

The Hologrammatic Principle in TESOL: How Individual Language Tasks Reflect the whole Learning Process

Hernán Tena Cortés

Tiermoyle I atterag, Nenagh CO Tipperary, Ireland CP F45CA39 candidate to PhD in Complex Thinking, Multiversidad Mundo Real, Mexico

ABSTRACT: This article explores the pedagogical and epistemological implications of Edgar Morin's hologrammatic principle within the field of TESOL (Teaching English to Speakers of Other Languages). Grounded in the framework of Complex Thinking, the study analyses how seemingly minor language tasks in adult ESL instruction encapsulate and regenerate broader learning processes, including cognitive development, emotional engagement, and identity negotiation. Through an interpretative case study of synchronous online classes with Spanish-speaking adult learners, the research demonstrates that micro-tasks—such as pronunciation drills, grammar activities, and roleplays—function as holistic learning events that reflect the totality of language acquisition and personal development.

Findings indicate that each classroom task can serve as a pedagogical hologram, containing within it the recursive dynamics of communicative competence, cultural awareness, and learner agency. The study proposes a shift from conventional task-based instruction to a task-hologrammatic approach, supported by curricular innovation, complexity-informed assessment, and a reimagining of the educator's role. Limitations include the cultural specificity of the participant group and the study's confinement to synchronous virtual learning. Future research directions include longitudinal tracking, curriculum-level applications, and cross-cultural comparative studies. The article concludes that adopting the hologrammatic principle in TESOL fosters a richer, more humane educational practice aligned with the complexity of language, identity, and learning.

Keywords: Hologrammatic principle, Complex Thinking, TESOL, Micro-pedagogies, Communicative competence, Adult education, Identity and language learning, Task design, Holistic assessment, Epistemological complexity

1. INTRODUCTION

In the field of second language instruction, fragmentation has long been a prevailing paradigm. Traditional pedagogical models in TESOL (Teaching English to Speakers of Other Languages) often segment the learning process into discrete linguistic components such as grammar, vocabulary, pronunciation, and listening, as though each could be taught and mastered in isolation. This compartmentalisation is reflected in many curricula and assessment frameworks that privilege linear progression and mechanical repetition over integrative development. While such approaches offer a certain clarity in instructional design, they risk diminishing the rich, interconnected nature of language learning as a lived, embodied, and contextual experience.

The persistence of reductionist methodologies within TESOL has contributed to an instructional culture that values procedural knowledge over deeper cognitive and affective engagement. In adult education particularly, where learners bring complex identities, motivations, and life experiences to the classroom, the segmentation of language skills can result in a disconnection between the task and the learner's personal development. Moreover, these models frequently overlook the emergent, adaptive, and relational dimensions of learning. As a consequence, students may excel in performing isolated tasks but struggle to mobilise their knowledge in authentic communicative contexts that require emotional intelligence, cultural awareness, and adaptive thinking.

It is within this pedagogical lacuna that the theoretical contributions of Edgar Morin and the epistemology of Complex Thinking become especially pertinent. Morin's (2006) *hologrammatic principle*, which asserts that the whole is present within the parts and the parts reflect the whole, challenges educators to transcend simplistic dichotomies between micro and macro, skill and meaning, cognition and emotion. By reframing educational activities through this lens, language instruction is no longer seen as a series of atomised objectives, but rather as a dynamic interplay of knowledge, identity, and context. This approach fosters a more responsive pedagogy, one that acknowledges the learner as a holistic being embedded in multiple systems of meaning.

Applying Morin's hologrammatic principle to TESOL aligns with a broader movement towards integrative and reflective teaching practices. It invites educators to consider how seemingly minor language tasks; such as a pronunciation drill or vocabulary matching exercise, might encapsulate broader processes of learning, including the negotiation of identity, the cultivation of self-efficacy, and

The Hologrammatic Principle in TESOL: How Individual Language Tasks Reflect the whole Learning Process

the internalisation of cultural codes. As Rodríguez Arocho (2021) argues, a hologrammatic and transmethodical approach requires educators to design experiences that connect learners' cognitive, affective, and social dimensions, enabling them to reassemble fragmented knowledge into coherent, lived understanding. In this light, the TESOL classroom becomes a site for epistemological transformation, not merely technical instruction.

The purpose of this article is to explore the hologrammatic principle as both an epistemological foundation and a pedagogical lens within TESOL. While existing scholarship in language education has engaged with holistic approaches in general terms; such as communicative competence or integrated skills instruction, few studies have examined the philosophical underpinnings that allow for a truly complex model of learning. Drawing from Morin's Complex Thinking, this article seeks to illuminate how micro-level classroom tasks can reflect the totality of a learner's development and, reciprocally, how an understanding of the whole communicative act can inform the design and interpretation of individual tasks. This is especially relevant in adult second language education, where learners' sociocultural histories, emotional states, and cognitive strategies form a dense tapestry of meaning-making that cannot be disentangled from language acquisition.

By framing TESOL through the hologrammatic principle, this study aims to make two primary contributions. Theoretically, it offers a critical reconfiguration of second language pedagogy that moves beyond reductionist paradigms and towards a more integrated, emergent, and relational model of instruction. Practically, it provides concrete examples from an online adult ESL context, demonstrating how small-scale classroom tasks; often dismissed as peripheral or preparatory, can be rich with holistic significance. This dual emphasis on theory and application intends to support language educators in rethinking the design, facilitation, and assessment of language learning in ways that embrace the complexity of human understanding.

The article is structured as follows. Section 2 outlines the theoretical framework underpinning this study, focusing first on the key tenets of Complex Thinking and the hologrammatic principle, and then on the challenges posed by reductionism in conventional TESOL methodologies. Section 3 presents the methodological design, which is grounded in interpretative qualitative inquiry through classroom-based data. Section 4 discusses the results and interprets selected micro-tasks as illustrative of hologrammatic learning processes. Finally, Section 5 draws conclusions, highlighting the theoretical and practical implications of adopting a complexity-informed pedagogy in TESOL, as well as suggesting directions for further research.

2. Theoretical Foundations: The Hologrammatic Principle as Epistemology and Pedagogy

2.1. From Reductionism to Complexity

Throughout much of Western intellectual history, knowledge construction has been governed by a paradigm of fragmentation. Rooted in the Cartesian and Newtonian traditions, this epistemological model privileges clarity, separation, and dissection over ambiguity, integration, and relationality. Scientific advancement, particularly in the modern era, has been achieved through the isolation of variables and the compartmentalisation of disciplines, fostering a methodological culture in which wholes are understood only by dividing them into ever smaller parts. While this reductionist paradigm has yielded significant technological progress, its application to human systems; especially education, has often resulted in an impoverished understanding of complex, dynamic phenomena (Morin, 2006).

Within the domain of pedagogy, this fragmentation manifests in the compartmentalisation of knowledge into rigid curricular categories, in the disconnection between theory and practice, and in the tendency to privilege technical mastery over meaning-making. This orientation is particularly problematic in the context of second language education, where language is not merely a set of mechanical rules but a living, adaptive system that intersects with culture, identity, cognition, and emotion. When instruction isolates grammar from communication, or vocabulary from context, it fails to capture the relational essence of language learning. The consequence is a model of education that views learners as passive recipients of discrete skills, rather than as active participants in meaning-centred processes.

Edgar Morin's theory of Complex Thinking offers a profound critique of such epistemological simplification. At its core, complexity resists both the fragmentation of the real and the idealisation of totality. Instead, it proposes a third way: one that embraces the interdependence of parts and wholes, uncertainty and organisation, order and disorder (Morin, 1990). Complexity is not synonymous with complication; it refers to a way of seeing that recognises the multidimensionality and interrelatedness of all phenomena. From this perspective, any educational intervention that abstracts a task or concept from its systemic and contextual relations loses its pedagogical richness and ethical relevance.

In response to the limitations of reductionism, Morin advocates for a reform in the way knowledge is conceived, taught, and applied. He argues that "fragmented, compartmentalised, and disjointed knowledge" leads to "a blindness that makes us incapable of grasping the meaning of the whole" (Morin, 1999, p. 13). For educators, this implies the need to reimagine teaching as an act of connecting, contextualising, and integrating. Learning must be situated within a broader ecology of knowledge, wherein each concept or task reflects; and is reflected by the totality of the learning experience. This principle lays the groundwork for pedagogies that are not only interdisciplinary but also transdisciplinary and reflexive.

The implications of Complex Thinking extend beyond the theoretical and into the ethical domain of pedagogy. If, as Morin contends, knowledge is intrinsically uncertain, evolving, and situated within networks of interdependence, then teaching must acknowledge

The Hologrammatic Principle in TESOL: How Individual Language Tasks Reflect the whole Learning Process

the plurality of perspectives and the incomplete nature of understanding (Morin, 1990). This requires a shift from delivering predetermined content towards cultivating learners' capacities to navigate complexity, ambiguity, and contradiction. In the context of TESOL, this means recognising that language acquisition is not a linear accumulation of skills but a recursive and emergent process, shaped by learners' interactions with themselves, others, and their environments.

This reorientation also necessitates a revaluation of the learner. In contrast to reductionist models that treat the student as a passive object of instruction or as an isolated cognitive unit, complexity-oriented pedagogies see the learner as a holistic subject; an agent whose emotions, histories, and social realities are integral to the act of learning. As such, every classroom interaction must be understood not merely as the transmission of a skill but as a site of identity negotiation, cultural encounter, and emotional resonance. Morin's view dismantles the binary between the rational and the affective, urging educators to "reunite what has been disjoined: affection with reason, science with poetry, and theory with practice" (Morin, 1999, p. 80).

Complex Thinking, therefore, provides an epistemological foundation for a more situated, responsive, and humane education. It resists the notion that there is a single correct method or universal sequence for learning, advocating instead for contextual sensitivity and dialogical engagement. This perspective aligns closely with the pedagogical demands of adult second language learning, where the diversity of learner backgrounds defies uniform approaches. By acknowledging the multiplicity within each learner and within each act of communication, the complexity paradigm promotes inclusivity, reflexivity, and meaning-driven learning.

Ultimately, embracing complexity in TESOL invites educators to reconceive their role; not as distributors of isolated knowledge units but as facilitators of interconnection. It calls for an education that is not only about proficiency, but about transformation; not only about accuracy, but about meaning; not only about outcomes, but about processes. As the subsequent section will argue, the hologrammatic principle offers a specific operationalisation of Complex Thinking within language instruction, allowing educators to see how each task, however modest, can illuminate the whole of the learner's linguistic, emotional, and cultural development.

2.2. The Hologrammatic Principle in Depth

The hologrammatic principle, one of the foundational tenets of Morin's Complex Thinking, posits that not only do parts constitute a whole, but the whole is also inscribed within each of its parts (Morin, 2006). This principle challenges conventional understandings of structure and function, especially in epistemological contexts that view systems as merely additive or mechanical. In contrast, the hologrammatic perspective embraces a recursive, reflective dynamic: a single component is not an isolated fragment but a representation; albeit partial and contextual, of the entire system to which it belongs. As such, knowledge cannot be fully understood in fragments alone, nor in abstract totalities detached from the singularities that compose them (Morin, 1994).

This conceptualisation implies a radical shift in how interdependence and regeneration are understood. If each part contains a reflection of the whole, then transformation at the micro level has implications for the macro, and vice versa. For Morin, this interplay between the one and the many is not merely metaphorical but ontological and cognitive: understanding the individual necessitates an understanding of the collective, and the analysis of a phenomenon requires simultaneous awareness of its embeddedness within larger systems (Morin, 1990). Such a stance rejects both atomism and holism in their reductive forms, advocating instead for an epistemology of embeddedness and mutual constitution.

The hologrammatic principle does not function in isolation within Morin's framework but is deeply interwoven with the dialogical and recursive principles. The dialogical principle invites the co-existence of opposites—order and disorder, stability and change—while the recursive principle introduces circular causality, wherein effects can become causes and vice versa (Morin, 2006). Together, these principles establish a conceptual ecosystem in which knowledge is dynamic, interrelated, and self-generating. Within this triadic framework, the hologrammatic principle provides a structural logic: it reminds us that every educational act, no matter how specific, is always already a manifestation of broader pedagogical, social, and cultural dynamics.

In educational practice, the hologrammatic principle calls for a re-evaluation of the teacher–student–curriculum relationship. Rather than conceiving instruction as a linear transfer of knowledge from teacher to student, this principle implies that every pedagogical interaction is a site where the entire educational process is enacted. The student is not merely a recipient of curricular content but a reflection of the broader institutional, cultural, and epistemic systems at play. Likewise, each learning task; however small or routine, is embedded with traces of the educational philosophy, sociocultural values, and cognitive assumptions of the whole system. In this sense, curriculum design must move beyond the sequencing of discrete content areas and consider how each unit or task symbolically and functionally encapsulates the aims, values, and vision of the educational endeavour.

This shift has profound implications for pedagogical intentionality. Educators must learn to "see the whole in the part" and design learning experiences that reflect complexity, connectivity, and meaning. According to Tobón (2010), this requires a cognitive disposition oriented toward interweaving knowledge, contextualising content, and constructing bridges between theory and practice. The hologrammatic educator is one who can navigate and express these interrelations, guiding learners to perceive how their local actions and reflections resonate within broader processes of personal and collective transformation. Such a view positions both teaching and learning as recursive, generative acts that transcend the dichotomy between individual and system, and between content and experience.

The Hologrammatic Principle in TESOL: How Individual Language Tasks Reflect the whole Learning Process

By adopting the hologrammatic principle as a foundational pedagogical lens, educators cultivate not only a more integrative approach to knowledge but also a more humanistic one. It encourages the development of learning environments in which complexity is embraced, uncertainty is tolerated, and connections; between learner and content, self and society, are prioritised. This orientation is especially pertinent in TESOL, where language cannot be detached from culture, identity, and power relations. In the sections that follow, the application of this principle within an online adult ESL context will be analysed, demonstrating how individual language tasks, when approached through the lens of complexity, reveal and regenerate the whole process of second language acquisition.

2.3. Didactic Potential in Adult Language Education

The application of the hologrammatic principle in adult second language instruction reveals new pedagogical opportunities for designing and interpreting micro-tasks. In conventional TESOL frameworks, these tasks—such as short pronunciation drills, vocabulary gap-fills, or controlled dialogues—are often treated as isolated means for developing specific sub-skills. However, when reframed through the hologrammatic lens, such activities become mirrors that reflect broader learner identities, intentions, and developmental trajectories. A single task may simultaneously involve linguistic knowledge, cultural inference, emotional resonance, and self-expression, thereby challenging educators to look beyond surface-level proficiency and engage with the full complexity of the learner's communicative capacity.

This broader understanding of task design aligns with the unique characteristics of adult learners, who bring diverse biographies, goals, and affective landscapes into the learning space. Adult education is rarely a purely cognitive enterprise; rather, it is inherently intertwined with emotional needs, identity negotiation, and life transitions. As such, even small-scale classroom events may trigger profound learning processes. For instance, a listening exercise featuring culturally embedded dialogue may activate not only comprehension strategies but also intercultural reflection and autobiographical recall. From a hologrammatic perspective, these responses are not ancillary but central to the pedagogical function of the task, representing the learner as a multidimensional being whose knowledge construction is recursive and contextually embedded.

Moreover, adopting a hologrammatic approach enables educators to move beyond linear models that segment language into discrete skills. Traditional TESOL often compartmentalises instruction into grammar, speaking, writing, and listening modules, presuming that mastery in each domain will eventually culminate in communicative competence. Yet such sequencing frequently underestimates the integrative nature of language use. Real-life communication demands the simultaneous orchestration of phonological, syntactic, pragmatic, and emotional elements. Thus, hologrammatic micro-tasks; when intentionally designed, can replicate these naturalistic demands, allowing learners to rehearse the complexity of authentic interaction in structured yet meaningful ways.

As Tobón (2010) emphasises, the role of the educator within this paradigm is not merely to transmit knowledge but to guide processes of integration and contextualisation. Educators must develop the cognitive and ethical dispositions to construct learning scenarios where the parts reflect the whole, and where learners can interlace knowledge, emotion, and action. This demands a shift from technical instruction to what Tobón terms transmethodological pedagogy, in which teaching practices are not confined to predetermined methods but evolve dynamically in response to learner needs and contextual variables. In adult TESOL, this shift invites educators to design classroom experiences that are not only instructional but also existential; facilitating learners' development as language users, critical thinkers, and social agents.

3. METHODOLOGICAL FRAMEWORK

This study employs an interpretative case study design grounded in the principles of complexity. Unlike positivist models that seek to identify causal relationships through variable isolation, the interpretative paradigm focuses on meaning-making, contextual sensitivity, and the co-construction of knowledge between researcher and participants. In alignment with Morin's (2006) Complex Thinking, the case study method is particularly suitable for capturing the multidimensional nature of educational processes, where emotional, cognitive, cultural, and linguistic variables interact in dynamic and unpredictable ways. The aim is not to generalise findings across populations but to illuminate the holistic and emergent patterns that characterise language learning in authentic, situated contexts.

The case under investigation is a virtual learning environment: which offers synchronous English as a Second Language (ESL) instruction to adult learners from Latin America and the Spanish-speaking diaspora. It was chosen as a bounded system due to its pedagogical emphasis on integrative and communicative learning, as well as its commitment to learner-centred methodologies. The classes are delivered through digital platforms that enable real-time interaction, collaborative tasks, and reflective practices. These affordances provide a rich setting for exploring how micro-pedagogical tasks operate as holograms of the broader learning process. Participants in this study consist of twelve adult learners, aged between 28 and 56, with diverse educational and occupational backgrounds. All participants are native Spanish speakers residing either in Latin America or in diaspora contexts (e.g., Spain, the United States, or Ireland). The inclusion of this demographic reflects the unique sociocultural and emotional complexity that adult learners bring to the classroom. Participants voluntarily enrolled in a 10-week intermediate English course and provided informed consent to be part of this research, including the use of anonymised materials and classroom data for academic purposes. The study

The Hologrammatic Principle in TESOL: How Individual Language Tasks Reflect the whole Learning Process

adheres to ethical guidelines for research with human subjects, particularly regarding confidentiality, transparency, and participant autonomy.

Data collection was carried out through multiple sources in order to ensure triangulation and richness of interpretation. First, all virtual classes were video-recorded, allowing for detailed review of verbal and non-verbal interactions during task implementation. Second, participants were invited to submit reflective journals on a weekly basis, in which they commented on their personal experiences, emotional responses, and perceived progress. Third, pedagogical artefacts such as task instructions, rubrics, and learner outputs were analysed to examine how learning objectives were operationalised and interpreted. These three layers of data provided a comprehensive basis for exploring the hologrammatic dynamics of classroom tasks.

The interpretative analysis proceeded through an iterative, inductive process in which patterns were identified within and across data sources. Rather than applying predefined categories, the analytical framework emerged organically from the interaction between the research objectives and the lived experiences documented in the data. Attention was paid to the ways in which small-scale tasks revealed broader patterns of integration across linguistic, emotional, and social dimensions. This methodological orientation aligns with Denzin and Lincoln's (2018) view of qualitative inquiry as an act of meaning construction that is sensitive to context, voice, and positionality.

A key analytical criterion was the presence of hologrammatic coherence—that is, evidence that a given micro-task reflected or triggered larger learning processes. For instance, an oral exercise focused on modal verbs was analysed not only for grammatical accuracy but also for signs of pragmatic awareness, emotional engagement, and identity articulation. Instances where learners used the task to express personal dilemmas, ethical judgments, or cultural values were of particular interest, as these moments indicated that the task was functioning as more than a technical drill: it was operating as a mirror of the learner's total engagement with the language.

Additionally, emotional and social indicators were considered integral to the interpretative framework. Drawing on the insights of Vygotsky (1978), the analysis explored how interactional moments supported scaffolding, co-regulation, and learner agency. Gestures, hesitation, laughter, silence, or reformulations were treated not as distractions or noise, but as meaningful cues that offered insight into the cognitive and affective processes at play. These observations were cross-referenced with learner reflections to deepen understanding of how tasks were experienced, interpreted, and internalised.

The study also sought to identify moments in which learners articulated a sense of connectedness—to the task, to their peers, to the language, or to their own evolving identities. This involved close attention to metalinguistic comments, self-assessments, and retrospective accounts. Such data were particularly revealing in highlighting the recursive, non-linear nature of learning, where progress was not always marked by technical mastery but by increasing confidence, awareness, and sense of belonging within the learning process. These indicators were not treated as supplementary but as constitutive of the learning outcomes under investigation, reflecting the central premise of the hologrammatic paradigm.

To ensure the rigour and credibility of the interpretative process, multiple strategies were employed throughout the analysis. Triangulation across data sources—video recordings, reflective journals, and pedagogical artefacts—allowed for cross-validation and the identification of convergent themes. Prolonged engagement with the data enabled a nuanced understanding of the subtle affective and cognitive dimensions of learner behaviour, while peer debriefing with fellow educators was used to test emergent interpretations and guard against researcher bias. This process supported an interpretative validity that aligns with Lincoln and Guba's (1985) concept of trustworthiness in qualitative inquiry.

Furthermore, the study adopted a reflexive stance in the treatment of data. Rather than assuming a detached position, the researcher acknowledged their embeddedness within the pedagogical context, recognising that the act of interpretation is shaped by positionality, values, and pedagogical commitments. Reflexivity was operationalised through analytic memos, written throughout the coding process, which documented moments of uncertainty, contradiction, or theoretical tension. These reflective practices reinforced the coherence between the study's philosophical orientation; rooted in complexity, and its methodological execution.

The choice of a complexity-informed interpretative case study, rather than an experimental or quasi-experimental design, was also epistemologically motivated. Morin (2006) asserts that complex realities require investigative approaches capable of capturing interconnection, emergence, and contradiction. Linear, positivist models are ill-equipped to account for the recursive and hologrammatic nature of learning processes, particularly in adult language education, where lived experience and emotional resonance are inseparable from linguistic performance. As such, the methodology adopted here is not only methodologically defensible but also ethically and philosophically congruent with the object of inquiry.

In sum, the methodological framework for this study sought to enact the very principles it aimed to investigate. By foregrounding interconnection, learner agency, and the expressive power of micro-tasks, the study generated insights into how adult ESL learners experience complexity in the classroom. The next chapter presents selected findings from this inquiry, focusing on moments where the hologrammatic character of learning was most visible—instances in which the part illuminated the whole, and the whole reshaped the part.

4. RESULTS AND INTERPRETATION: FROM TASK TO TOTALITY

4.1. The Hologram within the Task

One of the most illustrative examples of the hologrammatic nature of learning emerged during a routine pronunciation activity focused on the differentiation between /ʃ/ and /tʃ/ sounds (e.g., “ship” vs “chip”). On the surface, the task was designed to improve phonological accuracy through repetition and auditory discrimination. However, as learners practised in real-time, the discussion evolved into a broader exploration of regional accents, stereotypes, and the cultural significance of speech patterns. One participant reflected in their journal that their pronunciation was often mocked in workplace interactions, which triggered both a sense of vulnerability and motivation to improve. This moment exemplified how a technical drill became a space for emotional self-regulation, cultural negotiation, and empowerment—capturing the learner not just as a speaker of English, but as a social actor navigating identity through language.

Similarly, a grammar task on conditional sentences (Type 2) unexpectedly generated insights into learners' interpersonal and ethical reasoning. The exercise asked learners to complete hypothetical statements such as, “If I were the president of my country, I would...” While primarily targeting grammatical form, the responses revealed a rich tapestry of personal values, political critique, and aspirations for social change. Learners not only used complex sentence structures accurately but also articulated perspectives on justice, education, and corruption in their home countries. These utterances demonstrated that grammar was not functioning in isolation but was embedded in a broader communicative act involving reflection, critique, and socio-emotional expression.

Such findings affirm the argument that micro-tasks—when designed with openness and interpreted through a complexity lens—can act as pedagogical holograms. Each task, though seemingly modest, encapsulates and regenerates wider dimensions of learner development. As Morin (1994) argues, the part is not a mere fragment but a potential window into the whole. In TESOL, this means that even minimal linguistic performances may contain traces of a learner's social identity, emotional state, and cognitive growth. Recognising this dynamic repositions the educator not as a monitor of discrete outputs but as a witness to emergent meaning-making processes.

These observations align with the claims of Kumaravadivelu (2006), who critiques method-based TESOL for failing to accommodate the lived realities of learners. Instead, he advocates for a postmethod pedagogy in which local knowledge, contextual responsiveness, and learner agency become central. The present study reinforces this position by demonstrating how seemingly mechanical tasks—when treated as complex systems—reveal the intricacies of human thought, feeling, and interaction. Through this hologrammatic approach, pedagogy becomes an act of unveiling, rather than enforcing; of co-construction, rather than delivery.

4.2. Interpersonal and Intrapersonal Dimensions

Beyond grammatical accuracy or lexical expansion, learner engagement in ESL tasks often revealed deeper reflections on identity, agency, and purpose. In one notable example, a storytelling activity prompted students to recount a personal success or failure using the past perfect tense. While the linguistic target was the proper sequencing of past events, learners used the opportunity to articulate formative experiences—such as emigrating, overcoming adversity, or achieving career milestones. These narratives illuminated not only learners' evolving control over tense and aspect but also their processes of self-definition and meaning-making in a second language. The classroom thus became a space where linguistic expression intertwined with personal history, supporting what Norton (2013) calls “investment” in the language learning process.

Equally significant were learners' expressions of empathy and intercultural awareness, often triggered by role-playing and dialogic activities. In a task involving simulated conflict resolution at a workplace, participants assumed roles as employees from diverse linguistic and cultural backgrounds. The responses, which initially focused on transactional language, evolved into discussions of cultural misunderstanding, stereotyping, and mutual respect. Learners reported in post-task reflections that they felt emotionally engaged, as the task mirrored real-life situations they had encountered as migrants or workers in multicultural environments. This resonance underscores the hologrammatic principle in action: the specific task generated interpersonal and affective insights that reflected larger social realities and identity negotiations.

Moreover, several learners noted that these activities felt personally meaningful and motivational in ways that transcended the immediate learning objective. In written reflections, students reported feeling “seen,” “understood,” and “encouraged” by tasks that allowed for authentic self-expression rather than rote repetition. These accounts support Kramsch's (2009) notion of the “symbolic competence” of language learners—the capacity not only to decode meaning but to construct it in ways that align with one's personal and cultural identity. The hologrammatic nature of the task lies in its capacity to reflect both the communicative and existential dimensions of learning, rendering language education an act of self-construction as much as linguistic development.

These findings challenge the assumption that emotional and interpersonal outcomes are ancillary to the pedagogical goals of second language instruction. Instead, they support the view that intrapersonal and interpersonal dimensions are integral to the learning process and can be activated through well-designed, contextually resonant micro-tasks. As Morin (2006) reminds us, any act of knowing is also an act of being, embedded in affect, context, and relation. In the TESOL classroom, this principle invites a reconceptualisation of tasks not as isolated tools for skill acquisition, but as dynamic sites of identity formation, emotional resonance, and cultural encounter.

The Hologrammatic Principle in TESOL: How Individual Language Tasks Reflect the whole Learning Process

4.3. Systemic Implications

The findings from this study suggest the need for a fundamental shift in how second language curricula are conceptualised and delivered. Traditional task-based approaches, while an improvement over grammar-translation or audiolingual methods, still tend to treat tasks as units of performance tied to pre-established learning outcomes. In contrast, a task-hologrammatic paradigm treats each activity not merely as an instructional step but as a site of epistemological, emotional, and identity-based negotiation. This reconceptualisation demands that educators design tasks with an awareness of their potential to activate complex cognitive-affective processes, not just to reinforce discrete linguistic competencies.

This pedagogical innovation implies a redefinition of the educator's role. Rather than being an authoritative transmitter of segmented knowledge, the teacher becomes what Morin (2001) terms a weaver of complexity: a practitioner who nurtures the emergence of interconnected learning processes. In this model, the educator is less concerned with correcting isolated errors and more attentive to how students make sense of their communicative experiences across emotional, cultural, and structural dimensions. Teaching thus becomes a recursive process in which observation, adaptation, and reflection guide the co-construction of knowledge. It aligns with Freire's (1998) notion of dialogic pedagogy, where understanding is shaped through mutual interaction rather than imposed unilaterally.

One of the most immediate applications of this shift lies in assessment practices. Traditional evaluation methods—whether standardised tests or summative rubrics—tend to privilege measurable outputs and often overlook the internal, process-oriented dimensions of learning. A hologrammatic approach to assessment would require rubrics that capture not only linguistic accuracy but also indicators of affective engagement, intercultural sensitivity, reflexivity, and learner agency. These dimensions might be reflected in self-assessments, narrative reflections, collaborative projects, or portfolios, all of which offer a richer, more complex picture of learner development. As Roman, R., Jr., & Nunez, A. M. (2020) argue, holistic assessment must account for the learner as a whole person, not merely a performer of language forms.

Adopting this systemic orientation may also influence institutional cultures of teaching and learning. Teacher training programmes, curriculum planning committees, and accreditation standards would benefit from integrating complexity theory into their frameworks, recognising that language learning does not unfold in linear or predictable ways. Instead, it is a dynamic, emergent, and deeply human process. As Morin (2006) notes, education in the 21st century must move “from teaching subjects to teaching contextualised complexity” (p. 114). This paradigm shift—if enacted systemically—has the potential to redefine TESOL as a space where human development is prioritised over mechanistic instruction, and where each pedagogical moment reflects the totality of learning as becoming.

5. CONCLUSIONS

Summary: The Hologrammatic Principle Unveils the Depth of Micro-Pedagogies

This study set out to investigate how the hologrammatic principle—central to Edgar Morin's Complex Thinking—could serve as both an epistemological lens and a practical framework for TESOL. Through qualitative analysis of micro-tasks within adult online ESL instruction, it became clear that language learning moments previously considered peripheral or mechanical often encapsulate complex, multidimensional learning processes. These moments revealed not only linguistic development but also emotional, cognitive, and sociocultural engagement. In doing so, the findings validate the premise that micro-pedagogies, when interpreted through a hologrammatic lens, hold significant didactic depth and conceptual richness.

The principle that the whole is present in the part, and that the part reflects and regenerates the whole, was consistently evidenced in learner narratives, classroom interactions, and task outcomes. Whether through a short pronunciation drill, a grammar-based reflection on ethical values, or a roleplay simulating intercultural conflict, each task became a microcosm of the broader educational process. This dynamic was not accidental but emergent from the interplay between instructional design, learner agency, and the complexity of communicative practice. As such, the study reinforces the value of treating each task as a site of holistic and integrated development.

The hologrammatic paradigm challenged reductionist tendencies that persist in traditional TESOL approaches—where skills are fragmented, learners are standardised, and tasks are narrowly instrumental. Instead, it allowed for an understanding of language learning as a generative and recursive process, where emotional resonance, cognitive construction, and identity formation coexist within seemingly simple pedagogical actions. As observed throughout the study, when educators approach these tasks with complexity awareness, they unlock latent dimensions of meaning that enrich both instruction and learner experience.

This reconceptualisation of micro-pedagogies does not require abandoning established TESOL methodologies but calls for a reframing of how those methods are interpreted and implemented. It encourages educators to design tasks not only for their linguistic objectives but also for their capacity to reflect human complexity, promote reflection, and stimulate interconnection. In doing so, the hologrammatic principle offers a transformative framework through which TESOL can evolve from a practice of linguistic competence to one of holistic development and epistemic empowerment.

The Hologrammatic Principle in TESOL: How Individual Language Tasks Reflect the whole Learning Process

Implications for Theory and Practice

One of the principal theoretical contributions of this study is the affirmation of Complex Thinking as a viable and necessary pedagogical stance in TESOL. Morin's (2006) epistemology, which foregrounds uncertainty, recursion, and multidimensionality, provides a conceptual framework that transcends linear, skills-based models of language acquisition. Through the lens of complexity, language learning is no longer viewed as a mechanical sequence of inputs and outputs but as an open-ended, relational, and context-bound process. This repositioning not only aligns with contemporary understandings of learner diversity and agency but also offers a robust foundation for reimagining curriculum, methodology, and assessment in second language education.

At the level of pedagogical design, this study demonstrates that the hologrammatic principle can be operationalised in concrete instructional practices. Educators can begin to construct classroom tasks with the awareness that even brief, focused activities possess the potential to activate emotional, ethical, and intercultural dimensions of learning. This requires a shift from standardised task templates to more flexible, dialogical engagements that are open to emergence and responsive to learners' subjectivities. As such, educators become designers of experiences rather than deliverers of content, facilitating conditions under which learners can discover meaning, reflect on identity, and negotiate knowledge.

TESOL, reconceptualised through a hologrammatic framework, is no longer merely a discipline concerned with the mastery of linguistic structures. It becomes a transdisciplinary space of multidimensional knowledge construction—where communication, reflection, and transformation are equally valued. This theoretical repositioning invites dialogue with fields such as intercultural education, psychology, and critical pedagogy, broadening TESOL's intellectual horizons and deepening its ethical commitments. It also reinforces the importance of learner-centred teaching, not as a methodological trend but as an ontological principle embedded in complexity.

Finally, the findings highlight the need for professional development initiatives that prepare educators to engage with complexity in meaningful ways. This includes cultivating habits of reflexivity, interpretative sensitivity, and contextual awareness. Teacher education programmes might incorporate modules on complexity theory, ethical decision-making, and integrative task design, enabling practitioners to see their work not as fragmented routines but as contributions to holistic learner development. In doing so, the classroom is reimagined not as a site of content delivery, but as a laboratory of interconnected human growth.

Limitations and Future Directions

While the findings of this study provide valuable insights into the hologrammatic nature of micro-pedagogies in TESOL, several limitations must be acknowledged. Firstly, the scope of the research was limited to synchronous online instruction, which, although rich in interactivity, may not fully reflect the dynamics of face-to-face or asynchronous learning environments. The affordances of real-time digital communication—such as chat functions, breakout rooms, and shared documents—undoubtedly influenced the nature of task implementation and learner engagement. Further research is needed to assess whether similar hologrammatic dynamics emerge in other modalities or blended formats.

Secondly, the cultural specificity of the participant group—Spanish-speaking adult learners from Latin America and the diaspora—limits the generalisability of the findings. Cultural narratives, communicative preferences, and educational values played a significant role in how learners engaged with tasks and expressed meaning. While the richness of this demographic added depth to the study, it also calls for comparative investigations involving learners from other cultural backgrounds. Such research could help determine the universality—or contextual dependency—of hologrammatic task dynamics across diverse TESOL settings.

Additionally, this study did not seek to measure learning outcomes in a conventional sense but rather to interpret the depth and complexity of learner engagement. While this aligns with the epistemological orientation of Complex Thinking, it may be less persuasive for stakeholders accustomed to quantifiable indicators of success. Future studies might consider integrating mixed-methods approaches that combine interpretative richness with measurable proxies for learning development, such as language portfolios or longitudinal progress tracking.

Looking ahead, there is considerable scope for expanding the application of the hologrammatic principle beyond the classroom. Researchers could explore how institutional cultures, assessment regimes, and teacher training programmes might be restructured around complexity-informed principles. Furthermore, collaborations between educators and learners in co-designing tasks could provide new insights into how the parts and the whole interact in educational practice. Ultimately, this study invites further inquiry into how small pedagogical acts—when viewed through the prism of complexity—can illuminate and transform the entire ecosystem of language education.

Future Directions

One promising direction for future research involves the longitudinal tracking of learner progress in hologrammatically structured TESOL environments. While this study captured rich snapshots of learner engagement, it did not extend over a sufficient timespan to examine how the recursive effects of micro-tasks manifest across weeks, months, or academic terms. Longitudinal studies would allow researchers to assess not only sustained linguistic development but also evolving identity constructions, shifts in learner agency, and emotional resilience. This approach could validate the lasting impact of complexity-informed pedagogies and help refine models of integrative curriculum planning.

The Hologrammatic Principle in TESOL: How Individual Language Tasks Reflect the whole Learning Process

Another avenue worth exploring is the deliberate application of the hologrammatic principle to curriculum design. While individual tasks were the focus of this study, the principle can equally inform how entire modules or programmes are conceptualised. A curriculum built on hologrammatic logic would avoid rigid, skill-based compartmentalisation and instead emphasise cyclical, thematic, and cross-functional learning experiences. Such a curriculum could enable learners to revisit core concepts through varied lenses, reinforcing their interconnections and deepening understanding. This perspective aligns with constructivist learning theories and could inform the development of flexible syllabi suited to diverse learner needs and learning contexts.

Lastly, future studies should undertake cross-cultural comparative investigations into how the hologrammatic principle functions in different TESOL contexts. While this research drew on the experiences of Spanish-speaking learners, there is significant value in examining whether similar patterns of emotional, cognitive, and identity-based integration emerge in other cultural settings. Comparative studies could illuminate how learners from varying sociolinguistic and educational backgrounds interpret, adapt to, or resist complexity in language learning. Such research would not only contribute to the validation of the hologrammatic principle across cultural boundaries but also inform more culturally responsive pedagogical models grounded in complexity theory.

REFERENCES

- 1) Denzin, N. K., & Lincoln, Y. S. (2018). *The SAGE handbook of qualitative research* (5th ed.). SAGE Publications.
- 2) Freire, P. (1998). *Pedagogy of freedom: Ethics, democracy, and civic courage*. Rowman & Littlefield.
- 3) Kramsch, C. (2009). *The multilingual subject: What foreign language learners say about their experience and why it matters*. Oxford University Press.
- 4) Kumaravadivelu, B. (2006). *Understanding language teaching: From method to postmethod*. Lawrence Erlbaum Associates.
- 5) Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE Publications.
- 6) Morin, E. (2006). *El método 1: La naturaleza de la naturaleza*. Madrid: Cátedra.
- 7) Morin, E. (2006). *El método 5: La humanidad de la humanidad. La identidad humana*. Madrid: Cátedra.
- 8) Morin, E. (1990). *Introducción al pensamiento complejo*. Barcelona: Gedisa.
- 9) Morin, E. (1999). *Los siete saberes necesarios para la educación del futuro*. París: UNESCO.
- 10) Norton, B. (2013). *Identity and language learning: Extending the conversation* (2nd ed.). Multilingual Matters.
- 11) Rodríguez Arocho, W. (2021). La educación hologramática y transmetódica: Una visión desde la complejidad. *Revista Educación y Ciudad*, 41, 69–84. <https://doi.org/10.46780/cunzac.v6i2.110>
- 12) Roman, R., Jr., & Nunez, A. M. (2020). Motivational factors that influence English as a foreign language learners at Quality Leadership University, Panama City, Panama. *Journal of Language Teaching and Research*, 11(4), 524–531. <https://doi.org/10.17507/jltr.1104.03>
- 13) Tobón, S. (2010). *Formación basada en competencias: Pensamiento complejo y diseño curricular*. Bogotá: ECOE Ediciones.
- 14) Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Annexes

Annex A: Sample Task Plans Illustrating Hologrammatic Design

This annex presents three representative micro-tasks implemented in the online ESL classroom, each designed with hologrammatic principles in mind. The tasks integrate multiple dimensions of learning; linguistic, affective, and socio-cultural, while fostering recursive meaning-making.

Task 1 – Pronunciation and Cultural Awareness

Objective: Improve discrimination between /f/ and /tʃ/ sounds.

Instructions: Students listened to minimal pairs (e.g., "ship" vs "chip") and participated in roleplays simulating customer service dialogues.

Embedded Dimensions:

- Cognitive: Phonemic awareness and contextual vocabulary.
- Affective: Addressed learner anxiety over accent and perceived intelligibility.
- Cultural: Elicited reflection on accent-based prejudice and self-perception.

Task 2 – Conditional Grammar and Ethical Reasoning

Objective: Practise Type 2 conditionals in imaginative contexts.

Instructions: Learners completed prompts such as, "If I were the president of my country, I would..." and shared answers in small-group discussions.

Embedded Dimensions:

- Cognitive: Mastery of conditional syntax.
- Intrapersonal: Expression of values, beliefs, and social critique.

The Hologrammatic Principle in TESOL: How Individual Language Tasks Reflect the whole Learning Process

- Social: Fostered empathy and engagement with peers' diverse perspectives.

Task 3 – Intercultural Conflict Resolution Roleplay

Objective: Develop pragmatic competence in workplace communication.

Instructions: Students enacted scenarios involving miscommunication between culturally diverse colleagues.

Embedded Dimensions:

- Linguistic: Use of modal verbs, negotiation language, and politeness strategies.
- Cultural: Discussed stereotypes, diversity, and workplace norms.
- Reflective: Linked task experiences to personal migrant narratives.

Annex B: Learner Feedback Excerpts (Translated and Anonymised)

The following anonymised excerpts were extracted from weekly reflective journals submitted by participants. They illustrate the affective, metacognitive, and identity-based responses elicited by the hologrammatic tasks.

- **“For the first time, I felt that my opinion in English had value—not just grammar, but my thoughts about justice and leadership.”**

– Participant 03, reflecting on conditional task

- **“I noticed that I judge my own accent too harshly. In class, I realised it’s part of who I am. I can improve, but I don’t need to hide.”**

– Participant 09, after pronunciation activity

- **“It reminded me of a time when a colleague misunderstood me because of language. It felt real and emotional to play that situation again and learn from it.”**

– Participant 06, on intercultural roleplay

- **“I cried after the story activity. I didn’t expect to feel so many things in an English class.”**

– Participant 12, after narrative task using past perfect

These testimonies validate the interpretative findings by demonstrating how micro-tasks evoked holistic learner engagement and resonated beyond technical proficiency.

Annex C: Assessment Rubric Incorporating Complexity Indicators

This annex includes a sample rubric used to evaluate learner performance in a storytelling task. The rubric was designed to capture complexity across three dimensions:

Criterion	Description	Scale (1–5)
Linguistic Accuracy	Grammar, pronunciation, and vocabulary use appropriate to task level	1–5
Affective Engagement	Evidence of emotional investment, personal relevance, or empathy	1–5
Reflective Depth	Demonstrated awareness of cultural context, values, or self-perception	1–5
Coherence and Organisation	Logical flow, clarity of ideas, and effectiveness of structure	1–5
Interactional Fluency	Ability to respond to peers, maintain conversation, and adapt communicatively	1–5

Scores were accompanied by qualitative comments to provide formative feedback. This rubric operationalises the hologrammatic framework by valuing the integration of form, meaning, and personal growth.