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MATERIALITY AS A SOURCE OF PERIPHERAL EFL EPISTEMOLOGY: TRANSFORMATION, EMBODIMENT, AND TRANSDUCTION

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Abstract
Shifted strategies of English language teaching (ELT) are of great importance due to multilingualism characterizing the world. This study argues for the concept of language materiality to address transformation, aesthetic, embodiment, and transduction from language use, allowing students to respond to language learning rooted in their local epistemology. It adopted the frameworks of scalar analysis and transduction to analyse the epistemology of the Dayak students' narratives in making sense of English. The findings show that materiality affords learning by allowing students to transform and embody English in their indexicality and aesthetic creativity across different modes. This study demonstrated that the embodiment of students' physical realities empowers students to engage in meaning-making beyond a named language, and a journey of their epistemology for language ownership. Additionally, even though the primary focus of this writing is only on the process of using materiality in student engagement in ELT classes, the outcomes of students' activities go beyond the activity itself and demonstrate a progressive relationship with ELT classrooms by producing positive learning outcomes in practice exercises.

Keywords: embodiment, materiality, peripheral EFL epistemology, transduction, transformation

Introduction
As the realms of multilingualism have defined English language teaching (ELT), complex relationships between learners' first languages and cultural backgrounds are inevitable. To address these complexities, it is essential to consider interdisciplinary approaches that combine linguistics with other fields, such as anthropology. A recent study by Schvarcz and Warren (2025), for example, has set an important case of multilingualism amidst restricted socio-political contexts in the USA and Israel through the impactful adoption of linguistic landscape. The study has promoted a rich multimodal environment in fostering multilingual voices, perpetuating diversity and equity in education despite the constraints of hegemony of English. Furthermore, the consequences of unequal English required a different

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model of teaching adjusted to the region that strives to increase equity and non-discrimination in ELT (Tupas & Weninger, 2022). A model of teaching adjusted to the region in this context is the model of teaching matches the peripheral area characteristic that is essential to create language teaching that respect the local learning culture and is pertinent to the local linguistic environment to focus more on the knowledge of how rather than relying on Eurocentric hegemony in English language teaching (Canagarajah, 2014; Terauchi et al., 2019).

To support the case mentioned previously, we showcase English language teaching in a peripheral context, specifically in West Kalimantan, Indonesia, where the Dayak tribe, indigenous communities with distinct languages, cultural practices, and forms of social organization, is located. We aim to develop a renewed epistemological approach to English language teaching that acknowledges the social and cultural tapestry of the region by creating the ontogenesis of 'materiality becoming' by emphasizing the process through transformation, aesthetics, and embodiment (Cavanaugh & Shankar, 2017; Li, 2009). The Dayak face significant challenges for learning English as a compulsory subject in secondary education with their geographical isolation and limited access to technology. It is between the tension of their peripheral contexts and English as a global enterprise that we want to demonstrate a materiality-based paradigm drawing on students' norms and experiences.

In this article, we argue that language materiality or the materiality of ethnic group that demonstrates meaning, function, and creation of value of language can be leveraged to create meaningful connections between language, culture, and identity in English language teaching (Cavanaugh & Shankar, 2017). By recognizing the legitimacy of students' physical and affective realities, we intend to help students transform English into a language that belongs to them. The site of English learning is based on three fundamental processes: *transformation*, which is the ongoing process through which language and material objects change across social contexts, modes, and systems of circulation; *aesthetics* describes how people evaluate language's form, sensory qualities, and expressive consequences influenced by society and culture; and *embodiment* as the ways of human bodies and bodily activity produce, experience, interpret, and give meaning to language. They imply that all available materials of ethnic encompasses semiotics resources as well as the relationality of human and non-human agents (Canagarajah, 2024).

Two theoretical threads are synthesized as our framework: scalar analysis as a category of practice discussed by Canagarajah and De Costa (2016), and transduction by Rodríguez-Ortega (2024). The two threads lay foundations for which meaning-making decoding occurs at the very individual and institutional dynamic operations beyond predefined ELT traditions. Scalar concepts allow learners and teachers to operate their indexicality through a layered analysis of spatial and temporal dimensions of contexts, and transduction complements spatial and temporal affordances by transforming and remaking meaning across modes. Studies in applied linguistics and semiotics have advanced our understanding of embodiment as a dynamic process where the body actively engages material elements to generate meaning. Therefore, further research on materiality in ELT is required to understand how students in ELT classrooms get insight from materials ethnic by highlighting the transformation, embodiment and transduction process.

Accordingly, the research questions in this paper are as follows:

1. How do students engage with culturally significant materials as resources for English learning in a peripheral EFL classroom?
2. How do students transduce meanings from cultural materials and embodied experiences into English learning?

Language materiality in ELT

Language materiality sheds light on how the nature of materials in the environment serves as a facilitating medium of learning English that is useful to create new insight for learners gaining knowledge in English learning (Cavanaugh & Shankar, 2017; Kim, 2023). Language materiality pertains to how the nature of materials in the environment serves as mediums that facilitate communication in learning English. Underlying language materiality are the aspects of language materiality such as *transformation, aesthetic, and embodimet* of the alteration of meaning from its original form. This notion of language materiality in ELT is about language materiality which is linked with educational settings as a cognitive strategies and affective states to help students success in learning English as a novel language (Cavanaugh & Shankar, 2017; Hayakawa et al., 2021). The aspects mentoned previously is used to describe an activity that precedes the alteration of something from its original form, and it is also related to intertwining the linguistic and the material (Cavanaugh, 2017).

The idea mentioned previously through the language materiality aspect refers to a performative moment, happening at the start, occasionally, and at the conclusion. It involves the arrangement of goods that can be seen as an aesthetic (Thurlow & Haudenschild, 2022). It can be argued that without material, the body movement might be inadequate in making meaning and would not be developed since meaning arising from brain and their conditioning, as well as human variability experience and practice in producing cultural differences (Cavanaugh & Shankar, 2017). It means that material as an experience requires the person experiencing the work to operate on an open platform with a high level of visibility (Bukdahl, 2021). Language materiality in this situation closely intertwines the linguistic and material by the way items are arranged in what might be considered an artistic manner (Cavanaugh, 2017; Thurlow & Haudenschild, 2022). This visibility is borrowed from the concept of material art (Bukdahl, 2021) that encourages students to transform meaning across modes and semiotics resources, eventually offering a critical locus of competence (Sugiharto, 2022). Shifting language from one context to another is no longer perceived as mechanistic language manipulations, but as a journey of language ownership (Eisenlohr, 2017).

Building on the previously mentioned body movements, the discussion also addresses embodiment as an element of language materiality. Embodiment in this writing refers to the way personal understanding relies on existing in a world that is intertwined with one's body, language, and social background to create meaning. Sugiharto (2022) mentions that integrating cognition with the body, material worlds, semiotic resources, and spaces that establish assemblage serves as the critical locus of competence, while the material world is considered only to play a passive role in contributing to meaning. The body relies on other elements (material) to make meaning through embodiment in objectification from word to thing or things to word. It means that material as an experience requires a person

experiencing the work to operate on an open platform with high visibility (Bukdahl, 2021).

In addition to the previously identified element, we also argue there is another facet referred to as transduction. It forms a part of transformation, aesthetic and embodiment. This aspect introduces a creative and significantly impactful dimension to language by continuously shifting it from one context to another (Eisenlohr, 2017). The concept of transduction within the context of transformation, aesthetic expression, embodiment, performative experiences, and transmodal production carries significant indexical meaning (Cavanaugh, 2017).

Transformation and embodiment

The term transformation in this writing refers to an activity that precedes the alteration of something from its original form. The progression is also known as a performative moment that occurs toward the beginning, at times, and the end. This progression involves several bodily skills and sensing until finally knowing the length is and going through the process (Cavanaugh, 2017). Cooking process, for example, illustrates how language is communicated through media, such as speaking and materials needed in cooking, beginning with the physiological process and then transforming the materials to move them from one stage to another. The approach includes performative moments focused on the opportunity to reflect on the communication process. Cavanaugh (2017) asserts that this linguistic activity from its context has affected reference or what are known as indexical consequences due to the possibility of interaction between actors and their surroundings. Except in cases where the executor requests an alternative viewpoint, the performative activity exemplified in the cooking process above is rarely expressed verbally. But in doing so, it requires communicating with a particular media related to its performative abilities. It involves participant alignment, which is necessary for a performative process to function well and result in transformation, whether it is the enactment or modification of social interactions. The arrangement of items that can be seen as an aestheticization of practice, such as the careful preparation of meals, the rigorous order of dishes, and so on, may also be part of the process by turning basic needs into expressions and this idea is used in the classroom to support students' learning (Mondada, 2014; Thurlow & Haudenschild, 2022).

Embodiment in language materiality is about individual knowledge depends on being in a world inseparable from their bodies, language, and social history to make meaning (Varela et al., 2016). This viewpoint is further strengthened by Sugiharto (2022) who mentions that the critical centre of competence is the integration of cognition with the body, material worlds, semiotic resources, and places that create assemblage; the material world is only thought to contribute passively to meaning. It can be argued that without material or the absence of the materialization process, body movement might not be sufficient in creating meaning and would not develop since meaning is derived from the brain and its conditioning as well as human variability, experience, and practice in creating cultural differences (Cavanaugh & Shankar, 2017). Through embodiment in objectification from word to thing or things to word, the body depends on other aspects (material) to create meaning. It is a kind of relationship between objects that clarify being social is a type of connection between objects (Latour, 2005). This implies that in order for material art to be experienced, both the artist and the

viewer must work on a public, highly visible platform (Bukdahl, 2021). The body is one of the material components that make up practice, along with other entities, since corporeal acts of doing and speaking are essential to the practice's implementation and continued existence (Olohan, 2021, p. 35). The preconscious experiences of the moving body and its unmediated encounter with affordances of the social, cultural, and material environment impact perception, cognition, intentionality, and action (Witte, 2023). One could argue that embodiment and materiality are traits of impromptu social interaction or behaviours and practices in particular situations (Nevile et al., 2014). Furthermore, Canagarajah (2024) states that language is influenced by a variety of social and material settings. Therefore, communication is always embodied and shaped by material, historical, and geographic factors.

The idea of embodiment is closely related to language materiality. The human brain functions in a live body while continuing to interact with the physical, social, and cultural world which is known as embodiment, and the body is meant to accomplish shared knowledge (Johnson, 2017; Kasper & Kim, 2015). According to Toohey (2018), "learning involves the body and is embodied" (p.6). Language and materiality depend heavily on embodiment, which is just one aspect of materialism among many (Bucholtz, 2017). Perception arises in the context of action, particularly when an organism interacts with its surroundings, according to embodied meaning and cognition. Furthermore, Clark (2008) mentions a link between embodiment with the active body, the negotiable body, and material symbols that influence an individual's cognitive extension. Embodies are used with indexical verbal descriptions like gestures to particular objects (Richardson & Stokoe, 2014). An active body in this case is one that can move freely and purposefully in its environment or what is known as unrestricted movement. Because an embodied agent's morphology, material, and surroundings take over a specific portion of brain processing, each movement may contribute to meaning (Clark, 2008). Morphological computation is the process by which the embodiment, through the active body, assumes some of the brain's tasks. To achieve its objective, for instance, an adult must learn to use initially unresponsive hands, limbs, and legs. Active sensing, or the attempt to create sense, is also connected to embodiment. According to Sugiharto (2022), a person's physical well-being can have a significant impact on the social norms they adhere to and their everyday activities, and the body continues to be a substantial source of knowledge and a key instrument for establishing social roles.

Looking upon the notion of a negotiable body in embodiment, Clark (2008) mentions that human minds and bodies are essentially open to episodes of profound and transformative restructuring in which physical and mental can be incorporated into the thinking and acting system. Furthermore, Clark (2008) highlights the connection between embodiment and material symbols, viewing language as a type of cognitive scaffolding that transforms the mind. It is a persistent symbolic construction whose crucial role in fostering reason and thought is still shockingly poorly understood. The material symbol itself affects behaviour by offering a new target for selective attention and a new point for action control, rather than by serving as the key to a rich inner mental representation. All meaning and cognition can be understood as the result of continuous physical and social interaction with the environments which are simultaneously interpersonal, cultural, and physical as

well as the ways in which interaction and education are facilitated (Kasper & Kim, 2015). Thus, rather than knowledge as the result of certain forms of cognition, the focus is on knowing as an experiencing activity (Johnson, 2017). What we know comes from engaging in activities or interacting with our surroundings through physical practice. It is in line with Atkinson (2010) that understanding the embodied mind entails investigating it in the world, and comprehending the mind entails studying it in the body. Embodiment is utilized to facilitate language acquisition. Embodiment resources include nonverbal bodily behaviours like gesture, posture, head movement, gaze, face expression, and body movement (Hall, 2019).

Scalar analysis and transduction

Scalar analysis, as proposed by Canagarajah and De Costa (2016) offers a framework for understanding the complex relationships between language, context, and social practices. It recognizes the importance of linguistic, social, spatial, or temporal sources that situate English learning in local experiences as the grounds for making, negotiating, and connecting scales, rather than complying with particular scales (like standard English) as the fixed ones. Transduction, as discussed by Rodríguez-Ortega (2024) , complements the scalar analysis by providing explanations on how the complexities of negotiated scales are converted into new semiotic and learning potentials through actions. Transduction has important indexical value when it comes to transformation, artistic expression, embodiment, performative experiences, and transmodal production (Cavanaugh, 2017).

Working with these two theories is of profound importance since the two concepts illuminate different but related aspects of language learning. Scalar analysis traces various learning resources while transduction identifies the transformation of those resources into new meanings, identities, and forms of English practice. They provide a dynamic model of viewing English learning not as the static manifestations of macro level forces but as negotiated processes through the adoption of local multimodal actions to create new forms of English. Thus, they create a nuanced and critical understanding of how students and teachers voice their English narratives from their very periphery context through the alignment with assemblages of materials within their cultural norms. The alignment demonstrates language as a creative and incredibly powerful dimension continuously changing from one context to another (Eisenlohr, 2017).

Method

Design

The study adopted instant ethnography as the method to capture students' engagement with materiality. Instant ethnography focuses on the ways in which meaning is created and experienced in the here-and-now, in the ephemeral moments of the everyday (Deumert, 2018). The instant ethnography immediately acknowledges vital observations to develop a more realistic understanding of users, evaluation of new products, and overall iterative design. It is helpful to discover the knowledge that was embedded within a culture or community (Lodico et al., 2010). The writers worked more extensively with the students in school for both socialising with students and gathering data to gain meaning from the culture and social systems being investigated.

Setting and participants

The study was conducted at a remote junior high school in West Kalimantan, Indonesia, which is mostly home to Dayak people who identify deeply with materials and ritual activities. Sixty-four students from the first-grade class participated in this study. The first-grade students, who are typically 11 or 12 years old, were picked as they had less exposure to English and had never studied it in elementary school. The students were divided into two classes, each consisting of thirty-two students. Additionally, all participants involved in this study provided their informed consent before taking part in the research. They were given a thorough explanation of the study's goals, methods, and their freedom to discontinue participation at any moment to ensure that participation was completely voluntary and founded on informed consent.

Data sources

The data focused on the learning of English expressions involving their material realities and being captured through videos and images through the frameworks of scalar analysis and transduction. Two primary data sources served as the data for the study: the video-taped transcripts and pictures of the students' interactions with materiality.

Data analysis

Scalar analysis by Canagarajah and De Costa (2016) was employed to understand the complex relationships between language, context, and social practice of English in Dayak contexts on three levels of scalar analysis: *micro, meso,* and *macro* scales as relational and negotiated, not hierarchical concepts. Then, transduction by Rodríguez-Ortega (2024) complemented the scalar analysis by investigating how the participants used the spatial and temporal scales. The analysis was grounded in video-taped transcripts of classroom lessons and photographs of students' interactions with material objects**.** The writers repeatedly watched the videos, transcribed relevant segments of talk and action, and examined the photos alongside those transcripts. Using scalar analysis, each episode was interpreted in terms of how micro, meso, and macro scales were invoked and connected. Using transduction, the same episodes were examined for how meaning shifted across modes and time to provide a detailed, practice-based account of how English was enacted, understood, and reworked in Dayak educational and social contexts.

Findings and Discussion

Findings

Scalar analysis: Creating trans-spatial and temporal learning

This section presents the scalar and transduction analysis of the teacher and students' engagement in learning four English expression*s welcome, it's a pleasure to meet you*, *please have your meals, please have your drink* from the lenses of scalar analysis and transduction. The lesson plan was created containing the Dayak' ritual for accepting a newcomer in their house to cultivate the transformation of a named language, called English into the students' narratives. With the use of Dayak materiality in the lesson plan, English learning was experienced and indexed as the students' culture, rituals, and norms. The materiality utilized in the lesson consisted

of an assemblage of three objects which symbolize the welcoming ritual of a newcomer into the Dayak society: a) a set of a bamboo and Mandau (the traditional sword), b) welcoming dance and rinyuank leaves, and c) a newcomer (the teacher) dressed in an artistic local attire. The assemblages of the materiality serve as narratives of ELT.



Figure 1. The bamboo is put horizontally and accompanied by rinyunk leaves

Figure 1 shows that the bamboo was placed horizontally around a ritual area symbolizes a protective barrier. This setup marks a sacred boundary to ward off evil spirits and ensure the safety of participants. Guests or participants cut through the bamboo with a mandau (traditional sword) to enter, signifying divine protection and hospitality under the motto "*Tamu adalah Raja*" (guests are kings).



Figure 2. Mandau and rinyuank leaves used in the ritual

Figure 2 displays the mandau (traditional sword), tameng (shield) as ceremonial instruments symbolizing protection, honor, and communal strength, and rinyuank leaves as a symbol of protection, healing, and spiritual mediation. The guests symbolically cut through the horizontal bamboo barrier with the Mandau while the Tameng is presented or used in dances.

Drawing on the micro, meso, and macro perspectives, the following discussion explains how learning can be created as a trans-spatial and temporal process. The perspectives make it possible to understand learning not as a fixed activity confined to one classroom or location, but as a dynamic process shaped by

movement, connectivity, memory, and changing social conditions as it is discussed as follows.

Transformation of English into an assemblage of physical realities

The micro scale began by anchoring English learning into the students' physical realities. The setting was a classroom ready to welcome a newcomer, the teacher dressed in an artistic local attire. The newcomer had to go through a ritual before being welcomed to the class community. One of the students prevented the teacher from entering the territory of their class by his stop gesture and crossing bamboo. The horizontal placement of the bamboo alongside the rinyuank leaves strongly signalled that entry into a specific area was prohibited without a ritual of acceptance.



Figure 3. Welcoming ceremony performed by teacher and students

Figure 3 depicts a classroom role-play activity simulating a cultural ritual involving a symbolic boundary-crossing process. Students use hand signals to enforce a "stop" gesture, representing communal vigilance, while the teacher as guest must participate in a bamboo-cutting ritual to gain entry, highlighting transformation through adherence to tradition.



Figure 4. Teacher received the mandau in the welcoming ritual

Figure 4 shows a teacher received the Mandau to cut the horizontal bamboo demonstrates a symbolic transformation from outsider to protected insider, crossing

the sacred boundary into communal harmony. This act embodies transmodal production by shifting modes from verbal hospitality to gestural enactment (cutting), material engagement (bamboo, Mandau), and performative ritual remixing cultural signs into embodied meaning-making. The bamboo indexed a boundary between the teacher as a newcomer and students as insiders in their class territory. The boundary immediately communicated the shifting power dynamic from student/teacher to host/guest relationship. Reinforcing the indexical meaning of the bamboo, one of the students signalled a stop gesture, creating an assemblage of the bamboo and gesture. Furthermore, the host's act of handing a Mandau (traditional sword) to the guest symbolizes openness, trust, and acceptance toward the visitor, and this gesture embodies Dayak hospitality. Guest is considered King adhered to the principles of openness, ensuring protection from evil while fostering genuine bonds. It reflects ancestral wisdom for safe communal interactions. This assemblage grounded and transformed English learning into the students' physical realities. They did not only set an aesthetic environment for learning but also fundamentally scale down the foreignness of English. As a result, the class became the students 'space which afforded trans-spatial and temporal learning.

Embodiment of English through the ritual of "the insider"

The meso-scale further mediated the students' physical realities as the assemblages of bamboo, dance, and the traditional weapon called Mandau with English learning. The assemblages transformed the classroom into a cultivated cultural setting where the students lived out their experiences. During this event, the guest was presented with a Mandau (a traditional Dayak weapon), which they use to cut bamboo before returning it to the host. Once the guest successfully cut the bamboo, he was welcome into the community and embraced as a new member. The bamboo and rinyuank leaves were combined to create a spiritual significance. The student then lifted the bamboo and the dancers performed to signify this acceptance, demonstrating that the guest was now a member of the community. The village entrance gate has a fresh green bamboo pole positioned horizontally across it as a symbolic barrier.

A Mandau, a traditional Dayak blade, is used to cut it by guests, who are frequently dignitaries or tourists. To ensure the guest's safe travel, divine protection, health, longevity, and success, the smooth cutting symbolizes tearing down boundaries and banishing evil spirits, nightmares, or impediments. A challenging cut conveys doubt about the visitor's intentions and reflects Dayak values of protecting oneself while being receptive to well-meaning guests. Traditional music is also part of the ceremony. Scaled at a host/guest power relation, the bamboo lifting indexed membership and acceptance of the newcomer, their teacher as the insider. They engaged in cultured and respectful exchanges of English learning, rather than in authoritative instructions to repeat, memorize, and test English. Within this emic perspective, the students embodied, assigned meanings to, and processed the English expressions into their repertoire meaningfully.



Figure 5. Teacher cut the bamboo in the role-play

After receiving the Mandau, the teacher cuts the horizontal bamboo to symbolically break the protective barrier. Learners observe the shift from "outsider" to "protected insider," modelling pragmatic competence of verbal invitations evolve into embodied action (cutting), indicating the transformation in cross-cultural exchanges.



Figure 6. Students are dancing in welcoming teacher

Figure 6 shows the classroom activity continues with the researcher who acts as teacher successfully completing of the bamboo-cutting ritual grants entry, followed by celebratory dances that embody communal joy and acceptance. The students' happiness through dance signifies a profound shift from restriction to inclusion, highlighting transformation and embodiment in traditional welcoming practices.

Connecting to global narratives of English

The students and the community guest, as their authoritative, made sense of the English expressions (*welcome, it's a pleasure to meet you*, *please have your meals, please have your drink*) at the macro scale by re-scaling global ideologies of those expressions within their own narratives. The scaling connected them to the global world, yet rooted in their lived repertoires. The students produced the expressions: "*Welcome* ", "*It's a pleasure to meet you"*, "*Please have your meals", "Please have your drink",* upon the ritual of accepting the teacher as their guest

community. The expressions learned glided in harmony with their setting since the rituals with the materiality transformed the expressions, not vice versa and far from cognitive attempts per se. English has several meanings that are negotiated at different social and geographic levels, it does not have a single set meaning. The expressions mentioned in the example show English expressions indexed global hospitality but were re-scaled locally meaningful. As a result, the expressions carved distinctive learning gains because of pairing them with their Dayak rituals, re-scaling the macro global expressions and leveraging their micro scales. When practiced, those English expressions were no longer laden with a macro-indexicality of "Westernization," rather their Dayak indexicality.

Transduction from cultural materials into English learning

After working with the material form, the students expressed the meaning through a different mode. They transferred the spatial and temporal scales of their materiality to the English expressions in different modes. In so doing, they re-configured English into their context (Eisenlohr, 2017). The re-configuration played a profound aspect since the first entry of learning was constructed by live experiences that were embodied in the English expressions. For example, the first expression "*Welcome"* was reconfigured based on the rhythmic synchrony of the bamboo lifting and dance with the rinyank leaves. These assemblages served as the affective charge, registering the expression "*Welcome"* to the brain. It presented a lived experience, not translating.

Proceeding with the guest welcoming customs, the students showed respect and enjoyment for the guest ("*It's a pleasure to meet you"*), expressed hospitality by offering meals (*"Please have your meals"*) and drinks ("*Please have your drink"*). They showed their need for the teacher's instruction with the English expressions for the sake of completing their custom in welcoming the guest, not for memorizing them. The following excerpt illustrates how transduction takes place when the materiality was reinvented in verbal expressions.

Student 1 : Apa bahasa Inggrisnya selamat makan?
(What is in English selamat makan?)
Teacher : Have your meal please. Can you repeat together?
Have your meal please.
Students : Have your meal please.
Teacher : Ada lagi pertanyaan? (Any more question)
Student 2 : Apa bahasa Inggrisnya Silahkan Minum
(How to say Silahkan minum?)
Teacher : What is "minum" in English?
Teacher : Have your drink please.
Students : Have your drink please.

After participating in the classroom ritual ceremony, a student (S1) turned to the teacher and asked, what *selamat makan* in English is. The student asked this question because he had just experienced the ritual as a spatial practice imbued with materiality. The teacher modelled the English equivalent by saying, "*Have your meal, please",* then invited the class to repeat it chorally: "*Have your meal, please".* After the group repetition, the teacher reinforced the phrase once more, ensuring clear pronunciation, and the students repeated the sentence after the teacher. In this

conversation, the teacher checked for further questions by asking, "*ada lagi pertanyaan?*" (Any more questions?). As a response, a student (S2) asked in Indonesian, *Apa bahasa Inggrisnya silahkan minum?* (How to say *silahkan minum* in English? The teacher elicited vocabulary by asking what '*minum'* in English is. The teacher provided a polite sentence model "*Have your drink, please"*. All students (Ss) repeated the full sentence, "*Have your drink, please"*, after the teacher.

The analysis shows that spatial and temporal learning from the perspectives of scalar analysis and transduction have important roles in understanding English learning. As Coupland and Holmes (2017) mention, materiality served as a metacultural transformation. It associates things or products with named that is assumed to give a measure of distinctiveness and attractiveness. Language is mediated through various material forms and how these forms influence the production, interpretation, and dissemination of meaning. This concept emphasizes the interplay between language and its physical manifestations, recognizing that language is not just an abstract system of signs but is also deeply embedded in material contexts. Using tangible, physical items to anchor abstract vocabulary is one way to use materiality in language acquisition. Students can create stronger neural connections by connecting words to tangible objects (Clark, 2008). This technique makes use of embodied cognition, which goes well beyond rote learning to strengthen memory retention through bodily engagement (Johnson, 2017; Kasper & Kim, 2015). Materiality facilitates word memory by transforming ephemeral language signals into enduring experience traces. Students use a variety of senses when working with things pertaining to target vocabulary, which helps them retain the word in long-term memory through context and repetition (Johnson, 2017). Materiality stimulates creative word growth through transformation, where students modify things to evolve word meanings, going beyond simple memory.

By transforming material experiences across sensory modes and creating new word associations, transduction enhances creativity even more. This semiotics-based cross-modal approach broadens lexical networks and allows students to create original idioms or metaphors (Johnson, 2017; Kasper & Kim, 2015). Ultimately, materiality prepares students for dynamic, context-rich communication in a variety of contexts by strengthening vocabulary and fostering linguistic agility.

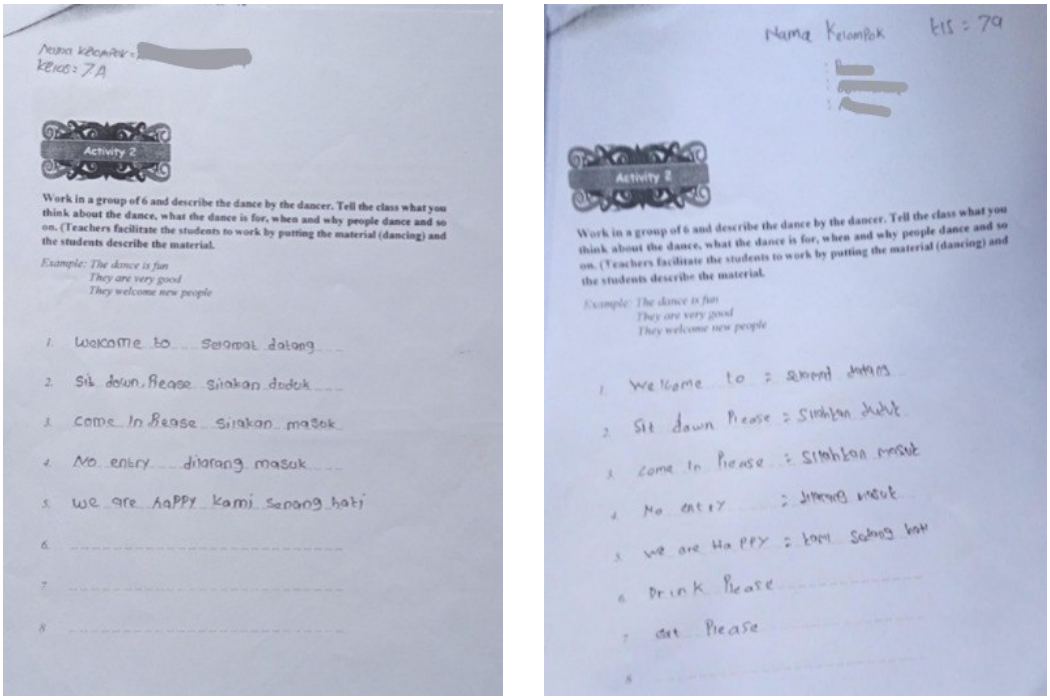


Figure 7. The word students remember after conducting welcoming ritual

Figure 7 shows the outcome of students' work related to English expressions they have previously encountered through materiality-based activities. They eagerly wrote down core words such as ""*Welcome*", "*Sit down please*", "*Come in Please*", "*No Entry*", "*We are happy*", "*Eat please*", and "*Drink please*" in the opening English learning session. The purpose of this exercise was to determine whether students could recall the words or phrases they had learned in class the week before. The first of those two pieces demonstrates that students were able to enumerate the words or phrases from the prior exercise that they could still recall, such as "*welcome*," "*sit down please*," "*come in please*," "*we are happy*," and "*drink please*". The work reveals that students are not only able to list the words or phrases they have learned, but they are also able to write such words or phrases flawlessly.

The students retain the meaning and write it on the right side of the second piece, which also demonstrates the same condition. All of those processes were the result of the integration of the body with materiality that contributed to meaning making (Sugiharto, 2022). The linguistic activity also gives indexical consequence with particular media to create transmodal and foster collective comprehension (Cavanaugh, 2017; Johnson, 2017; Kasper & Kim, 2015; Thurlow & Jaworski, 2017). Even though the primary focus of this writing is solely on the process of employing materiality in student engagement in ELT classes, the consequences of students' activities go beyond the activity itself and also demonstrate a good relationship with ELT classrooms by yielding positive learning outcomes in practice exercises.

Discussion

The idea of scales as category of practice in scalar approach was first initiated theoretically by Canagarajah and De Costa (2016). However, this writing offers empirical support from micro, meso, and macro scales to provide more beneficial

input. The findings show how bamboo, mandau, leaves, local attire and dance as materials employed in English class make Dayak students did not merely repeat English expressions, but they also coordinated speech with gestures. It denotes that those materials are not just objects but an ongoing process in which things, bodies, and practices come together in specific, often ritual-like or artistic performative moments (Toohey, 2018, p. 6). These moments actually produce meanings, identities, and transformations in real time through gestures, arrangements of objects, and bodily actions (Cavanaugh, 2017). In line with Thurlow and Haudenschild (2022), materiality operates as an active medium through which students are transformed and their identities are embodied. Objects used in the classroom do not merely illustrate culture, but they shape how students feel, move, and think as language users and community members because they integrate it with cognition (Sugiharto, 2022; Varela et al., 2016). Through repeated contact with materials, students' bodies gradually develop postures, gestures, and vocal habits that contribute to their engagement with culturally specific ways of speaking, listening, and attending to others (Johnson, 2017; Kasper & Kim, 2015).

The prominence of materiality indicates that learning English is an embodied, multimodal process. Objects such as real bamboo, food and drink, were not mere aids; they were integral to how English expressions acquired meaning and stability. In accordance with Georgekutty (2025), the use of material culture and ritual objects enables students to embody identities in more concrete ways. When a student wears the clothes or holds a Mandau while speaking, their voice and stance subtly shift; the material object becomes a scaffold for a new sense of self as a Dayak-language speaker and cultural bearer (Cavanaugh & Shankar, 2017). This shows that transformation in class is not only cognitive, but also corporeal and affective, occurring through the interplay of body, language, and materially embedded cultural practices (Sund et al., 2019). The result of transformation and embodiment through materiality is a materially grounded shift in students' bodily dispositions, cultural awareness, and sense of belonging: they begin to carry vernacular language and culture not only in their minds but in their gestures, voices, and everyday interactions, making the classroom a living site of cultural continuity and renewal (Terauchi et al., 2019; Tupas & Weninger, 2022).

Furthermore, students used the classroom as a venue for trans-spatial and temporal learning. In line with Kasper and Kim (2015), classroom interactions are not merely linguistic drills, but they were jointly invoked and negotiated. The classroom space, its seating arrangement, display of cultural symbols, and use of ritual-related properties contribute to a material environment that invites embodied learning (Wilson et al., 2024). When students get ready for the ritual ceremony, their bodies physically enact values of communal participation and respect for elders, transforming the class from a passive into an embodied ritual-like practice (Olohan, 2021, p. 35). This spatial and material framing helps students internalize the cultural norms of relationality, hierarchy, and shared responsibility, not as abstract rules but as bodily habits (Germinaro, 2025).

Regarding transduction, Rodríguez-Ortega (2024) argues that computational operations and related information transformation processes that occur in latent spaces as transductive processes. However, this writing shows how students transposed the temporal and geographical dimensions of their materialism to English terms such as asking, what '*selamat makan*' in English as a transformation

from their activity, or expressing '*welcome*' based on the aligning movement or action with materials. Students rearranged English to fit their situation by adapting, modifying, or reorganizing English language forms. In line with Eisenlohr (2017), repeated removal from one context and reinsertion into another is a component of transformation that gives language a creative and deeply significant character. Students transformed materials linguistically, culturally, and bodily through their practical, sensory engagement with cultural-specific materials in the classroom to make meaning (Newfield, 2014). What the students did is a process of how students describe a social- semiotic resource of a particular group rather than simply hearing about culture, students re-mediate, re-channel, re-embody cultural meanings through objects, texts, spaces, and performances that carry local wisdom (Kress & Leeuwen, 2021).

After asking *selamat makan*, the students went on to ask, *"Apa bahasa inggrisnya silahkan minum?"* showing an instance of transduction as they shifted meaning from Indonesian to English. Cavanaugh (2017) argues that transduction is the process by which cultural and linguistic content is converted from one material form into another, and through that conversion the students' understanding, attitudes, and identities are reshaped. The transduction from materiality in ELT class is a materially grounded process of cultural and linguistic becoming, where classroom objects, texts, and performances serve as conduits that re-route local wisdom into students' everyday consciousness, language use, and bodily habits (Handayani et al., 2025). In language teaching context, Lim (2023) mentions that transduction transfers meaning across various semiotic resources, such as switching from spoken language to visual imagery, body language, or written text, to make learning materials more understandable. Given that the instructor chooses and modifies materials to index particular meanings, situations, or concepts that the students are expected to understand, this process is intrinsically linked to the students' engagement with semiotic materials. Furthermore, the sociocultural framework promotes the development of contextually relevant learning as well as reflecting the sociocultural nature of teaching and learning (Carabantes, 2025).

Conclusion

The findings of this study show how materiality contributed to students' transformation as language users and cultural participants. By wearing local attire, handling cultural objects, preparing ritual-related activities, and performing culturally meaningful actions, students developed new bodily dispositions, affective orientations, cultural awareness, and senses of belonging. Their learning was not limited to the acquisition of English forms, but it also involved the embodied development of ways of speaking, moving, feeling, and participating as members of the community. In this process, the classroom became a living space in which local knowledge and cultural identity were not simply represented but enacted, negotiated, and renewed. Materials function not merely as instructional aids but as active components of embodied and multimodal meaning-making.

This paper applies a sociolinguistic approach to language education by examining how language interacts with and is shaped by the material world. The materiality-based paradigm extends transforming locality into globality in an equal standing. Three implications ensue. First, the paradigm moves ELT away from delivering lessons and toward affording space for negotiating students' locality,

opening more room for students' engagement. It means ELT is characterized by transformation of students' indexicality of their norms and embodiment of materiality in learning. This transformation further leads to students' power awareness and teachers' localized assessment. Second, the paradigm paves the way to metacultural transformation, allowing students to create new meanings based on their material realities. Third, the entanglement of ELT with materiality leverages students' cultural capital as a catalyst for conceptualizing and practicing English in their own narratives, renewing ELT for diverse multilingual students.

Three suggestions can be put forth for practice. First, English learning should be a space for students to reveal, index, and align their locality with performative actions that lead to established or modified changes in their views of English. ELT should be space for constructing meaning from assemblages of materiality serving as agentic capacity and encompassing perception, cognition, intentionality, and action that are shaped by the preconscious experiences of the moving body and its unmediated interaction with the social, cultural, and material world. Teachers should view body performances of doing and saying essentials to the implementation and continued practice. Second, English learning should be "felt" as lived experiences by the students. This necessitates aesthetics to foster the sensory and emotional aspects of communication. The aesthetics can evoke emotions, atmospheres, and interpretations. Aesthetic is integrated into individuals' actions, discussions, and materials in specific situations, where each possesses its unique media, defined by its distinct qualities and circumstances. Third, English learning should lead to students creatively developing English through various modes of communication. Any processes they are engaged with should be affordances for a creative and profoundly consequential dimension of taking out of one context and reinserted into another. In doing so, ELT is presented as an ecological space for teachers and students to explore their scales and negotiate them within the global narratives of English.

The study has demonstrated how local materiality in peripheral sites can serve as students' epistemological journey for learning affordances. This brings English learning transformation beyond methods but pivotal language ownership. Students assign new meanings to English through their scales and space, harnessing the very profound goals-liberating and transforming learners. It is at this juncture that the notions of multilingualism, equality and justice can have their weight for those in remote and underprivileged sites.

References

Atkinson, D. (2010). Extended, embodied cognition and second language acquisition. *Applied Linguistics*, *31*(5), 599–622. https://doi.org/10.1093/applin/amq009

Bucholtz, M. (2017). Why bodies matter. In J. R. Cavanaugh & S. Shankar (Eds.), *Language and materiality: Ethnographic and theoretical exploration* (pp. 237–248). Cambridge University Press.

Bukdahl, E. M. (2021). A new somaesthetic approach to Renaissance art in Florence. *Journal of Somaesthetics*, *7*(2), 90–101.

Canagarajah, S. (2014). In search of a new paradigm for teaching English as an international language. *TESOL Journal*, *5*(4), 767–785. https://doi.org/10.1002/tesj.166

Canagarajah, S. (2024). Communication for specific purposes as translingual. *Ibérica*, (47), 15–42. https://doi.org/10.17398/10.17398/2340-2784.47.15

Canagarajah, S., & De Costa, P. I. (2016). Introduction: Scales analysis, and its uses and prospects in educational linguistics. *Linguistics and Education*, *34*, 1–10. https://doi.org/10.1016/j.linged.2015.09.001

Carabantes, L. (2025). Context matters: A sociocultural framework for materials development. *ELT Journal*, *79*(2), 156–171. https://doi.org/10.1093/elt/ccae047

Cavanaugh, J. R. (2017). How the sausage gets made: Food safety and the mediality of talk, documents, and food practices. In J. R. Cavanaugh & S. Shankar (Eds.), *Language materiality: Ethnography and theoretical explorations*. Cambridge University Press.

Cavanaugh, J. R., & Shankar, S. (2017). *Language and materiality: Ethnographic and theoretical explorations*. Cambridge University Press.

Clark, A. (2008). *Supersizing the mind: Embodiment, action, and cognitive extension*. OUP USA.

Coupland, N., & Holmes, H. K. (2017). Making and marketing in the bilingual periphery: Materialization as metacultural transformation. In J. R. Cavanaugh & S. Shankar (Eds.), *Language and materiality: Ethnographic and theoretical explorations* (pp. 165-184). Cambridge University Press.

Deumert, A. (2018). The multivocality of heritage – moments, encounters and mobilities. In A. Creese & A. Blackledge (Eds.), *The Routledge handbook of language and superdiversity* (pp. 149–164). Routledge. https://doi.org/10.4324/9781315696010-12

Eisenlohr, P. (2017). Transduction in religious discourse: Vocalization and sound reproduction in mauritian muslim devotional practices. In J. R. Cavanaugh & S. Shankar (Eds.), *Language materiality: Ethnography and theoretical exploration* (pp. 144-161). Cambridge University Press.

Georgekutty, M. D. (2025). *Material culture and identity construction: Artifacts, clothing, and architecture as expressions of ethnicity, status, and belief systems*. Zenodo. https://doi.org/10.5281/Zenodo.17659206

Germinaro, K. (2025). Our spatial orientation: Positionality, relationality, and learning through the body. *Qualitative Inquiry, 5*(32), 401-411. https://doi.org/10.1177/10778004251319462

Hall, J. K. (2019). *Essentials of SLA for L2 teachers: A transdisciplinary framework*. Routledge.

Handayani, M., Luciana, L., & Sugiharto, S. (2025). Language materiality and transmodal production in EFL classroom: The case of Dayaknese students. *Jurnal Arbitrer*, *12*(3), 322–335. https://doi.org/10.25077/ar.12.3.322-335.2025

Hayakawa, S., Bartolotti, J., & Marian, V. (2021). Native language similarity during foreign language learning: Effects of cognitive strategies and affective states. *Applied Linguistics*, *42*(3), 514–540. https://doi.org/10.1093/applin/amaa042

Johnson, M. (2017). *Embodied mind, meaning, and reason: How our bodies give rise to understanding*. The University of Chicago Press.

Kasper, G., & Kim, Y. (2015). Conversation-for-learning: Institutional talk beyond the classroom. In N. Markee (Ed.), *The handbook of classroom discourse and interaction* (pp.390–408). Wiley. https://doi.org/10.1002/9781118531242.ch23

Kim, M. (2023). Decolonizing ELT materials: A sociomaterial orientation. *ELT Journal*, *77*(3), 316–326. https://doi.org/10.1093/elt/ccad013

Kress, G., & Leeuwen, T. V. (2021). *Reading images: The grammar of visual design*. Routledge.

Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford University Press.

Li, B. (2009). Processed-centered teaching and its implications in English teaching in china. *English Language Teaching*, *2*(1), 24–30. https://doi.org/10.5539/elt.v2n1p24

Lim, F. V. (2023). Editorial: Transduction in evolving contexts of intermodal meaning making: Moving meaning across media, modes and multiple realities. *Frontiers in Communication*, *8*, Article 1138753. https://doi.org/10.3389/fcomm.2023.1138753

Lodico, M. G., Spaulding, D. T., & Voegtle, K. H. (2010). *Methods in educational research: From theory to practice*. John Wiley & Sons.

Mondada, L. (2014). Cooking instructions and the shaping of things in the kitchen. In M. Nevile, P. Haddington, T. Heinemann, & M. Rauniomaa (Eds.), *Interacting with objects* (pp. 199–226). John Benjamins Publishing Company. https://doi.org/10.1075/z.186.09mon

Nevile, M., Haddington, P., Heinemann, T., & Rauniomaa, M. (2014). On the interactional ecology of objects. In M. Nevile, P. Haddington, T. Heinemann, & M. Rauniomaa (Eds.), *Interacting with objects* (pp. 3–26). John Benjamins Publishing Company. https://doi.org/10.1075/z.186.01int

Newfield, D. (2014). Transformation, transduction and the transmodal moment. In C. Jewitt (Ed.), *The Routledge handbook of multimodal analysis* (2nd ed., pp. 100–113). Routledge.

Olohan, M. (2021). *Translation and practice theory*. Routledge.

Richardson, E., & Stokoe, E. (2014). The order of ordering: Objects, requests and embodied conduct in a public bar. In M. Nevile, P. Haddington, T. Heinemann, & M. Rauniomaa (Eds.), *Interacting with objects: Language, materiality, and social activity* (pp.31-56). John Benjamins Publishing Company.

Rodríguez-Ortega, N. (2024). Exploring the concept of transduction to interpret AI-generated images. In E. Cetinić & D. Negueruela del Castillo (Eds.), *From hype to reality: Artificial intelligence in the study of art and culture* (pp. 23–28). Bibliotheca Hertziana. https://doi.org/10.48431/hsah.0303

Schvarcz, B. R., & Warren, A. N. (2025). Creating multilingual schoolscapes in restrictive ELT contexts. *ELT Journal*, *79*(3), 395–403. https://doi.org/10.1093/elt/ccaf028

Sugiharto, S. (2022). Gazing at the body as a locus of competence: Implications for language education. *LLT Journal: A Journal on Language and Language Teaching*, *25*(1), 38–44. https://doi.org/10.24071/llt.v25i1.4466

Sund, L., Quennerstedt, M., Öhman, M., & Hoadley, U. (2019). The embodied social studies classroom – Repositioning the body in the social sciences in school. *Cogent Education*, *6*(1), Article 1569350. https://doi.org/10.1080/2331186X.2019.1569350

Terauchi, H., Noguchi, J., & Tajino, A. (Eds.). (2019). *Towards a new paradigm for English language teaching: English for specific purposes in Asia and beyond* (1st ed.). Routledge. https://doi.org/10.4324/9780429423963

Thurlow, C., & Haudenschild, N. (2022). Dishing up distinction: Language materiality and multimodal coherence in elite foodways. *Frontiers in Communication*, *7*, Article 885010. https://doi.org/10.3389/fcomm.2022.885010

Thurlow, C., & Jaworski, A. (2017). Word-things and thing-words: The transmodal production of privilege and status. In J. R. Cavanaugh & S. Shankar (Eds.), *Language and materiality: Ethnographic and theoretical explorations* (pp. 185-203). Cambridge University Press.

Tupas, R., & Weninger, C. (2022). Mapping out unequal englishes in English-medium classrooms. *Journal of Language, Identity & Education*, *21*(5), 347–361. https://doi.org/10.1080/15348458.2020.1795863

Varela, F. J., Thomson, E., & Rosch, E. (2016). *The embodied mind: Cognitive science and human experience*. The MIT Press.

Wilson, K. A., Bird, M., & Egan-Simon, D. (2024). Handling objects in primary and secondary educational settings: Facilitating educational processes and challenging heteronormative gender constructs: The case study of mobility of objects across boundaries 1000–1700. In C. Antenhofer & U. Leitner (Eds.), *Geschlecht und materialität* (pp. 33–50). Transcript Verlag. https://doi.org/10.1515/9783839461655-002

Witte, A. (2023). Bringing the body into play: The corporeal aspect in second language acquisition. *The Modern Language Journal*, *107*(3), 693–712. https://doi.org/10.1111/modl.12861