretation. Traditional linguistic models, which prioritize syntax, often fail to capture the cultural dimensions of meaning. Contemporary AI translation systems remain technically accurate but culturally limited. This study introduces an integrated Culturemic Framework, combining cultural schemata, pragmemes, practs, and culturemes (minimal units of cultural meaning), conceptually supported by the AI-based Advanced Discourse Analysis Research (ADAR) platform as an analytical model. Using a qualitative interpretive case-study approach, three intercultural scenarios are examined: academic feedback between a Chinese student and an American professor, business negotiations between American and Japanese executives, and the Arab practice of wasta. Findings suggest that mismatched cultural schemata consistently lead to pragmatic misinterpretation, while high- and low-context communication differences shape meaning construction. Additionally, untranslatable culturemes contribute to cross-cultural tension. The study demonstrates the potential of the framework as an explanatory tool and highlights its implications for culturally aware AI, intercultural pedagogy, and discourse analysis.

Keywords: *ADAR, Socio-cultural discourse, Cultural schemata, Pragmeme, Pract, Cultureme intercultural pedagogy*

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1. Introduction

Interconnectedness has greatly risen globally, but cultural mis-communications are common in the fields of education, business, and digital communications (Aririguzoh, 2022). The conventional linguistic methods tend to focus on syntax and formal systems and pay less attention to cultural and contextual aspects, which can restrict their ability to capture actual communication in life (Sakaguchi et al., 2025). Over the past few decades, linguistics has focused on syntax and universal grammar, and culture and context have a minor role (Tsujii, 2021). Formalist theories, including the Language Acquisition Device (LAD), have long been the subject of discussion in linguistic theory, but their relevance to cross-cultural communication is controversial (Rowland et al., 2025). According to Tomasello (2003), socializing

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and interaction are more important in language acquisition than abstract grammatical principles. Austin's (1975) methods of history are approaches that focus on the significance of context and culture in the interpretation of meaning.

Recent research points out the increasing significance of cultural and practical aspects of communication. Aidarbekova et al. (2025) demonstrate that language skills and intercultural competence can be enhanced in digital learning environments with the help of interactive and context-related learning. Budeng (2026) discovers that apology strategies vary across cultures, indicating different pragmatic norms. Similarly, Uyen (2026) proves that criticism strategies differ among cultural and social groups, especially in directness and expression. Collectively, these studies suggest that communication is highly influenced by cultural context and pragmatic conventions. Despite this recognition, most modern AI models remain decontextualized and culture-blind, which restricts their operationalization of the cultural-pragmatic sense. Equally, syntactically correct outputs of AI and machine translation systems are often technically accurate but culturally incorrect (Al Maaytah, 2026). Moreover, existing linguistic methods emphasize sentence-level analysis, limiting their capacity to capture overall communicative intent and cultural context (Stadler, 2025). Although empirical evidence confirms the importance of culture and context, neither AI systems nor current linguistic methods can formally integrate these dimensions in a systematic, analyzable way. Consequently, the study of human communication remains complex because there is still no comprehensive framework capable of systematically analyzing both the qualitative and quantitative dimensions of conversation (Feuston & Brubaker, 2021).

What makes this gap more pronounced is that even the theoretical building blocks for such a framework already exist, yet remain disconnected. Though the idea of cultural schemata by Sharifian (2017), pragmemes by Mey (1999), and culturemes by Al Sharoufi (2020) have been discussed separately, they have not been systematically combined to create a critical method of socio-cultural discourse analysis. Existing approaches have not systematically integrated cultural schemata, pragmemes, practs, and culturemes, into a unified analytical framework for examining socio-cultural communication. In addition, current methods, such as AI-based systems, do not usually have the ability to formalize these cultural-pragmatic dimensions in an organized and quantifiable manner (Mai et al., 2024). Such a gap underscores the necessity of a holistic and computationally-assisted framework that can help to fill the gaps between theoretical understanding and practical study of cross-cultural communication. The study introduces the Culturemic Framework, a method for examining socio-cultural discourse that combines four key elements. The framework is conceptually supported by the Advanced Discourse Analysis Research (ADAR) platform, an AI-informed analytical model designed to assist in the interpretation of cultural-pragmatic patterns in discourse. The approach suggests the potential for developing culturally aware computational systems through the integration of analytical and interpretative perspectives. This advancement has the potential to lead to culturally sensitive AI in translation, teaching, and discourse analysis. This method highlights that language is goal-oriented and highly cultural, according to Leech (1983), and it explicitly criticizes syntax-based models.

2. Theoretical Framework

2.1. Cultural Linguistics and Cultural Schemata

The connection between language and culture has been widely studied in functional and socio-cultural methodologies of linguistics (Sakaguchi et al., 2025). Halliday (1977) and Halliday and Hasan (2014) define language as a social semiotic, and meaning is not intrinsic to linguistic forms, but it is created through their application in particular social and cultural situations. In this sense, language is a meaning-making tool, which is influenced by and embedded in cultural practices. This perspective opposes the previous structuralist traditions that viewed language as an independent system that is not connected to its social context (Jones et al., 2025). Based on this functionalist background, Sharifian (2017) proposes the notion of cultural schemata, which are culturally distributed (not universal) conceptual frameworks that inform perception, interpretation, and communicative action (Berio, 2021). Such schemata are influenced by shared cultural experience, and they determine how people perceive meanings, how they construct messages, and how they react to communicative situations. As an example, culturally ingrained

notions like democracy or politeness and directness norms differ greatly across cultures, as they are a result of different historical, social, and ideological backgrounds (Stadler, 2025).

Although both viewpoints focus on the inseparability of language and culture, they differ in terms of the area of analysis. Halliday's (1977) model predicts the functional and contextual aspects of meaning-making in discourse, whereas Sharifian's (2017) framework focuses on cognitive and cultural representations underlying communicative practices. This difference brings up a significant theoretical dilemma: should meaning be viewed as socially constructed in the process of interaction or cognitively organized in the form of culturally shared mental models (Jones et al., 2025)? In reality, though, these two views are complementary and not mutually exclusive because effective communication requires both the social context of communication and the culturally constructed cognitive schemas of the participants (Rowland et al., 2025).

In spite of these contributions, current approaches are not well integrated. Halliday's (1977) framework fails to explicitly explain the underlying cognitive representations that inform interpretation, whereas cultural schemata theory fails to provide a complete explanation of how these mental representations are actualized in visible discourse practices. As a result, a gap still exists between the connection of culturally based cognitive schemata and real communicative action in socio-cultural discourse analysis.

2.2. Pragmatics and Pragmemes: A Critical Comparison

The concept of language as action can be traced back to the works of Austin (1975), who developed the Speech Act Theory, suggesting that utterances have functions, including requesting, promising, or declaring. Fundamentally, this method presupposes that language is an action and that these actions can be systematized into classes like assertives, directives, commissives, expressives, and declarations (Tomasello, 2023). This model has been very influential because it is a structured manner of connecting the linguistic form and communicative function.

Although it has its advantages, Speech Act Theory has been largely criticized due to its universalist assumptions and the lack of sensitivity to cultural variation (Stadler, 2025). It is inclined to consider communicative acts as constant and movable across situations without considering the fact that meaning is highly influenced by cultural and situational elements (Al Maaytah, 2026). Consequently, the same utterance can have a very different meaning in various socio-cultural contexts, which questions the sufficiency of rigid categories (Uyen, 2026). This limitation is further demonstrated by cross-cultural differences in pragmatic decisions, whereby Budeng (2026) demonstrates that Filipino learners would tend to write longer apologies whereas American speakers would use direct forms, implying that communicative acts are perceived differently in various cultural settings. To address these inadequacies, Mey (1999) proposed the concept of the pragmeme, which was developed by Capone (2010). Such a view redefines the concept of communication because it focuses on the fact that meaning is not predetermined but is created in the process of interaction between context and culture. Pragmeme theory does not presuppose the use of predetermined categories but considers communicative acts dynamic and context-dependent, and influenced by cultural norms, social relations, and situational constraints (Helm et al., 2024). In this regard, it provides a more adaptable and naturalistic explanation of the process of meaning construction in real discourse.

The difference between the Speech Act Theory and Pragmeme Theory is thus essential. Whereas speech acts are abstract and decontextualized types of communicative functions, pragmemes reflect context-specific and culturally embedded actions whose meaning is determined by context (Stadler, 2025). This difference is especially visible in the case of simple sentences like "Close the door". In the context of a speech act, it would be categorized as a directive (Tomasello, 2023). But, pragmeme-wise, it does not have a fixed meaning; it can be a request, a command, or an expression of irritation, depending on cultural norms, interpersonal relationships, and contextual factors (Helm et al., 2024). This shows that meaning cannot be sufficiently comprehended without considering context and cultural schemata.

In order to fill the gap between the abstract intention and observable communication, the concept of practs has been proposed. Practs are the actual implementation of pragmemes in real discourse, which are the ways communicative intentions are realized in terms of specific linguistic forms and behaviors

(Feuston & Brubaker, 2021). They give pragmeme theory an empirical aspect by connecting theoretical concepts with actual communicative actions. However, even the pragmeme theory fails to provide a comprehensive explanation of socio-cultural communication. Though it effectively captures context and cultural influence, it does not explicitly relate these dynamics to underlying cognitive structures like cultural schemata, nor does it go down to micro-level semiotic units like culturemes (Helm et al., 2024). Consequently, this leaves a wide gap in the creation of a comprehensive framework that systematically connects cognitive, pragmatic, and semiotic aspects of discourse.

2.3. Culturemes and Semiotic Cultural Units

The cultureme concept is another important aspect of the encoding and expression of culture in communication. Culturemes can be defined as the smallest meaningful cultural-semiotic units that carry context-specific and culturally embedded meanings (Al Sharoufi, 2020; Goddard, 2002). Culturemes are not limited to words, unlike regular lexical items, but also include gestures, symbols, expressions, and other resources of semiotics that pass culturally specific knowledge and values (Al Sharoufi, 2020) They are interpreted not only based on linguistic competence but also on the knowledge of the social, historical, and cognitive systems that are common to a cultural group (Kroo, 2022). Culturemes are compact systems of complex cultural meanings. An example is that culturally specific terms like wasta in Arabic contexts not only represent the concept of social ties but also more generalized notions of influence, obligation, and negotiation within particular socio-cultural frameworks (Hamlin et al., 2024). These words are hard to translate since they are firmly embedded in culturally specific conceptualizations, which emphasize the constraints of pure linguistic equivalence and the role of cultural knowledge in interpretation (Al-Twal, 2022). Misunderstanding of these units may thus cause serious failures in intercultural communication.

There should be a sharp difference between culturemes and cultural schemata. Cultural schemata are abstract, cognitively organized knowledge systems, which determine perception and interpretation, whereas culturemes are their visible manifestations in discourse as concrete semiotic signs (Al Sharoufi, 2020; Berio, 2021). In this respect, culturemes can be seen as a mediator between cognition and communication, converting the underlying cultural knowledge into practical forms that can be empirically studied (Feuston & Brubaker, 2021). Such a relationship places culturemes as fundamental units of analysis to study the realization of culture in daily communicative practices.

Although they have an analytical quality, the current methods of culturemes tend to be confined to descriptive narratives and do not connect with more general theoretical frameworks (Al Maaytah, 2026). Even though recent developments indicate that computational tools can help to find culturally salient patterns in discourse, it is more appropriate to say that most AI-based models still lack cultural sensitivity and context, rather than being completely culture-blind (Bender et al., 2021). A recent study by Al Sharoufi and Al-Fadhli (2025) on machine translation (MT) highlights persistent limitations in capturing cultural and pragmatic meaning. Although MT systems produce syntactically accurate outputs, they often fail to render culturally embedded expressions, particularly in religious, legal, and historical discourse. This results in pragmatic misalignment and semantic distortion, reinforcing the need for culturally informed analytical frameworks. This shortcoming further highlights the importance of theoretically based frameworks that can be used to systematically integrate cultural meaning into discourse analysis. In general, although culturemes offer a powerful tool of describing the semiotic manifestation of culture, there is still no unified framework that links culturemes to higher-order cognitive units like schemata, or to lower-order pragmatic units like pragmemes and practs. Therefore, there is still a large gap in the creation of an integrated, multi-level model that will connect cultural knowledge, communicative intention, and observable discourse to a single analytical framework.

2.4. Synthesis and Research Gap

The above discussion has shown that the current methods offer valuable yet incomplete information on the connection between language, culture, and meaning. Halliday (1977) and Halliday and Hasan (2014) frame language as a social semiotic that is situated within the cultural context, whereas Sharifian (2017) emphasizes the importance of culturally distributed schemata in the development of cognition and interpretation. Austin (1975) and Searle et al. (1980) provide a functional categorization of speech acts

at the pragmatic level, and Mey (1999) and Capone (2010) focus on context-dependent meaning using pragmeme theory. The concept of culturemes also elaborates on how cultural meanings are achieved in visible semiotic forms. The recent cross-cultural study by Al Sharoufi and Sultan (2025) on hate speech further confirms that discourse is shaped by cultural schemata and pragmatic norms. Analyses across languages (e.g., English, Arabic, Romanian) show recurring patterns such as moral condemnation and political nationalism, demonstrating that hate speech is culturally constructed rather than universal.

Nevertheless, these methods are still theoretically disjointed and work at various levels of analysis. Whereas schemata deal with cognition, pragmemes with contextualized meaning, and culturemes with semiotic expression, none of the frameworks systematically combines these dimensions into a single model. As a result, the interrelations between cognition, pragmatics, behavior, and semiotics are not well understood. Current models thus describe individual elements of socio-cultural meaning but do not offer a multi-level analytical model. To fill this gap, the current study suggests the Culturemic Framework that incorporates cultural schemata, pragmemes, practs, and culturemes into a single model of socio-cultural discourse analysis.

3. Methodology

3.1. Research Design and Epistemological Positioning

The research design used in this study is a qualitative, interpretive case-study design. The Culturemic Framework is used to analyze human communication in a context-sensitive and meaning-oriented manner. The study adopts an interpretive analytical orientation in which meaning is understood as context-dependent and culturally situated within communicative scenarios rather than as fixed within isolated linguistic forms. Based on this view, purely formalist and purely quantitative approaches are not given a high priority because they might not fully reflect the culturally embedded and action-oriented characteristics of communication. Rather, it is an analytical approach that involves systematic and context-sensitive interpretation of culturally situated discourse, which allows the recognition of culturally patterned meanings in particular communicative contexts. The researchers assume the role of reflexivity and are analytically engaged, explaining the data in terms of the theoretical framework and preserving methodological consistency and transparency.

3.2. Case Scenarios as Analytical Units

The research uses purposive sampling to identify analytically relevant cases to study the socio-cultural discourse. Cases were considered analytically relevant if they (1) involved identifiable cross-cultural communicative tension or misunderstanding, (2) contained sufficient contextual and linguistic detail for analysis across the four levels of the Culturemic Framework, and (3) demonstrated culturally embedded discourse patterns suitable for AI-assisted analysis through ADAR. The chosen scenarios, as indicated in Table 1, are unique contexts where cross-cultural misunderstanding is likely to happen and, therefore, they are suitable to be analyzed at the four levels of the Culturemic Framework (cultural schemata, pragmemes, practs, and culturemes).

Table 1
Overview of Curated Case Scenarios Used as Analytical Units for Socio-Cultural Discourse Analysis

Scenario	Description	Key Socio-Cultural Feature	Relevance to Framework
The Scholar and the Student	A meeting between a Chinese graduate student and an American professor, highlighting differences in expectations around discursive assertiveness and scholarly humility.	Misalignment in cultural expectations and communication style	Illustrates how cultural schemata shape pragmemes and practs in academic settings
The Deal and the Dojo	A business negotiation between an American and a Japanese company, where subtle pragmemes of refusal cause confusion.	Context-specific communicative acts misunderstood due to differing cultural norms	Highlights the role of pragmemes and practs in intercultural business discourse

The Power of Wasta	An exploration of Arab social life focusing on the concept of *wasta*, the use of personal influence and connections.	Dense, culturally-specific practice not easily translatable	Demonstrates the function of culturemes and their influence on observable behavior and cross-cultural misunderstanding

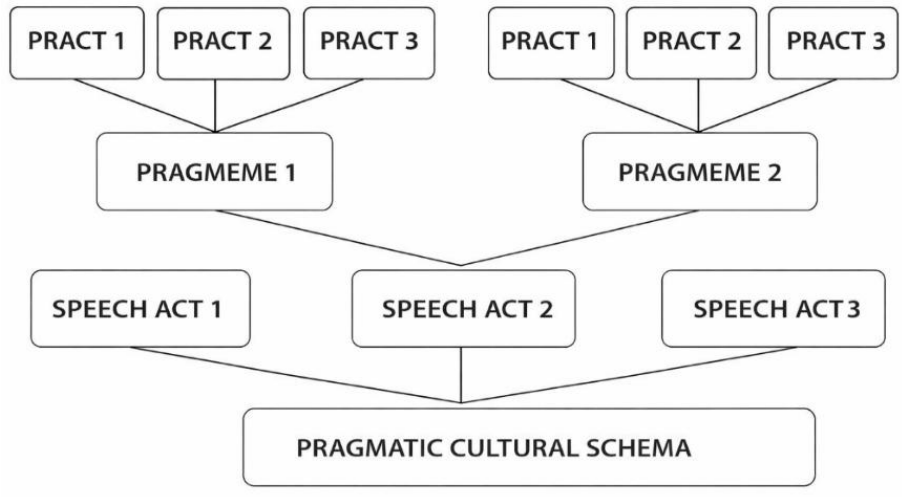
The selected scenarios were drawn from the authors' previous experiences with friends and colleagues and were reconstructed as illustrative analytical cases to preserve contextual clarity and analytical focus. The study does not rely on verbatim transcripts of naturally occurring interactions; rather, it employs analytically reconstructed communicative scenarios designed to demonstrate the explanatory application of the Culturemic Framework across culturally situated contexts. This method allows the analytically transparent and context-sensitive study of communication, ensuring that the selection of cases is not only theoretically justified but also methodologically consistent.

4.3. Analytical Orientation: The Culturemic Framework

This study uses the Culturemic Framework as a guide to the analysis by providing a non-reductionist and integrative method of socio-cultural discourse analysis. Unlike the classical formalist or syntax-based models, the framework highlights the embeddedness of communication in culture, its dynamism, and context-dependency. It takes a multi-layered approach that connects abstract cultural knowledge with observable communicative behavior. The framework links four main dimensions of communication in a systematic manner: cultural schemata, pragmemes, practs, and culturemes. Figure 1 specifically illustrates the hierarchical relationship between cultural schemata, speech acts, pragmemes, and practs within socio-cultural communication, while culturemes function as culturally embedded semiotic units across these analytical levels. The Culturemic Framework, as shown in Figure 1, is structured as a hierarchical but dynamic system, allowing analysis at various levels of abstraction, starting with the underlying cultural knowledge and ending with observable communicative forms.

Figure 1

The Hierarchical Organization of the Culturemic Framework Illustrating the Relationship between Cultural Schema, Pragmemes, Speech Acts, and Practs



The smallest cultural-semiotic units that are manifested in discourse are called culturemes. Conceptually, these analytical levels are understood as hierarchically related and dynamically interconnected, allowing the analysis to move between culturally embedded meanings, communicative functions, and discourse-level expressions. This orientation guarantees that the analysis is able to capture both the production and interpretation of meaning without simplifying socio-cultural communication (see Table 2).

Table 2
Hierarchical Levels of the Culturemic Framework, Illustrating the Integrative and Non-Reductionist Approach for Socio-Cultural Discourse Analysis

Level	Description	Function in Analysis
Cultureme	Minimal units of cultural meaning, including words, phrases, gestures, or images, rich in context-specific cultural knowledge	Identifies culturally saturated semiotic signs and the foundational elements of discourse
Pract	Observable manifestations of pragmemes in context	Connects abstract cultural patterns to tangible communicative acts, linking intention with execution
Pragmeme	Context-specific communicative actions grounded in cultural norms and situational factors	Explains the purpose and function of communicative acts, capturing the "what for" of communication
Cultural Schema	Shared, culturally-constructed knowledge structures that shape perception, thought, and interaction	Provides the deepest layer of meaning, informing and constraining pragmemes, practs, and culturemes

This hierarchical organization enables a systematic and theoretically grounded analysis of socio-cultural discourse, linking surface-level expressions to deeper cultural patterns while preserving the complexity and contextual sensitivity of communication.

3.4. Procedure

3.4.1. The Analysis

The analysis is a systematic, iterative, and abductive process that guarantees a systematic and transparent study of the socio-cultural discourse. The process is consistent with the four levels of the Culturemic Framework and is used in all case scenarios (Table 3). The analysis is performed in four steps that are interrelated:

- *Step 1. Identification of Culturemes:* The analysis starts with the identification of culturemes, which are culturally salient words, expressions, gestures, and symbols. This step includes a lexical and semiotic analysis of discourse to identify those units which have a context-specific cultural meaning.
- *Step 2. Identification of Pragmemes:* The pragmeme is then determined through the interpretation of the communicative intentions of the discourse. The step aims at comprehending the functional role of utterances, e.g., refusal, respect, assertion, etc., in their particular socio-cultural and situational contexts.
- *Step 3. Identification of Practs:* The third step involves identifying practs as the observable realizations of communicative intentions. The analysis examines linguistically and contextually represented communicative behaviors within the reconstructed scenarios to explore how meaning is performed across culturally situated interactions. Rather than relying on verbatim transcripts or direct observational data, the study interprets communicative representations embedded within the analytical case scenarios.
- *Step 4. Inference of Cultural Schemata:* Lastly, the analysis deduces cultural schemata through the reconstruction of the underlying assumptions, values, and norms that inform communicative behavior. These schemata are inductively derived based on observable discourse and not dictated as predetermined categories. The procedure is implemented in a cyclic manner, where one can move between the levels to improve interpretation and provide internal consistency throughout the analysis.

Table 3
Procedure of Analysis across the Four Levels of the Culturemic Framework

Stage	Focus	Analytical Goal
Cultureme	Minimal cultural meaning units	Identify culturally rich words, expressions, gestures, and symbols
Pragmeme	Context-dependent communicative actions	Interpret function and purpose of acts within situational context
Pract	Observable enactment of pragmemes	Trace how social actions are realized in interaction
Cultural Schema	Deeply shared knowledge structures	Reconstruct assumptions, norms, and values shaping communication

This analytical process is supported by the ADAR (Advanced Discourse Analysis Research) platform, an AI-based tool used to operationalize the Culturemic Framework through the identification of the hierarchical sequence of schema → pragmeme → pract → cultureme within the analyzed discourse. First, structured discourse data, comprising textual and interactional representations from reconstructed case scenarios, is entered into the ADAR platform as input. The platform then performs discourse analysis by detecting linguistic markers, including lexical items, discourse markers, pronouns, modal expressions, and context-sensitive communicative structures. Simultaneously, ADAR conducts semantic field detection to identify recurring cultural-pragmatic patterns in the discourse. Through these operations, the platform operationalizes the Culturemic Framework by identifying the hierarchical sequence of schema → pragmeme → pract → cultureme. The outputs generated by ADAR consist of categorized units of analysis, discourse patterns, linguistic evidence, contextual markers, and confidence scores, with higher scores indicating stronger alignment between the analyzed discourse and the framework's pragma-cultural patterns. These confidence scores are treated as interpretive analytical indicators rather than statistical measures, used to support qualitative interpretation within the case-based study design. ADAR then helps determine trends, organize the analytical process, and interpret results, enhancing consistency and clarity while remaining sensitive to cultural context. Finally, to ensure validity, the research team cross-checks all computational results with qualitative interpretation, validating the accuracy of the AI outputs and the coherence of the method. ADAR is not used as a stand-alone interpretation system; rather, this synergy of computational support and qualitative interpretation allows for a systematic, transparent, and replicable analysis without compromising the context-sensitive and interpretive aspects of socio-cultural discourse analysis.

3.4.2. Analytical Rigor and Interpretive Validity

In order to guarantee the reliability and validity of the analysis, a number of measures were taken to improve rigor, minimize bias, and ensure analytical consistency. The analysis was also informed by existing theoretical frameworks to minimize subjectivity, so that the analysis could be informed by cultural pragmatics and not personal intuition. Moreover, the description method was used to retain the contextual richness and depth of each case scenario to enable subtle interpretation of the socio-cultural meaning. The coherence was internal throughout all the levels of analysis, and culturemes, pragmemes, practs, and cultural schemata were logically linked. Theoretical triangulation also enhanced the analysis by relying on the existing literature in the field of cultural linguistics and pragmatics, such as Sharifian (2017), Mey (1999), and Capone (2010), to make interpretive assertions. Reflexivity is also involved in the study, as it recognizes the role of the researcher in the interpretive process and the possible impact of previous knowledge and cultural background. Nonetheless, this impact is systematically controlled by the regular use of the analytical framework. It is mainly a qualitative study, with the help of computational indicators (confidence scores). The confidence scores generated by ADAR range from 0 to 1 and function as interpretive indicators of the degree of alignment between identified discourse features and the cultural-pragmatic patterns detected during analysis. These scores are informed by the correspondence among linguistic markers, semantic field patterns, and contextual associations identified within the discourse, with higher scores indicating stronger alignment and lower scores

indicating greater interpretive ambiguity. Scores above 1 mean that it is more aligned, whereas scores below 1 mean that it is more ambiguous or indirect.

3.4.3. Validation and Generalizability of Findings

The case scenarios are based on intercultural experience, but the analysis is not conducted on the basis of personal opinion but on the basis of a structured and theory-driven approach that is founded on the Culturemic Framework. To reduce interpretive circularity, the analysis also draws conceptually on established perspectives from cultural linguistics, particularly cultural schemata theory (Sharifian, 2017), intercultural pragmatics and pragmeme theory (Mey, 1999; Capone, 2010), and discourse-oriented approaches that conceptualize language as a socially situated meaning-making system (Halliday, 1977; Halliday & Hasan, 2014). These complementary perspectives provide additional theoretical reference points for interpreting culturally embedded communicative patterns and help ensure that analytical interpretations are grounded in broader scholarly traditions rather than derived solely from the Culturemic Framework. Moreover, the systematic use of the ADAR platform in all three cases offers analytical coherence in determining cultural schemata, pragmeme, practs, and culturemes. The fact that similar patterns are repeated in the scenarios also enhances the internal validity of the analysis. However, the findings should not be interpreted as broadly generalizable beyond the analytical scope of the selected cases, since the scenarios were purposively chosen to demonstrate the explanatory application of the Culturemic Framework. Rather than claiming broad generalizability, the study offers illustrative analytical insights into how cultural-pragmatic processes may operate within selected cross-cultural communication contexts.

4. Results

This section presents the findings from the analysis of three case scenarios. The Culturemic Framework was implemented with the help of the ADAR platform to analyze annotated intercultural discourse situations. The results reveal the ways in which discrepancies at various levels of communication may lead to cross-cultural misunderstanding in such instances, as well as indicating trends that can be identified through a systematic study. Table 4 summarizes the results.

Table 4
Overview of the Three Curated Case Scenarios Analyzed Using the Culturemic Framework

Scenario Title	Participants	Cultural Context	Key Miscommunication / Friction	Primary Focus
The Chinese Graduate Student	Chinese graduate student, American professor	East Asian academic culture vs Western academic culture	Feedback interpreted as personal rebuke instead of constructive critique	Pragmeme of critique
The Japanese Business Negotiation	American executive, Japanese executives	High-context Japanese culture vs low-context American culture	Indirect refusal misinterpreted as negotiating posture	Pragmeme of refusal
The Arab Context of Wasta	Arab individuals engaging in social exchanges	Collectivist Arab social networks and reciprocal obligations	Wasta misunderstood as corruption instead of legitimate social practice	Pragmeme of social capital mobilization (wasta)

4.1. Case Scenario Analyses

4.1.1. Case 1: Chinese Graduate Student

This case involves a Chinese graduate student at an American university whose professor advises her to be more straightforward and assertive in her arguments. The advice is supposed to be constructive feedback, but the student perceives it as a personal rebuke, which shows that there is a cross-cultural misunderstanding. The interplay is an expression of cultural schemata differences. The professor is working under a discourse that focuses on direct interaction with ideas, whereas the student is working

under a discourse that is oriented to scholarly humility, which is marked by deference, indirect communication, and respect for authority.

At the pragmatic level, the communicative act of critique is viewed in a different way. The feedback by the professor is taken as critique-as-engagement, but by the student as critique-as-rebuke. This deviation is manifested in the communicative behavior observed. From a culturemic perspective, the phrase "assertive argumentation" functions as a culturally embedded expression associated with Western academic discourse, where direct intellectual engagement and critical debate are commonly valued. The professor's direct recommendation for stronger and more explicit argumentation represents the pract, as it constitutes the observable communicative realization of the intended feedback within the reconstructed scenario. This pract is a realization of the pragmeme of critique-as-engagement in the professor's interpretation, while the student interprets the same communicative act as critique-as-rebuke. The varied interpretations are connected to the contrasting cultural schemata that involve direct intellectual engagement and scholarly humility, which illustrate how the same communicative expression can create contrasting meanings in different socio-cultural contexts. This analytic sequence is situated within the pract of direct academic feedback, which embodies the cultureme "assertive argumentation" and is a part of larger underlying culture-schemata related to academic communication. Table 5 summarizes the patterns observed.

Table 5

ADAR Analysis of Cultural Schemata, Pragmemes, and Culturemes in Case Scenario 1 (Chinese Graduate Student)

Analytical Level	Findings	Confidence
Cultural Schema	The analysis indicates a dominant schema of "Individualism & Autonomy" in the professor's context and a contrasting schema of "Scholarly Humility" in the student's context.	0.95
Pragmeme	The framework indicates that the professor's feedback functions as critique-as-engagement, while the reconstructed scenario allows for its possible interpretation as critique-as-rebuke within a different socio-cultural framework.	0.85
Pract	The professor's direct recommendation for stronger and more explicit argumentation functions as the observable communicative realization of critique within the reconstructed interaction.	Derived from pragmeme-context alignment
Cultureme	The analysis indicates that the phrase "assertive argumentation" reflects culturally preferred communicative norms associated with Western academic discourse rather than functioning as a fully lexicalized cultureme.	0.79

Note. Confidence scores are generated by ADAR for cultural schemata, pragmemes, and culturemes based on pattern alignment and contextual consistency and should be interpreted as indicative rather than statistically generalizable. Practs are treated as observable realizations of pragmemes and therefore are not assigned independent confidence scores.

The analysis demonstrates that the misunderstanding emerges not from grammatical misunderstanding but from culturally different interpretations of the communicative act. The interaction among culturemes, practs, pragmemes, and cultural schemata illustrates how socio-cultural assumptions shape meaning construction within intercultural academic communication.

4.1.2. Case 2: Japanese Business Negotiations

The case is about a business negotiation between an American executive and a Japanese counterpart. The American executive makes an explicit proposal, anticipating clear negotiation. The Japanese reply, which is translated to mean it will be very difficult, is taken by the American to mean that they are willing to negotiate further. The communication between them is a manifestation of differences in communication schemata. The American participant is working in the direct and low-context

communication style, and the Japanese participants are working in the high-context and indirect communication style with an emphasis on preserving harmony. On the pragmatic level, the Japanese reply is an indirect refusal that is conveyed in a polite and context-specific manner. This meaning is not the same as the American interpretation of the same utterance. From a culturemic perspective, the phrase "very difficult" functions as a culturally embedded expression whose meaning extends beyond literal interpretation within Japanese business communication. In this context, the expression operates as a cultureme associated with indirect refusal and harmony-preserving interaction. The indirect refusal expression itself functions as the pract, representing the observable communicative realization through which the intended social meaning is conveyed within the reconstructed scenario. This pract is the realization of the pragmeme of indirect refusal, influenced by cultural norms that prioritize politeness, indirectness, and the maintenance of interpersonal harmony. The American participant, however, reads the communicative action in a low-context communication system and views it as a proposal to be considered instead of a refusal. These different interpretations illustrate the different cultural schemata linked to high- or low-context communication styles. The cultureme "very difficult" is embedded in the pract of indirect refusal, which translates the pragmeme of harmony-preserving communication, and which is reflected in the broader cultural schemata of indirectness and relational harmony. The observed patterns are summarized in Table 6.

Table 6

ADAR Analysis of Cultural Schemata, Pragmemes, and Culturemes in Case Scenario 2 (Japanese Business Negotiation)

Analytical Level	Findings	Confidence
Cultural Schema	The analysis indicates the presence of a direct, low-context schema in the American discourse.	0.95
Pragmeme	The framework reveals multiple communicative functions within the interaction, reflecting context-dependent interpretation of the response. The comparatively low confidence score reflects the deliberate ambiguity characteristic of high-context communication, in which indirect refusal is intentionally conveyed through implicit rather than explicit linguistic forms.	0.7
Pract	The expression "very difficult" is analytically interpreted as the observable communicative realization of indirect refusal within the reconstructed negotiation scenario.	Derived from pragmeme-context alignment
Cultureme	The analysis indicates that the phrase "very difficult," within the reconstructed Japanese business negotiation context, functions as an indirect refusal whose interpretation relies heavily on culturally specific high-context communication norms rather than literal semantic meaning alone.	0.79

The analysis demonstrates that the misunderstanding emerges from culturally different interpretations of indirect communicative behavior rather than from lexical misunderstanding alone. The interaction among culturemes, practs, pragmemes, and cultural schemata illustrates how indirectness and high-context communication shape meaning construction within intercultural business negotiations.

4.1.3. Case 3: Arab Context of Wasta

This case examines the concept of *"wasta"* in Arab social contexts, referring to the use of personal connections and influence in social and institutional interactions. Although it can be viewed as favoritism in an external sense, in a cultural context it functions as a mechanism of social duties and reciprocity. At the pragmatic level, wasta serves as a mobilization of social capital, which is implemented in the form of visible practices, i.e., requests, mediation, and facilitation. Such actions are incorporated into more general cultural norms of group cohesion and support. From a culturemic perspective, the term "wasta" functions as a culturally embedded expression associated with relational obligation, reciprocal social support, and collectivist social organization within Arab socio-cultural

contexts. The communicative and social instantiations of request, mediation, and facilitation practices are all practs, as they express observable forms in which relational intentions are realized in the reconstructed scenario. These practs implement the pragmeme of social capital mobilization, which is the communicative practice to sustain social relationships, reciprocal obligation, and group cohesion. The rationale for understanding these practices is drawn from other cultural schemata related to collectivist reciprocity, social obligation, and relational cohesion. As a result, meanings embedded in wasta vary from one cultural context to another, as the same act of communicating can be assumed to be a proper way of social coordination or favoritism. This analytical sequence shows how the cultureme "wasta" is articulated in the practs of mediation and facilitation, which is an articulation of the pragmeme of social capital mobilization and a reflection on a broader cultural schema of collectivist reciprocity and relational obligation. Table 7 summarizes the patterns observed.

Table 7

ADAR Computational Analysis of Cultural Schemata, Pragmemes, and Culturemes in the Arab Context of Wasta

Analytical Level	Findings	Confidence
Cultural Schema	The analysis indicates the presence of multiple interacting cultural schemata within the discourse.	0.83
Pragmeme	The framework reveals a range of communicative actions associated with social coordination and relationship management.	0.9
Pract	Requests, mediation, and facilitation practices function as observable communicative realizations through which relational obligations and social coordination are enacted within the reconstructed socio-cultural context.	Derived from pragmeme-context alignment
Cultureme	The analysis indicates that references to *wasta* function as culturally embedded expressions linked to broader social and relational practices.	0.79

The analysis demonstrates that the interpretation of wasta is shaped by culturally embedded assumptions regarding reciprocity, obligation, and social coordination. The interaction among culturemes, practs, pragmemes, and cultural schemata illustrates how socio-cultural meanings influence the interpretation of relational practices across intercultural contexts.

4.2. Cross-Scenario Insights

The three cases examined in this paper show that there are common patterns in various intercultural situations. Across the reconstructed scenarios, the analysis revealed that indirectness, relational expectations, and context-dependent communicative norms contributed to divergent interpretations of similar communicative acts. In the Chinese graduate student case, the differences in expectations of critique led to the divergent interpretation of feedback.

In the second case, variation in communication styles is reflected in the interpretation of indirect responses. In the third instance, there are culturally specific practices concerning social relationships that are construed differently across contexts. In these instances, the high-context and low-context styles of communication have been found to affect meaning interpretation. These cases seem to be influenced by indirect expressions, implicit norms, and context-specific cues in the interpretation of communicative intentions. Moreover, some expressions and practices are culturally specific units of meaning. Words like *"assertive argumentation"* and *"wasta"* are seen to have contextual meanings that go beyond the literal meaning of the words, which adds to the differences in interpretation among participants. The comparative analysis of the three cases suggests that discourse elements may be structured at the levels of cultural schemata, pragmemes, practs, and culturemes. The patterns identified indicate the differences in cultural density and pragmatic complexity in the analyzed scenarios. These observations point to the ways in which the various degrees of socio-cultural meaning are manifested in discourse without going beyond the dataset.

5. Discussion

This present study indicates that the interaction of cultural schemata, pragmemes, practs, and culturemes determines cross-cultural miscommunication, and it is essential to examine communication not only through the linguistic form. In the cases under analysis, meaning seems to be formed both by the cognitive-cultural formations and by the situational interaction, which means that communicative interpretation is neither entirely structural nor purely situational. This finding aligns with cultural linguistic perspectives that emphasize the interplay between socially constructed meaning and culturally shared cognitive schemata (Berio, 2021; Halliday, 1977; Sharifian, 2017).

Although these results are consistent with the current research in cultural linguistics and pragmatics, they are to be viewed with reservations. The overall consistency of the findings with the suggested framework can be partly attributed to the analytical design of the study, which might result in confirmation bias. Since the cases have been chosen due to their relevance to cross-cultural miscommunication, they might be more prone to display patterns that can be accommodated by the Culturemic Framework, as opposed to questioning it. Consequently, the results imply that they fit the framework and do not provide conclusive validation. Similar concerns regarding interpretive bias and methodological constraints in qualitative and AI-assisted discourse analysis have been noted in prior studies (Feuston & Brubaker, 2021; Helm et al., 2024).

The results also indicate points of conflict with other views. According to some studies, interactional cues can sometimes be used to interpret communicative meaning effectively without the need to use complex multi-level frameworks. In these situations, the additional layers of analysis suggested here might not necessarily result in significantly different conclusions, and the question of analytical efficiency versus complexity arises. Nevertheless, the study is relevant to the current debate in socio-cultural discourse analysis as it suggests an organized method of relating cognitive, pragmatic, behavioral, and semiotic aspects of meaning. The Culturemic Framework can be interpreted as an addition to existing models instead of their replacement, as it provides a more profound insight into situations where cultural variability is a key factor. This position is consistent with recent work emphasizing the need for integrative and multi-level approaches in intercultural discourse analysis (Jones et al., 2025; Pishghadam et al., 2020).

Compared to the existing models, the current analysis has its strengths and limitations. Classical methods, including speech act theory and formal linguistic models, have been criticized for ignoring cultural variability, but still provide clear and generalizable analytical categories that are not necessarily reflected by more context-sensitive models. Although the Culturemic Framework is integrative, it is highly dependent on interpretive analysis, which can decrease consistency between various analysts or datasets. This brings up the issue of replicability and limits of analysis, especially when used outside of illustrative cases. This limitation reflects broader critiques of universalist pragmatic models and highlights the importance of culturally grounded approaches to meaning construction (Al Maaytah, 2026; Stadler, 2025). Equally, the conceptual use of the ADAR platform as an analytical support model presents both strengths and limitations. Although the tool helps to arrange patterns at various levels of discourse, the results are still based on assumptions regarding cultural and pragmatic structures. Although the confidence scores are useful as indicative measures, they are not statistically validated measures and can give the impression of precision that is greater than their methodological foundation. Moreover, the capacity of the ADAR platform to encode indirect, high-context, or culturally implicit meanings is limited, especially when the meaning is not directly coded in language. These challenges are consistent with prior research highlighting the limitations of AI systems in capturing culturally embedded and context-dependent meanings (Al Sharoufi & Al-Fadhli, 2025; Bender et al., 2021; Helm et al., 2024).

These findings are confined to the cases that are analyzed. Future studies ought to put the framework to the test in larger, more diverse datasets, multimodal forms of communication, and further hone the role of computational tools in the capture of culturally embedded meaning. It would also be more appropriate to pay more attention to inter-analyst consistency and methodological validation in order to make the framework more applicable in the wider empirical context. Such directions align with ongoing research

advocating for more robust, culturally aware, and empirically grounded analytical frameworks in discourse studies (Kanwal et al., 2022; Zhang et al., 2025)

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Data Availability

All data generated and analyzed during this study are included in this article. The ADAR-generated analytical outputs and supporting materials used in the analysis are available upon reasonable request from the corresponding author.

Ethics Declarations

This study involved no direct human participants or personal data collection. As the analysis was based on reconstructed case scenarios, no ethical approval was required. The authors declare full adherence to research integrity standards.

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