

# A META-META-ETHNOGRAPHIC REVIEW OF QUALITATIVE SYNTHESIS IN EDUCATION

---

TSOGHIK GRIGORYAN

*Simon Fraser University*

## **Abstract**

*This review explores the feasibility of conducting a meta-meta-ethnographic synthesis (a higher-order synthesis) that applies meta-ethnography to existing meta-ethnographies. While meta-ethnography is widely used to synthesize qualitative studies while preserving interpretive depth, its application to synthesizing other meta-ethnographies remains underexplored. By systematically analyzing 14 meta-ethnographic studies in education, this review applies Noblit & Hare's (Noblit & Hare, 1988) seven-stage method to identify patterns, divergences, and conceptual advancements. This review is framed by agential realism, sociomateriality and rhizomatic thinking which examines how institutional policies, pedagogical frameworks, and digital tools interact to shape knowledge production. Findings reveal key methodological challenges and include interpretive layering, epistemological tensions between digital and traditional ethnographies, as well as the role of technology in qualitative synthesis. This study highlights the potential of meta-meta-ethnography to critically evaluate and refine research syntheses, offering new insights into education, pedagogy, and digital ethnography.*

*Keywords:* agential realism, digital ethnography, education research, higher-order synthesis, institutional policies, meta-ethnography, meta-meta-ethnography, pedagogy, qualitative synthesis, rhizomatic thinking, sociomateriality.

## Introduction

Ethnographic research has developed with the advent of digital technologies which necessitates reassessing methodologies and synthesis of ethnographic studies (Aslan et al., 2024; Vo, 2023). Meta-ethnography is a qualitative synthesis methodology and offers an approach to integrating findings from multiple studies and maintaining the interpretive depth of ethnographic inquiry (Beach & Vigo-Arazola, 2021). However, its potential for synthesizing meta-ethnographic studies themselves remains underexplored. This is important because synthesizing existing meta-ethnographies (a meta-meta-ethnography) can reveal higher-order patterns, contradictions, and methodological insights that individual meta-ethnographies cannot capture alone. This work is also essential because applying meta-ethnography to meta-ethnographic studies facilitates an understanding of recurring patterns, divergences, and conceptual developments across research domains. It enables the identification of methodological consistencies and variations, theoretical alignments, and how digital and traditional ethnographies have been synthesized in prior studies.

This review will investigate the feasibility of applying meta-ethnography to synthesize existing meta-ethnographic research, examining how this higher-order synthesis can refine research design, identify methodological challenges, as well as assess the applicability of *agential realism*, *sociomateriality* and *rhizome* as theoretical frameworks. In this paper, these frameworks will be employed to critically examine how human and non-human agencies (agential realism), material-discursive practices (sociomateriality), and non-linear connections (rhizomatic thinking) shape and complicate knowledge production in higher-order qualitative syntheses. This integrated theoretical approach is my own formulation, developed specifically to guide this meta-meta-ethnographic synthesis of ethnographic reviews in education.

By conducting a meta-meta-ethnographic synthesis—that is, applying meta-ethnography to analyze and synthesize existing meta-ethnographic studies—this review aims to contribute to a deeper understanding of how digital tools and ethnographic methods interact. Examining this interaction helps refine methodologies, address epistemological tensions, and ensure that qualitative syntheses remain rigorous and contextually grounded in contemporary research environments. This higher-order synthesis will offer perspectives for navigating contemporary ethnographic practices. This does not imply that all contemporary ethnographic practices employ digital tools. Rather, it acknowledges that many contemporary ethnographies increasingly engage with or are affected by digital tools and contexts. Examining this intersection helps researchers navigate methodological and epistemological challenges within evolving ethnographic practices. It will also help assess how digital and traditional methodologies are integrated across previous qualitative syntheses. Not all the meta-syntheses discussed include both digital and traditional methodologies. However, examining them collectively allows the study to assess how, when, and to what extent digital and traditional methodologies have been integrated (or kept separate) across previous qualitative syntheses, which can identify patterns, gaps, and methodological tensions relevant to advancing meta-meta-ethnographic practice.

## Literature Review

### *Meta-Ethnography as a Methodological Framework*

Meta-ethnography was originally developed by Noblit & Hare (1988). It is a qualitative synthesis approach that seeks to preserve the interpretive depth of primary studies when generating new conceptual understandings. Unlike systematic reviews that aggregate findings, meta-ethnography employs a comparative/interpretive strategy to translate key concepts across studies (France et al., 2019; Toye et al., 2014). This allows for theoretical innovations and new frameworks. Meta-ethnography has been applied in various fields including health, education, literacies and organizational studies (Beach & Vigo-Arazola, 2021; Compton-Lilly et al., 2020; France et al., 2019; Vo, 2023). However, while meta-ethnography has often been applied to synthesize primary ethnographic studies, there has been limited focus on how these syntheses address the integration of digital and traditional ethnographic methodologies within the same review (Barendregt, 2021; Cellard, 2022; Murphy & Headley, 2020).

### ***The Integration of Digital & Traditional Ethnographic Findings***

The intersection of digital and conventional ethnographic methods presents methodological and theoretical challenges (Chowdhury et al., 2022; Grigoryan, 2024; Toye et al., 2014). Conventional ethnographic methods typically involve in-person observation and participation in physical settings, while digital ethnographic methods study interactions within online or technology-mediated environments. One of the key concerns is how to synthesize data that emerge from different research contexts (Grigoryan, 2024). This can range from in-person observations to digital data collection (Hine, 2020; Pink et al., 2016). Several scholars argue that digital ethnography necessitates new epistemological perspectives (Markham, 2012; Pink et al., 2016). This is because the nature of digital interactions disrupts conventional ethnographic assumptions about fieldwork immersion. Traditional ethnography assumes physical presence and long-term immersion in a single field site, while digital interactions are often dispersed, asynchronous, and platform-based, which challenges these assumptions. The meta-ethnographic approach offers a structured means of preserving contextual integrity and navigating these challenges by facilitating the translation of findings across ethnographic traditions (Atkins et al., 2008; France et al., 2019; Noblit & Hare, 1988). This allows researchers to generate integrative insights that acknowledge the complexities of contemporary fieldwork across both physical and digital environments.

### ***Theoretical Perspectives Informing Ethnographic Synthesis***

Theoretical frameworks of agential realism, sociomateriality and *rhizomatic thinking* provide lenses to analyze the evolving nature of ethnographic inquiry. Agential realism was proposed by Karen Barad (2007). This framework emphasizes the entanglement of human and non-human agencies in knowledge formation and, therefore, challenges representationalist assumptions. *Sociomateriality* explores how digital technologies co-construct social realities by highlighting the interdependencies between digital tools and ethnographic practices (Orlikowski, 2007; Orlikowski & Scott, 2008; 2021; 2023). This perspective emphasizes that technologies are not neutral tools but actively shape how data are collected, analyzed, and interpreted in ethnographic research, influencing what knowledge is produced and how fieldwork is conducted. Meanwhile, Deleuze and Guattari's concept of *rhizomatic thinking* disrupts hierarchical structures of knowledge and advocates for non-linear and multiplicative connections between data sources (Deleuze & Guattari, 1994; 2007; Deleuze & Lapoujade,

2003). It aligns with the iterative and interpretive process of meta-ethnography (Britten et al., 2002; Toye et al., 2014). Both processes emphasize non-linear and evolving connections between concepts that allow researchers to trace patterns and relationships across studies without imposing rigid hierarchies.

### ***Methodological Challenges & Considerations***

The application of meta-ethnography to digital and traditional ethnographic research synthesis requires addressing several methodological challenges. Diverse epistemological orientations across studies raise difficulties in conceptual translations. This challenge results in using varying definitions of key constructs (Britten et al., 2002; Campbell et al., 2011; France et al., 2019). For example, constructs such as *participation*, *resilience*, and *digital literacy* are defined and operationalized differently across studies, making it challenging to align interpretations during synthesis. Ethical considerations are another challenging field, particularly regarding informed consent and data privacy in digital spaces (Beach & Vigo-Arrazola, 2021; Markham, 2012; Markham, 2013). The possibility of synthesizing digital and traditional ethnographic findings challenges the availability of rich data and the alignment of theoretical perspectives (Aslan et al., 2024; France et al., 2019; Hardman & Bishop, 2018). This is because digital studies often yield fragmented data and use different theoretical frameworks than traditional, immersive studies, making alignment and comparison challenging during synthesis (Grigoryan, 2024).

### ***Extending Meta-Ethnography: Toward a Meta-Meta-Ethnographic Approach***

While meta-ethnography has been widely applied to synthesize primary ethnographic studies, there is a growing interest in exploring its application to existing meta-ethnographies (Beach & Vigo-Arrazola, 2021; France et al., 2019). A meta-meta-ethnographic approach extends the original methodology by systematically synthesizing previous meta-ethnographies to generate higher-order thinking. This approach allows for a critical examination of how meta-ethnographic studies have interpreted qualitative data, structured thematic translations, and navigated methodological and epistemological challenges (Britten et al., 2002; France et al., 2019).

Applying meta-ethnography to meta-ethnographic studies facilitates an understanding of recurring patterns, divergences, and conceptual developments across different research domains. It enables the identification of methodological consistencies and variations, theoretical alignments, and the ways in which digital and traditional ethnographies have been synthesized in prior studies (Compton-Lilly et al., 2020; Toye et al., 2014). Given the increasing presence of digital methodologies alongside traditional approaches in ethnographic research, this meta-meta-ethnographic inquiry examines how these have been synthesized and interpreted within existing meta-ethnographies, offering a meta-theoretical lens on the evolution of qualitative synthesis itself (France et al., 2019; Sung & Tsai, 2023).

This study aims to assess the feasibility of a meta-meta-ethnographic approach by applying Noblit and Hare's (1988) framework to a selection of existing meta-ethnographies. By doing so, it will explore how digital tools shape ethnographic synthesis, critically evaluate

the role of agential realism, sociomateriality and rhizomatic thinking in meta-ethnographic research, and propose methodological refinements for future qualitative syntheses.

## Methodology

This review aims to assess the feasibility of conducting a full meta-ethnography by applying Noblit and Hare's seven-stage process to a selection of 5–10 research studies that have explicitly used meta-ethnography as their methodology (Noblit & Hare, 1988). The study will be framed within the theoretical perspectives of agential realism (Barad, 2007), sociomateriality (Orlikowski, 2007), and rhizomatic thinking (Deleuze & Guattari, 1987) to explore the entanglement of human and non-human actors, material-discursive practices, and the non-linear, networked nature of knowledge synthesis.

A systematic search will identify relevant peer-reviewed meta-ethnographies in education that clearly document their methods. Each study will be summarized and analyzed for research questions, theoretical frameworks, methods, and findings, creating a rhizomatic map of interconnections. Studies will then be compared to identify shared themes and translated into one another through reciprocal translation, preserving original contexts while aligning concepts. This will lead to a dynamic synthesis that resists rigid conclusions and embraces complexity.

Finally, the synthesis will be expressed in a structured narrative reflecting on how agential realism, sociomateriality, and rhizomatic thinking shape interpretive possibilities, emphasizing that knowledge synthesis is not just aggregation but a dynamic, entangled process of meaning-making in qualitative research.

## Results

### How Stage 1: Getting Started

I explored whether meta-meta-ethnography is a viable method for synthesizing qualitative research in education by systematically identifying studies that explicitly used meta-ethnography. Focusing on education, I included studies with clear synthesis methods and assessed thematic coherence across topics to ensure meaningful connections. I also evaluated whether studies could be translated into one another to build higher-order insights while preserving context (Noblit & Hare, 1988). This structured yet flexible approach laid the groundwork for a rigorous and coherent meta-meta-ethnographic synthesis.

### How Stage 2: Deciding What is Relevant

At this stage, I conducted a systematic search to identify studies that explicitly employed meta-ethnography within the field of education. My selection process was guided by both *structured inclusion criteria* (e.g., requiring meta-ethnography as a method, peer-reviewed status, relevance to education) and a flexible, *iterative approach* informed by *agential realism, sociomateriality, and rhizomatic thinking*. This means that agential realism guided reflexivity on how my positionality and choices shaped which studies were included; sociomateriality drew attention to how databases, search tools, and institutional

structures influenced the selection process; and rhizomatic thinking allowed flexibility in connecting studies through emerging conceptual linkages rather than imposing rigid categorical boundaries.

For example, instead of strictly adhering to a rigid checklist, I refined my selection process dynamically as I analyzed the studies (Noblit & Hare, R. Dwight, 2012). Thus, when I reviewed the studies, I identified unexpected thematic overlaps (e.g., teamwork competency). Hu & Chan (2024) and Pérez-Castejón & Vigo-Arazola (2021) initially appeared to belong to different categories—one focusing on collaborative learning through technology, the other on teacher training for inclusion. However, closer examination revealed conceptual connections. It became clear that both studies explore how education prepares students for real-world collaboration. Hu & Chan (2024) examine teamwork training for professional skills, while Pérez-Castejón & Vigo-Arazola (2021) focus on how teachers develop strategies for working with diverse students—both are forms of collaboration in educational contexts. Both highlight pedagogical challenges and the need for support structures, whether in higher education teamwork or inclusive teacher education. Therefore, this iterative approach helped me adjust my selection criteria in response to emerging ideas rather than strictly following an initial search plan (Campbell et al., 2011).

I verified the publishers to ensure that each article was peer-reviewed empirical research, confirming that all selected studies were published in peer-reviewed journals. Only studies that engaged deeply with qualitative data analysis were included, and studies that focused on healthcare, business, or non-educational disciplines, were excluded.

**Agential Realism in Selection:** I acknowledged how my own positionality as a researcher influenced the dataset, recognizing that my methodological focus and thematic interests shaped the final selection. Specifically, my thematic interest in how digital and traditional ethnographic methodologies intersect within educational research led me to prioritize studies that engaged explicitly with these methodological considerations, ensuring the dataset aligned with the aims of this meta-meta-ethnographic inquiry. The weight given to methodological rigor and educational relevance meant that some studies, while methodologically sound, were excluded due to weaker connections to the broader synthesis.

**Sociomateriality in Search and Access:** The inclusion process was influenced by how studies were indexed in academic databases such as Scopus. For example, Li (2024) was included because it was categorized under *higher education research*, even though a different indexing structure might have classified it under *linguistics*, making it harder to locate through education-focused searches. Similarly, Hu & Chan (2024), which explores teamwork competency, was retrieved because of its indexing under educational technology but might have been missed had I used more restrictive search terms.

**Rhizomatic Thinking and an Open-ended Approach:** Instead of strictly following a linear inclusion process, I allowed for thematic interconnections to emerge. For instance, Beach & Vigo-Arazola's (2024) study *Critical ethnographies in education* was included because its methodological synthesis overlapped with studies on widening participation and inclusive education and created a web of related themes rather than isolated

categories. This non-hierarchical approach ensured that studies were interconnected in unexpected ways, which allowed for a richer synthesis.

Through this iterative, flexible approach, I ensured that the selected studies not only met methodological and thematic requirements but also contributed meaningfully to the meta-ethnographic synthesis, forming a cohesive yet diverse dataset (Hardman & Bishop, 2018; Noblit & Hare, 1988).

### **How Stage 3: Reading the Studies**

**Table 1.** Relational Intra-Actions Among Meta-Ethnographic Studies in Education.

<b>General Education &amp; Pedagogical Approaches</b>	<b>Higher Education &amp; Student Learning</b>	<b>Educational Technology &amp; Digital Learning</b>	<b>Educational Justice, Policy &amp; Teacher Training</b>	<b>Educational Assessment, Health &amp; Fairness</b>
A Meta-Ethnography of Family Literacy Scholarship (Compton-Lilly et al., 2020) → <a href="#">Family literacy &amp; education.</a>	The Role of Resilience in Higher Education: A Meta-Ethnographic Analysis of Students' Experiences (Ang et al., 2021) → <a href="#">Student resilience in higher education.</a>	Teachers' Beliefs About Technology Integration in Early Childhood Education: A Meta-Ethnographical Synthesis of Qualitative Research (Mertala, 2019) → <a href="#">Early childhood education and technology.</a>	Investigating the Education of Preservice Teachers for Inclusive Education: A Meta-Ethnography (Pérez-Castejón & Vigo-Arrazola, 2021) → <a href="#">Teacher education for inclusion.</a>	Parents' and Teachers' Perceptions of Physical Activity in Schools: A Meta-Ethnography (Alcántara Porcuna & Rodríguez-Martín, 2022) → <a href="#">Physical activity in schools.</a>
A Living Metaphor of Differentiation: A Meta-Ethnography of Cognitively Guided Instruction in the Elementary Classroom (Baker & Harter, 2015) → <a href="#">Differentiation in teaching practices.</a>	Non-Native English-Speaking (NNES) Students' English Academic Writing Experiences in Higher Education: A Meta-Ethnographic Qualitative Synthesis (Li, 2024) → <a href="#">Challenges for NNES students in higher education.</a>	Evaluating Technological Interventions for Developing Teamwork Competency in Higher Education: A Systematic Review and Meta-Ethnography (Hu & Chan, 2024) → <a href="#">Technology in teamwork learning.</a>	Critical Ethnographies of Education and for Social and Educational Transformation: A Meta-Ethnography (Beach & Vigo-Arrazola, 2021) → <a href="#">Critical ethnography and educational change.</a>	Re-Conceptualizing Classroom Assessment Fairness: A Systematic Meta-Ethnography of Assessment Literature and Beyond (Rasooli, Zandi, & DeLuca, 2017) → <a href="#">Fairness in assessment practices.</a>
Conceptualizing Foreign Language Teachers' Translanguaging Practices: A Meta-Ethnography of Qualitative Literature (Jeon et al., 2025) → <a href="#">Language pedagogy &amp; multilingual education.</a>	Scaffolding Structures to Promote Widening Participation in Higher Education: A Meta-Ethnographic Analysis (Gummesson & Sjö Dahl Hammarland, 2024) → <a href="#">Strategies for inclusion in higher education.</a>	Student Voices in Creative Teaching Practices with Digital Media: A Meta-Ethnographic Research (Fuentes, 2024) → <a href="#">Digital media in education.</a>	Constructing a Conceptual Framework for Professional Identity Development in International Social Work Students: A Meta-Ethnographic Review (Yao, 2022) → <a href="#">Identity formation in social work education.</a>	

Given the posthuman frameworks informing this synthesis, it was necessary to find patterns of relationality, trace thematic entanglements, and illuminate how concepts materialize through their interactions. I acknowledge that another researcher, guided by different positionalities and theoretical sensibilities, may have identified different patterns or emphasized alternative thematic connections within the same dataset. This preliminary

structuring was not about imposing boundaries but about revealing key sites of convergence where resilience meets institutional support, where translanguaging intra-acts with literacy, or where technology reshapes differentiated instructions. By first connecting thematic intra-actions, I established an entry point for a more fluid, rhizomatic exploration, where knowledge unfolds in non-linear, interconnected ways beyond static divisions.

**Figure 1.** Rhizomatic map of the concepts from 14 meta-ethnographic studies.

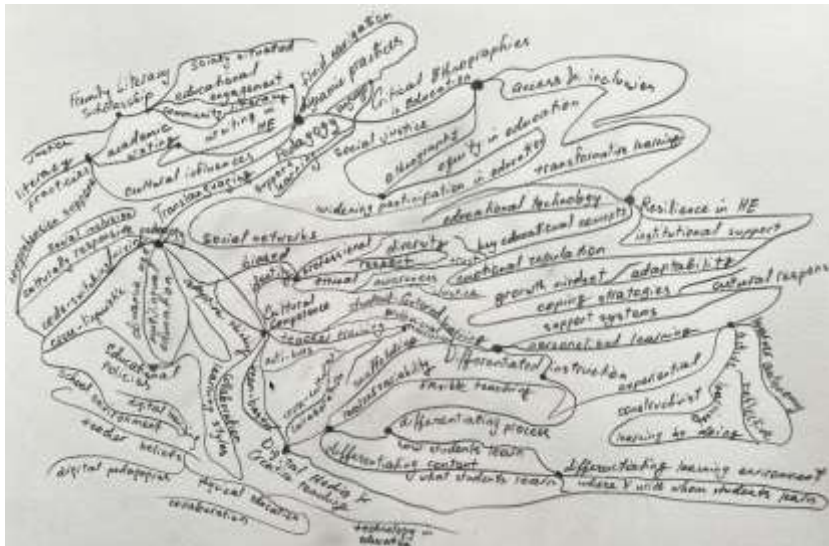


Figure 1 is the visualization of the interconnections between key educational concepts that emerged from meta-ethnographic studies. This map embraces the fluid and non-hierarchical nature of knowledge. At the core, I mapped *pedagogy*, *cultural competence* and *social networks* as central themes, showing how *student-centered learning*, *translanguaging*, *differentiated instruction* and *resilience* are deeply intertwined. I highlighted *cultural competence* as a crucial element that connects to *teacher training*, *social justice* and *anti-bias education*, which reinforce the role of *ethical awareness* and *inclusive teaching* in diverse classrooms. I also explored *translanguaging* as a bridge between *multilingual pedagogy*, *equity in education* and *literacy practices* by illustrating how linguistic flexibility enhances learning. *Resilience in higher education* appears as a critical node that links to *institutional support*, *emotional regulation* and *growth mindset*. This emphasizes the role of *individual adaptability* and *structural supports* in student success. Additionally, I mapped *differentiated instruction* as an essential part of *personalized learning* that entangles with *constructivist approaches*, *flexible teaching* and *digital pedagogy*. It highlights the importance of adaptive and student-driven learning environments.

Instead of imposing rigid categories, I designed this map to help reflect the evolving nature of education, where social, technological, and cultural factors intersect and shape learning experiences. I acknowledge that another researcher, informed by different theoretical orientations or positionalities, may have constructed alternative categories or highlighted different intersections within the same data.

### How Stage 4: Determining How Studies Relate

This stage builds upon the previous one by tracing intra-actions, material-discursive entanglements, and rhizomatic relationships. By engaging with *agential realism*, *sociomateriality* & *rhizomatic* mapping, this stage reframes studies not as separate contributions but as entangled nodes in a larger network of educational meaning-making. This shift from categorization to relationality allows for a deeper exploration of how education, pedagogy, literacies, policy making, resilience, technology, and inclusion continuously shape and are shaped by one another—not as fixed domains, but rather as co-emerging processes within the educational field. Instead of imposing hierarchical or categorical distinctions, this stage is flexible and embraces emergent relationships, where studies do not simply fit into predefined themes but co-constitute new ways of understanding education, pedagogy, and technology.

### **The Sociomaterial Intra-Action of Studies**

Figure 2 is a diagram that illustrates *intra-actions* rather than linear cause-effect relationships. The connections illustrate how studies relate through sociomaterial entanglements rather than thematic similarities alone. In Barad's (Barad, 2007), *agential realism*, intra-action means that elements do not act independently but are mutually co-constituted. This means that knowledge is not produced in isolation but emerges through entanglements of research, policy, pedagogy, and technology. Each component does not just influence knowledge. It is itself reshaped in the process:

**Figure 2.** Network visualization of how knowledge emerges through dynamic intra-actions.

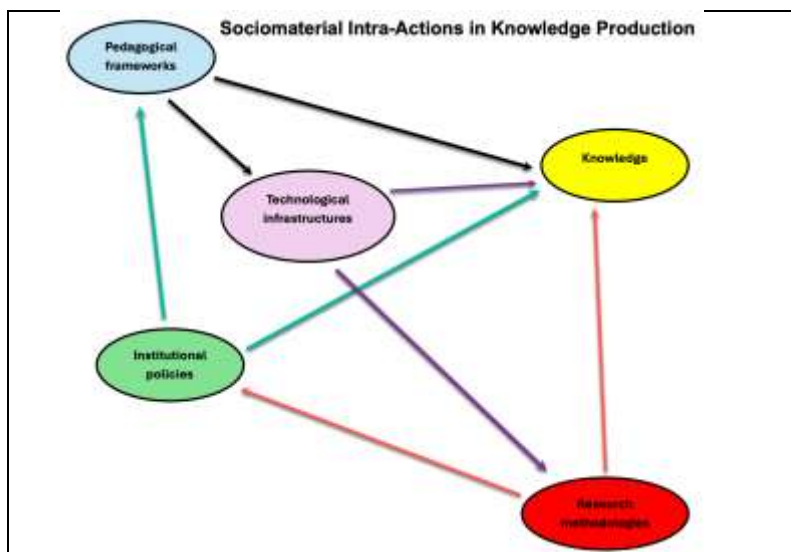


Figure 2 explores how knowledge production in education is shaped by research methodologies, institutional policies, pedagogical frameworks, and technological infrastructures rather than existing as neutral or objective facts. The unidirectional arrows are intended to represent the directional influences and patterns identified across the reviewed meta-ethnographies, illustrating how research methodologies, institutional policies,

pedagogical frameworks, and technological infrastructures often appear in the studies as shaping knowledge production in specific ways. The following four observations are drawn directly from the meta-ethnographies reviewed in this study:

*Research Methodologies* influence what is studied, how findings are framed, and whose knowledge is valued. While the meta-ethnographies included in this review often highlight systemic inequalities within educational contexts, they tend to focus on critique rather than proposing concrete solutions for change.

*Institutional Policies* shape access to knowledge and inclusion but often reinforce existing hierarchies instead of dismantling systemic barriers. Policies on widening participation, for example, may focus on access but fail to address deeper structural inequities.

*Pedagogical Frameworks* determine how learning is structured and valued. Translanguaging and digital pedagogy challenge traditional models, promoting inclusivity and learner agency, but institutional restrictions often limit their implementation.

*Technological Infrastructures* mediate knowledge access and participation, either enhancing learning opportunities or reinforcing digital divides. Early tech adoption and digital literacy shape student success, but access is often unequal.

### **How Stage 5: Translating Studies into One Another**

Since stage 3 has established the relational intra-actions among meta-ethnographic studies in education (Table 1) and stage 4 has established relationships between the studies (Figure 2), stage 5 focuses on translating them into one another through *reciprocal translation*, *refutational translation* and *line-of-argument synthesis*. Reciprocal translation involves identifying and aligning similar concepts across studies; refutational translation examines contradictions and opposing findings between studies; and line-of-argument synthesis builds an overarching interpretation by integrating these translations to construct a coherent narrative across the reviewed meta-ethnographies (Noblit & Hare, 1998). It involves analyzing how the studies intra-act and co-produce knowledge in order to build a deeper understanding of how education, pedagogy, policy, resilience, technology, and inclusion are shaped.

This process is informed by agential realism (knowledge is co-produced through intra-actions between researchers, methodologies and institutional structures), sociomateriality (research is shaped by policies, pedagogies and technologies rather than existing as neutral findings) and rhizomatic analysis (instead of fixed categories, studies are connected through dynamic, multi-directional relationships).

Instead of simply synthesizing findings, refutational translation in this stage examines how studies challenge or refute each other by highlighting inconsistencies in theoretical perspectives, methodologies, pedagogical approaches and policy implications across five thematic domains established in stage 3 (see Table 1): *General Education & Pedagogical Approaches*, *Higher Education & Student Learning*, *Educational Technology &*

---

*Digital Learning, Educational Justice, Policy & Teacher Training, Educational Assessment, Health & Fairness.*

Through five comparative tables (see Tables 2, 3, 4, 5, 6) dedicated to each thematic domain, I mapped *contradictions and divergences*, *shared insights* and *line of argument synthesis* of 14 studies across sociomaterial intra-actions established in stage 4 (Figure 2), a framework that acknowledges the entanglement of pedagogical practices, institutional structures, technological affordances, methodological choices, and knowledge production.

**Table 2.** Translations of General Education & Pedagogical Approaches through Sociomaterial Intra-Actions.

Sociomaterial Dimension	General Education & Pedagogical Approaches			Reciprocal translation	Refutational translation	Line-of-argument synthesis
	<i>Study 1 - A Meta-Ethnography of Family Literacy Scholarship (Compton-Lilly et al., 2020)</i>	<i>Study 2 - A Living Metaphor of Differentiation: A Meta-Ethnography of Cognitively Guided Instruction in the Elementary Classroom (Baker &amp; Harter, 2015)</i>	<i>Study 3 - Conceptualizing Foreign Language Teachers' Translanguaging Practices: A Meta-Ethnography of Qualitative Literature (Jeon et al., 2025)</i>			
<b>Pedagogical Frameworks</b>	Literacy is <b>socially embedded</b> in homes & communities.	Instruction is <b>teacher-driven &amp; structured</b> .	Language use is <b>flexible &amp; multilingual</b>	All studies emphasize <b>flexibility in pedagogy</b> , whether through family literacy, differentiation or multilingualism.	Community-based vs. Classroom-based learning. <b>Fixed vs. Fluid learning models.</b>	Education is shaped by both structured instructional models and socially emergent, flexible learning approaches. While differentiation provides teacher-led guidance, literacy practices and translanguaging highlight the importance of community and linguistic diversity in learning. Rather than positioning these approaches in opposition, a <b>hybrid pedagogical framework that integrates structured learning with socially embedded practices</b> will offer the most comprehensive model for fostering student success.
<b>Institutional Policies</b>	Policies should <b>bridge home &amp; school literacy</b> .	Policies should support <b>differentiation within schools</b> .	Advocates for <b>translanguaging in education</b> .	Policies should promote <b>inclusive &amp; student-centered learning approaches</b> .	Reformist vs. Adaptationist perspectives on policy. <b>Reformist vs. Adaptive approaches.</b>	Policies should aim for a <b>hybrid approach</b> that incorporates structured classroom learning while valuing home and multilingual literacy practices. Institutional frameworks should recognize that different students benefit from different models. <b>It suggests the need for adaptable educational policies that bridge formal &amp; informal learning settings</b> , ensuring inclusivity & responsiveness to learning needs.

<b>Technological Infrastructures</b>	Focuses on social networks and community literacy.	Differentiation often involves digital learning tools.	Digital tools are used as linguistic scaffolds.	Technology is acknowledged but plays a secondary role in literacy, differentiation & multilingual education.	Home-based vs. Classroom-based technology use. Minimal vs. Classroom vs. Linguistic tech use.	Technology plays a <b>supportive role</b> in education. Digital tools assist in differentiation & multilingual scaffolding but <b>remain secondary</b> to teacher and community-driven literacy practices. Technology <b>should complement rather than replace human-centered pedagogical approaches</b> . The emphasis should be on <b>strategic technology integration</b> that enhances and does not dictate learning experiences.
<b>Research Methodologies</b>	Ethnographic approach, focus on social & cultural literacy.	Cognitive-based approach, focus on learning structures.	Discourse analysis of translanguaging.	Qualitative meta-ethnographies and ethnographies offer rich insights into educational practices.	Sociocultural vs. Cognitive theories. Sociocultural vs. Cognitive vs. Linguistic discourse analysis	Theoretical & methodological diversity is necessary to capture the full scope of education. Ethnography highlights social learning; cognitive frameworks emphasize structured instruction & discourse analysis reveals language fluidity. <b>Combining these perspectives for a more holistic understanding</b> of educational practice & ensures that varied dimensions of learning are recognized & valued.
<b>Knowledge Production</b>	Knowledge is fluid and community driven.	Knowledge is structured and teacher guided.	Knowledge is dynamic & linguistically fluid.	Knowledge is socially constructed through family interactions, linguistic practices & teacher-student negotiations.	Fluid knowledge vs. Hierarchical knowledge progression. Emergent vs. Structured vs. Flexible knowledge	Knowledge production is produced through a complex interplay of structured learning, community engagement & linguistic adaption. This synthesis suggests that education should move toward more inclusive & multimodal modes of learning. <b>Recognizing that knowledge is socially constructed reinforces the need for flexible educational frameworks</b> that accommodate student needs & cultural contexts.
<b>Findings</b>	<i>Effective pedagogy balances teacher-guided instruction with community-based, multilingual approaches for inclusive learning. Policies should bridge formal and informal literacy practices and recognize diverse linguistic experiences. While digital tools aid differentiated instruction, they should supplement and not replace human-centered teaching. Methodological diversity highlights learning as socially constructed and linguistically fluid. Ultimately, education should embrace multimodal knowledge production and foster adaptability.</i>					

**Table 3.** Translations of Higher Education & Student Learning through Sociomaterial Intra-Actions.

Sociomaterial Dimension	Higher Education & Student Learning			Reciprocal translation	Refutational translation	Line-of-argument synthesis
	<i>Study 1 - The Role of Resilience in Higher Education: A Meta-Ethnographic Analysis of Students' Experiences</i> (Ang et al., 2021)	<i>Study 2 - Non-Native English-Speaking (NNES) Students' English Academic Writing Experiences in Higher Education: A Meta-Ethnographic Qualitative Synthesis</i> (Li, 2024)	<i>Study 3 - Scaffolding Structures to Promote Widening Participation in Higher Education: A Meta-Ethnographic Analysis</i> (Gummeson & Sjö Dahl Hammarland, 2024)			
<b>Pedagogical Frameworks</b>	Resilience is a personal trait that enables students to navigate challenges.	Academic writing challenges arise from <b>linguistic &amp; institutional barriers</b> , not personal deficits.	Higher education access requires <b>structured institutional scaffolding</b> , not just resilience.	All studies emphasize the <b>importance of support structures for student success</b> , whether through resilience, linguistic access or institutional scaffolding.	Resilience-based success vs. Structural support for students. <b>Personal agency vs. Institutional responsibility.</b>	Success in higher education is shaped by <b>individual resilience &amp; institutional support</b> . Some research emphasizes student perseverance and others highlight structural barriers faced by non-native English-speaking (NNES) & marginalized students. <b>A balanced approach is needed that integrates resilience-building strategies with systemic interventions</b> to foster inclusion.
<b>Institutional Policies</b>	Institutions should promote <b>resilience-building strategies</b> but focus on student adaptation.	Policies should address <b>structural inequities</b> in language support & assessment.	Policies must actively create <b>equitable pathways</b> for marginalized students.	Policies must shift <b>from individual responsibility to systemic inclusion</b> , ensuring that students are <b>not solely responsible for overcoming educational barriers</b> .	Adaptation to barriers (Ang) vs. Policy-driven reform (Li & Gummeson & Sjö Dahl Hammarland).	Policies should <b>address individual challenges &amp; systemic inequalities</b> by providing mentorship, language access programs, equitable participation frameworks. <b>Institutions must actively create inclusive learning environments</b> that support students from diverse linguistic & socio-economic backgrounds.
<b>Technological Infrastructures</b>	Technology can be used as a support tool for resilient learning but is not central.	<b>Digital</b> writing tools & <b>online support systems</b> are essential for NNES students.	Technology should be leveraged for <b>inclusion, accessibility, &amp; institutional</b> support.	Technology is seen as a <b>tool for accessibility</b> , with digital resources playing a <b>supportive role in resilience, writing skills &amp; inclusive education</b> .	Minimal role of tech in resilience (Ang) vs. Digital literacy as essential (Li) vs. Scaffolding success (Gummeson & Sjö Dahl Hammarland).	Technology serves as a critical tool for enabling higher education student resilience, writing proficiency & accessibility. Its role is supportive rather than central, reinforcing that institutional scaffolds must integrate tech resources to address linguistic & structural barriers <b>rather than relying solely on student perseverance</b> .

<b>Research Methodologies</b>	Meta-ethnographic <b>synthesis of resilience studies</b> , focusing on student experiences.	Qualitative synthesis of NNES student struggles, emphasizing systemic disadvantages.	Meta-ethnographic review of widening participation efforts in higher education.	Meta-ethnographic syntheses emphasize multiple lenses to capture student challenges & systemic inequities <b>emphasizing equity-based transformations.</b>	Focus on resilience (Ang) vs. Systemic inequities (Li) vs. Structural scaffolding (Gummesson & Sjö Dahl Hammarland).	The use of meta-ethnography & qualitative synthesis highlights the need for <b>integrating resilience, equity &amp; scaffolding frameworks to address systemic barriers in higher education.</b>
<b>Knowledge Production</b>	Knowledge is <b>individually shaped</b> by overcoming adversity.	Knowledge is structured by linguistic inequities & systemic barriers.	Knowledge is co-constructed through institutional pathways & systemic supports.	Knowledge is not only <b>personal</b> (resilience) but also <b>institutionally mediated</b> (language access and policy driven inclusion)	Individual knowledge vs. Structural inequities vs. Institutional scaffolding.	Knowledge in higher education is produced through the interplay of individual resilience & systemic supports. Resilience is shaped by personal experiences, but <b>academic success is determined by systemic factors such as linguistic accessibility, policy frameworks and inclusive learning environments.</b>
<b>Findings</b>	<i>Resilience alone is insufficient, because true inclusion requires removing structural barriers. Disparities between higher education accessibility, brought by inclusive participation frameworks &amp; systemic scaffolding, cannot be resolved by resilience alone. While technology provides accessibility support, it is the inclusive participation policies, resources &amp; institutional scaffolds that ensure student success. Ultimately, resilience is central to both individual &amp; institutional success, but it must be supported by policies, resources &amp; inclusive environments.</i>					

**Table 4.** Translations of Educational Technology & Digital Learning through Sociomaterial Intra-Actions.

Sociomaterial Dimension	Educational Technology & Digital Learning			Reciprocal translation	Refutational translation	Line-of-argument synthesis
	<i>Study 1 - Teachers' Beliefs About Technology Integration in Early Childhood Education: A Meta-Ethnographical Synthesis of Qualitative Research (Mertala, 2019)</i>	<i>Study 2 - Evaluating Technological Interventions for Developing Teamwork Competency in Higher Education: A Systematic Review and Meta-Ethnography (Hu &amp; Chan, 2024)</i>	<i>Study 3 - Student Voices in Creative Teaching Practices with Digital Media: A Meta-Ethnographic Research (López Fuentes, 2024)</i>			
<b>Pedagogical Frameworks</b>	Teachers are skeptical about technology's role in early education, emphasizing <b>traditional play-based learning.</b>	Technology enhances <b>teamwork competencies</b> in higher education, improving collaboration & engagement.	Digital media fosters <b>creativity, student agency &amp; multimodal expression</b> in learning.	All studies explore <b>technology role in education</b> , ranging from <b>skepticism in early childhood education to teamwork development &amp; creativity in higher education.</b>	Traditional, play-based early learning (Mertala) vs. Technology-driven teamwork and collaboration (Hu & Chan) vs. Digital media for creative learning (López Fuentes).	The role of technology in education varies across different levels of learning. Early childhood educators express skepticism toward digital tools. They prioritize traditional learning experiences. However, higher education researchers advocate for technology-enhanced collaboration & creativity. A <b>balanced approach is needed to ensure that technology is integrated in developmentally appropriate ways.</b>
<b>Institutional Policies</b>	Institutional policies often push for tech integration, but <b>teachers resist</b> due to developmental concerns.	Institutional policies should support <b>digital teamwork environments &amp; tech-based pedagogies.</b>	Policies should prioritize <b>student-centered, creative &amp; participatory</b> digital learning approaches.	Policies should address <b>educators' perspectives</b> on technology & <b>adapt strategies based on developmental stages.</b>	Resistance to policy-driven tech adoption (Mertala) vs. Institutional support for tech-based teamwork (Hu & Chan) vs. Need for student-centered digital learning policies (López Fuentes).	Policies that promote technology integration <b>should consider educators' perspectives &amp; students' developmental needs.</b> Rather than a universal push for digital learning, institutions <b>should adopt context-sensitive strategies that align with different pedagogical goals.</b> This will ensure that technology enhances rather than disrupts learning experiences.
<b>Technological Infrastructures</b>	Technology is seen as an <b>optional supplement</b> rather than a central tool for learning.	Technology is an essential medium for developing collaboration, <b>communication &amp; problem-solving skills.</b>	Technology is a tool for <b>student empowerment</b> , encouraging active rather than passive consumption.	Technology is seen as a <b>context-dependent</b> tool where its value depends on how it is integrated into pedagogy.	Technology as supplementary (Mertala) vs. Technology as essential (Hu & Chan) vs. Empowering	Technology is framed as both an enabler & a disruptor. While it fosters teamwork & creativity in higher education, its role in early education remains challenged. <b>The differences in digital tool adoption show that its impact is mediated, suggesting that institutions must craft critical frameworks for technology use.</b>

<b>Research Methodologies</b>	Meta-ethnographic synthesis of teachers' perspectives on early <b>childhood tech use.</b>	Systematic review & meta-ethnography of <b>digital teamwork interventions</b> in university settings.	Meta-ethnographic research exploring <b>student voices</b> in digital learning environments.	Meta-ethnographic approaches provide <b>insights into differing perspectives,</b> showcasing qualitative perspectives on <b>digital learning.</b>	practices (López Fuentes). Structured synthesis (Mertala) vs. Systematic review (Hu & Chan) vs. Student perspectives (López Fuentes).	Qualitative meta-ethnographies & systematic reviews highlight the voices of educators & students engaging with digital tools. <b>These diverse approaches create a more nuanced understanding of balanced, evidence-based adoption of digital learning.</b>
<b>Knowledge Production</b>	Knowledge is shaped by <b>hands-on experiences</b> & critical reflections that inform digital learning goals.	Knowledge is co-constructed by multimodal & <b>digital collaborative team-based</b> learning experiences.	Knowledge is shaped by student agency & <b>multimodal expression in creative digital practices.</b>	Knowledge is <b>constructed differently when digital media is integrated,</b> reflecting diversity in educational outcomes.	Knowledge through teacher resistance (Mertala) vs. Knowledge co-constructed via collaboration (Hu & Chan) vs. Student multimodal knowledge (López Fuentes).	Knowledge is produced in multiple ways through digital learning, depending on context. <b>A balanced framework is required to accommodate multimodality &amp; creativity, while remaining developmentally appropriate.</b>
<b>Findings</b>	<i>Technology use should be developmentally appropriate. Early education should emphasize play-based learning &amp; higher education should benefit from digital collaboration. Policies must be context-sensitive &amp; align digital learning with pedagogical goals rather than apply it uniformly. Technology that acts as both an enabler &amp; curator can enhance engagement when used thoughtfully.</i>					

**Table 5.** Translations of Educational Justice, Policy & Teacher Training through Sociomaterial Intra-Actions.

Sociomaterial Dimension	Educational Justice, Policy & Teacher Training			Reciprocal translation	Refutational translation	Line-of-argument synthesis
	<i>Study 1.</i>	<i>Study 2.</i>	<i>Study 3.</i>			
	<i>Investigating the Education of Preservice Teachers for Inclusive Education: A Meta-Ethnography (Pérez-Castejón &amp; Vigo-Arrazola, 2021)</i>	<i>Critical Ethnographic Ethnographies of Education and for Social and Educational Transformation: A Meta-Ethnography (Beach &amp; Vigo-Arrazola, 2021)</i>	<i>Constructing a Conceptual Framework for Professional Identity Development in International Social Work Students: A Meta-Ethnographic Review (Yao, 2021)</i>			
Pedagogical Frameworks	<b>Inclusive education</b> requires well-trained teachers who can <b>adapt pedagogy to diverse student needs</b> .	Education should be a <b>tool for social transformation</b> , challenging existing power structures and inequities.	<b>Professional identity</b> in social work is developed through reflective practice, mentorship & community engagement.	All studies emphasize <b>the role of education in shaping social &amp; professional identities</b> , whether through inclusion, activism or professional development.	Teacher education for inclusion (Pérez-Castejón & Vigo-Arrazola) vs. Education as a tool for systemic change (Beach & Vigo-Arrazola) vs. Professional identity formation in social work (Yao).	Teacher training, educational activism & professional identity development intersect <b>in shaping the role of education for justice &amp; inclusion</b> . While teacher education focuses on classroom inclusion, critical ethnographies highlight systemic inequities & professional identity formation emphasizes mentorship & reflective practice. <b>These perspectives must be integrated to prepare educators for both practical teaching &amp; social change.</b>
Institutional Policies	Institutional policies should prioritize <b>teacher training</b> programs that emphasize inclusion.	Institutional policies often <b>resist change</b> , reinforcing systemic inequities rather than fostering inclusion.	Institutional policies should <b>support identity formation</b> by creating mentorship opportunities and community-based learning.	Institutional policies play a <b>dual role</b> , either enabling change (teacher education & mentorship) or resisting transformation (systemic barriers in policy).	Policies that promote teacher inclusion (Pérez-Castejón & Vigo-Arrazola) vs. Policies that emphasize transformation (Beach & Vigo-Arrazola) vs. Policies that support identity development in professional fields (Yao).	<b>Policies must support inclusive teacher training &amp; mentorship programs, otherwise risk systemic inequities.</b> Institutions must move beyond performative commitments to dismantle barriers & implement transformative policies that foster real inclusion & equity in education.

<b>Technological Infrastructures</b>	Technology is useful in <b>supporting inclusive pedagogy</b> but is not the central focus.	Technology is often shaped by <b>institutional biases</b> , reinforcing existing educational hierarchies.	Technology facilitates <b>professional networking &amp; identity development</b> but is secondary to social interactions.	Technology is acknowledged as a <b>secondary but useful tool</b> in supporting inclusion, activism & professional identity formation.	Technology as a support tool for inclusion (Pérez-Castejón & Vigo-Arrazola) vs. Technology as an instrument of institutional power (Beach & Vigo-Arrazola) vs. Technology as a networking tool in professional identity formation (Yao).	Technology plays a secondary but supportive role in teacher training, activism & professional identity development. Digital tools can facilitate networking, mentorship & social inclusion, but their effectiveness depends on institutional policies & pedagogical use. <b>Policies must ensure that technology is used to support inclusion rather than reinforce existing inequities.</b>
<b>Research Methodologies</b>	Meta-ethnographic synthesis of <b>teacher education</b> studies focusing on inclusive practices.	Critical ethnographic analysis of systemic <b>educational injustices &amp; educational transformation.</b>	Meta-ethnographic synthesis of studies on <b>professional identity development.</b>	Methodologically, all studies use <b>qualitative synthesis (meta-ethnographies, critical ethnographies) to address educational injustices, transformation &amp; professional development.</b>	Meta-ethnography for teacher training (Pérez-Castejón & Vigo-Arrazola) vs. Critical ethnography for systemic inequities (Beach & Vigo-Arrazola) vs. Meta-ethnography of professional identity (Yao).	Use of qualitative meta-ethnographies & critical ethnographic methods provides in-depth insights into how educational practices shape systemic inclusion & professional identity. <b>These methodologies highlight the importance of synthesis &amp; reflexivity in developing educational justice &amp; professional formation.</b>
<b>Knowledge Production</b>	<b>Knowledge is co-constructed</b> through teacher training, reflection, and professional development.	<b>Knowledge is shaped by</b> historical, political, social, economic & cultural agency.	<b>Knowledge is developed</b> through mentorship, professional communities & social interactions.	Knowledge is co-constructed through training, mentorship & activism.	Knowledge in the realm of educational justice (Pérez-Castejón & Vigo-Arrazola) vs. Knowledge as systemic transformation (Beach & Vigo-Arrazola) vs. Knowledge in professional identity shared by Yao.	Knowledge is shaped by multiple contexts including teacher education, systemic transformation & professional training structures. It is both constructed & contested. <b>Educators &amp; policymakers must critically examine how knowledge is produced &amp; circulated to shape inclusive educational environments.</b>
<b>Findings</b>	<i>Teacher training, activism &amp; professional development must be integrated with traditional education fostering inclusion, activism critiquing systemic inequities &amp; identity formation supporting reflective teaching. Policies must go beyond performative commitments to implement sustainable equity-driven reforms. Technology is</i>					

*useful but secondary; must reinforce and not undermine inclusivity. Knowledge is co-constructed through training, activism & teacher identity formation. Ultimately, knowledge in education is shaped by institutional structures & activism, requiring critical engagement to foster justice-oriented teaching.*

**Table 6.** Translations of Educational Assessment, Health & Fairness through Sociomaterial Intra-Actions.

Sociomaterial Dimension	Educational Assessment, Health & Fairness		Reciprocal translation	Refutational translation	Line-of-argument synthesis
Pedagogical Frameworks	<p><i>Study 1.</i> Parents' and Teachers' Perceptions of Physical Activity in Schools: A Meta-Ethnography (Alcántara Porcar &amp; Rodríguez-Martin, 2022)</p>	<p><i>Study 2.</i> Re-Conceptualizing Classroom Assessment Fairness: A Systematic Meta-Ethnography of Assessment Literature and Beyond (Rasooli, Zandi, &amp; DeLuca, 2017)</p>	Both studies examine how <b>institutional structures shape student experiences</b> , whether in <b>physical activity or assessment fairness</b> .	Physical activity as an educational priority (Alcántara Porcar & Rodríguez-Martin) vs. Assessment fairness as the foundation of education (Rasooli et al.).	Educational fairness encompasses both physical well-being (through school-based physical activity) & fair assessment practices. While one perspective prioritizes student health as a critical component of education, another focuses on equitable grading systems that ensure academic justice. <b>A balanced framework should recognize that physical well-being &amp; fair assessment contribute to holistic student development.</b>
Institutional Policies	Institutional policies on physical education vary, often reflecting <b>broader societal &amp; cultural norms</b> .	Institutional policies should ensure <b>fairness in assessments</b> but often reinforce <b>systemic inequities</b> .	Policies play a decisive role in <b>structuring fairness</b> , either in <b>assessment practices or physical education opportunities</b> .	Policies reflecting societal norms (Alcántara Porcar & Rodríguez-Martin) vs. Policies that claim fairness but reinforce inequities (Rasooli et al.).	Institutional policies play a crucial role in shaping student well-being & assessment fairness. Policies governing physical activity in schools often reflect societal norms rather than educational priorities, while assessment fairness is framed as an institutional commitment but often reproduces structural inequities. <b>Education policies must actively ensure that both student health &amp; fair academic evaluation are prioritized.</b>
Technological Infrastructures	Technology is not a central factor but can be used to <b>track &amp; assess</b> student physical activity levels.	Technology can be used to <b>improve transparency &amp; consistency in assessment</b> but may also introduce biases.	Technology can <b>support both fairness and physical activity tracking but is not the central factor in</b>	Technology as an optional tracking tool (Alcántara Porcar & Rodríguez-Martin) vs. Technology as a means	Technology is used in both domains as a tool for <b>measuring physical activity in schools &amp; as a means of increasing assessment transparency</b> . While digital tools can enhance fairness in assessment, they also risk reinforcing inequities if not

			<b>shaping educational equity.</b>	of ensuring or distorting fairness (Rasooli et al.).	implemented critically. Similarly, fitness tracking technologies in schools <b>must be integrated thoughtfully to support rather than control student well-being.</b>
<b>Research Methodologies</b>	Meta-ethnographic synthesis of qualitative research on perceptions of <b>school-based physical activity.</b>	Systematic meta-ethnographic synthesis of <b>fairness in classroom assessments</b> across various educational contexts.	Meta-ethnographies provide insights into how <b>institutional contexts shape physical activity &amp; assessment fairness in relation to student well-being.</b>	Meta-ethnography of school-based physical activity perceptions (Alcántara Porcar & Rodríguez-Martín) vs. Meta-ethnography of fairness discourse in assessments (Rasooli et al.).	Meta-ethnographies & systematic reviews provide insights into the structures influencing fairness in education. These methodologies <b>reveal how the same societal structures &amp; facilitators shape well-being &amp; assessment equity, highlighting the need for policies that address both physical &amp; academic justice.</b>
<b>Knowledge Production</b>	Knowledge about physical education is shaped by <b>cultural beliefs &amp; educational priorities.</b>	Knowledge is situated, shaped by <b>institutional, political &amp; social dynamics.</b>	Knowledge in both domains is <b>socially and institutionally framed.</b>	Knowledge is shaped by cultural beliefs and norms (Alcántara Porcar & Rodríguez-Martín) vs. Knowledge institutionally framed to ensure fairness (Rasooli et al.).	Knowledge in the domain is shaped by institutional priorities, whether emphasizing physical health or fair assessment. Both are socially constructed processes that require continuous re-evaluation to ensure they serve student needs rather than reproduce systemic convenience. <b>Education &amp; physical movement must be integrated with fairness in both assessment &amp; physical education contexts.</b>
<b>Findings</b>	<i>Physical health &amp; academic fairness are interconnected which requires a balance between physical activity &amp; equitable assessment. Institutional policies must align with equity goals &amp; ensure that physical education reflects educational priorities &amp; assessment practices remain unbiased. While technology can enhance transparency through fitness tracking &amp; digital grading, it may also reproduce or critically implement inequities. Meta-ethnographies reveal how policies shape both student well-being &amp; academic outcomes. Ultimately, fairness in education is not static but must be continuously reassessed to prioritize student needs over institutional convenience.</i>				

### **How Stage 6: Synthesizing Translations**

Stage 6 is the core interpretive phase where key insights from the reciprocal, refutational and line-of-argument translations are brought together to develop a higher-order synthesis (Hardman & Bishop, 2018). This stage moves beyond simply comparing studies (Stage 5) and constructs an integrated, theoretical and conceptual interpretation of new understandings (France et al., 2015).

In this stage, I developed a higher-order interpretation by integrating insights from reciprocal, refutational & line-of-argument translations. Using rhizomatic thinking, I embraced complexity rather than imposing a single interpretation. I positioned differentiation, family literacy, and translanguaging as complementary and not opposing models. Grounded in agential realism, I recognized the synthesis as an emergent process shaped by methodological entanglements and power structures. This stage ensured that the synthesis was a critical engagement with how education is structured, mediated, and challenged across different contexts. Each of the five translation tables in stage 5 (see Tables 2, 3, 4, 5, 6) revealed several interwoven insights:

#### **Table 2: General Education & Pedagogical Approaches**

Table 2 highlights the need for flexible, student-centered pedagogy by synthesizing perspectives on family literacy, differentiated instruction, and translanguaging pedagogy. Some studies emphasize structured and teacher-led learning. Others advocate for socially emergent or linguistically fluid approaches. The synthesis suggests that instead of viewing these models as conflicting, they can be integrated into a hybrid framework that combines structured differentiation, community-based literacy, and multilingual engagement. This approach ensures inclusive, adaptable education that responds to diverse learner needs while recognizing technology as a secondary support tool rather than the primary driver of pedagogy.

#### **Table 3: Higher Education & Student Learning**

Table 3 emphasizes the importance of support structures in higher education. It highlights how resilience-building, linguistic accessibility and institutional scaffolding contribute to student success. The resilience is often seen as an individual trait, but the synthesis argues that success is institutionally mediated through inclusive policies, mentorship programs, and digital tools such as writing aids and online learning platforms. A key tension arises between personal perseverance and systemic barriers, particularly for non-native English-speaking students. The synthesis proposes a dual framework, recognizing that both individual resilience and institutional support are essential for ensuring equitable access and success in higher education.

#### **Table 4: Educational Technology & Digital Learning**

Table 4 highlights that technology's role in education is context-dependent and varies across developmental stages and pedagogical needs. Early childhood educators are skeptical of digital tools (Mertala, 2019). On the other hand, higher education scholars advocate for technology-enhanced collaboration (Hu & Chan, 2024), where digital media is seen as a creative learning tool (López Fuentes, 2024). The key debate is whether technology should be a central learning tool or a supplementary aid, with tensions between tech skepticism in early education, its necessity for teamwork in higher education, and its creative potential for students. The synthesis suggests that technology should be thoughtfully integrated based on pedagogical relevance rather than universally applied.

### **Table 5: Educational Justice, Policy & Teacher Training**

Table 5 highlights how education shapes social and professional identities through inclusive teacher training (Pérez-Castejón & Vigo-Arrazola, 2021), critical ethnography for systemic change (Beach & Vigo-Arrazola, 2024), and professional identity formation in social work (Yao, 2021). Institutional policies serve as both enablers and barriers. They foster inclusion in teacher education and reinforce systemic inequities. Technology is viewed as a secondary tool for networking and activism rather than a driver of transformation. The key debate is whether education should prioritize professional training, systemic critique, or mentorship-based identity formation. The synthesis suggests that equitable education requires a balance between teacher training, activism, and professional development to create meaningful change.

### **Table 6: Educational Assessment, Health & Fairness**

The reciprocal translation in Table 6 connects physical activity in schools and assessment fairness (Alcántara Porcuna & Rodríguez-Martín, 2022), showing that institutional policies shape student well-being and academic equity. While one study focuses on how societal norms influence physical activity policies, the other critiques how assessment fairness is framed as equitable but often reinforces systemic inequalities. In both cases, technology is used as a tool for transparency and tracking but does not directly address deeper structural inequities. The key takeaway is that both physical activity and assessment fairness are institutionally mediated, with policy decisions playing a critical role in determining student access, equity, and success.

Table 6 refutes physical activity as a social norm (Alcántara Porcuna & Rodríguez-Martín, 2022) with assessment fairness as an institutional discourse (Rasooli et al., 2018). While one study examines how physical education is shaped by social expectations, the other critiques how assessment policies claim to be fair but often reinforce inequalities. This contradiction exposes how education prioritizes different aspects of fairness, whether in physical engagement or standardized evaluation.

The line of argument synthesis connects physical activity in schools and assessment fairness, demonstrating that both are institutionalized forms of fairness in

education. Instead of treating these as separate domains, it argues for a holistic fairness framework that integrates student well-being with equitable academic evaluation.

To conclude, by synthesizing insights across Tables 2 - 6, reciprocal translation revealed alignment in how education is structured, mediated, and supported through policies, pedagogy, and technology.

Across the five domains, this synthesis revealed several key takeaways:

- **Hybrid models are essential:** Structured and emergent learning approaches should not be treated as opposing paradigms but as complementary frameworks.
- **Institutional policies shape educational justice:** Rather than maintaining performative equity measures, institutions must actively dismantle barriers in assessment, learning environments and professional training.
- **Technology should support human-centered learning:** Digital tools are valuable but should never replace student-centered, inclusive pedagogical strategies.
- **Meta-ethnographies and qualitative research are crucial:** These methods provide rich insights into systemic inequalities, student experiences and policy effectiveness.
- **Fairness in education is multidimensional:** A truly equitable educational system must integrate academic fairness and student well-being into its core policies and practices.

#### ***How Stage 7: Expressing the Synthesis***

The synthesis process ensures a coherent integration of findings by identifying key alignments, contradictions, and conceptual relationships across studies. Theoretical and methodological considerations are addressed through sociomateriality, rhizomatic thinking and agential realism. They allow for a fluid and non-hierarchical interpretation of knowledge. The researcher's role in shaping meaning is acknowledged through reflexivity, ensuring the synthesis is critical rather than descriptive. This study demonstrates that using meta-ethnography to conduct a meta-meta-ethnographic synthesis is feasible, while also revealing the methodological challenges and theoretical insights that arise from this higher-order approach. Ultimately, this synthesis demonstrates that meta-ethnography is not just about summarizing studies but also about actively interrogating how knowledge is produced, mediated, and contested within education and research.

### **Discussion**

This meta-meta-ethnographic review demonstrates the feasibility of synthesizing meta-ethnographies to generate higher-order insights into education, pedagogy, and digital learning. By applying Noblit & Hare's (1988) framework, this study reveals how institutional policies, pedagogical frameworks, and technology shape knowledge production and reinforce the entangled nature of educational research.

This meta-meta-ethnographic synthesis illustrates how existing meta-ethnographies in education collectively portray education as a dynamic, co-constructed

process mediated by social, institutional, and technological forces. The synthesis underscores the need for hybrid pedagogical models that integrate structured and emergent learning approaches, and institutional policies that move beyond performative equity measures. It also found that fairness in education must be viewed holistically, encompassing both academic equity and student well-being. These insights that emerged from this meta-meta-ethnographic synthesis found that hybrid pedagogical models integrating structured and emergent learning approaches are needed. Also, institutional policies must move beyond performative equity measures, and fairness in education should be viewed holistically to encompass both academic equity and student well-being.

While this study demonstrates the potential of meta-meta-ethnography, it is limited by its focus on 14 meta-ethnographies in education. Future research should expand to other disciplines, integrate computational synthesis methods, and explore how AI-driven tools can support qualitative synthesis. By refining meta-ethnographic methodologies, scholars can enhance the rigor and applicability of qualitative synthesis in education and beyond.

### **Limitations and Possible Solutions of This Review**

While this pilot meta-meta-ethnographic study provides valuable insights into the synthesis of meta-ethnographies, it also presents several methodological, theoretical and practical challenges. The study synthesized only 14 meta-ethnographies, which, while diverse, may not fully capture the breadth of meta-ethnographic research across different disciplines. Findings are primarily focused on education, pedagogy, and digital learning, limiting their applicability to other fields. Future studies could incorporate a larger and more diverse set of meta-ethnographies, including those from other disciplines such as healthcare, sociology, and cultural studies. Combining meta-ethnography with quantitative synthesis techniques (e.g., systematic reviews or bibliometric analysis) could triangulate findings and enhance credibility.

There could be a double-layered interpretation bias. Since meta-ethnographies already involve interpretation, adding another layer of synthesis increases the risk of over-abstracting findings and losing contextual richness. By prioritizing ethical sensitivity in synthesis researchers should develop guidelines for ethical meta-synthesis that ensure original participant voices and contexts remain central to the analysis. Maintaining a reflexive approach by engaging in reflexive journaling throughout the synthesis process to document interpretive decisions would help minimize the bias.

While this review demonstrates the potential of meta-meta-ethnography, it also highlights key methodological, theoretical, and ethical challenges. By addressing these limitations through expanded sampling, methodological rigor, theoretical triangulation, digital integration, and ethical reflexivity, future research can refine the meta-ethnographic approach to ensure it remains robust, inclusive, and theoretically generative.

## References

- Alcántara Porcuna, V., & Rodríguez-Martín, B. (2022). Parents' and Teachers' Perceptions of Physical Activity in Schools: A Meta-Ethnography. *The Journal of School Nursing*, 38(1), 98–109. <https://doi.org/10.1177/1059840520972005>
- Aslan, A., Mold, F., Van Marwijk, H., & Armes, J. (2024). What are the determinants of older people adopting communicative e-health services: A meta-ethnography. *BMC Health Services Research*, 24(1), 60. <https://doi.org/10.1186/s12913-023-10372-3>
- Atkins, S., Lewin, S., Smith, H., Engel, M., Fretheim, A., & Volmink, J. (2008). Conducting a meta-ethnography of qualitative literature: Lessons learnt. *BMC Medical Research Methodology*, 8(1), 21. <https://doi.org/10.1186/1471-2288-8-21>
- Barad, K. (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning*. Duke University Press.
- Barendregt, B. (2021). Digital ethnography, or 'deep hanging out' in the age of big data. In *Audiovisual and Digital Ethnography* (pp. 168–190). Routledge.
- Beach, D., & Vigo-Arrazola, M. B. (2021). Critical Ethnographies of Education and for Social and Educational Transformation: A Meta-Ethnography. *Qualitative Inquiry*, 27(6), 677–688. <https://doi.org/10.1177/1077800420935916>
- Beach, D., & Vigo-Arrazola, M. B. (2024). Researching in solidarity with marginalised groups: A meta-ethnography about research for educational justice and social transformation. *International Journal of Qualitative Studies in Education*, 37(10), 2981–2996. <https://doi.org/10.1080/09518398.2024.2348783>
- Britten, N., Campbell, R., Pope, C., Donovan, J., Morgan, M., & Pill, R. (2002). Using meta ethnography to synthesise qualitative research: A worked example. *Journal of Health Services Research & Policy*, 7(4), 209–215. <https://doi.org/10.1258/135581902320432732>
- Campbell, R., Pound, P., Morgan, M., Daker-White, G., Britten, N., Pill, R., Yardley, L., Pope, C., & Donovan, J. (2011). Evaluating meta-ethnography: Systematic analysis and synthesis of qualitative research. *Health Technology Assessment*, 15(43). <https://doi.org/10.3310/hta15430>
- Cellard, L. (2022). Algorithms as figures: Towards a post-digital ethnography of algorithmic contexts. *New Media & Society*, 24(4), 982–1000. <https://doi.org/10.1177/14614448221079032>
- Chowdhury, J., Haris Abd. Wahab, Mohd. Rashid Mohd. Saad, Roy, P., & Wronka, J. (Eds.). (2022). *Practices, challenges, and prospects of digital ethnography as a multidisciplinary method*. Information Science Reference.

- Compton-Lilly, C. F., Rogers, R. L., & Lewis Ellison, T. (2020). A Meta-Ethnography of Family Literacy Scholarship: Ways With Metaphors and Silence. *Reading Research Quarterly*, 55(2), 271–289. <https://doi.org/10.1002/rrq.272>
- Deleuze, G., & Guattari, F. (1994). *What is philosophy?* Columbia University Press.
- Deleuze, G. & Guattari, F. (2007). *A thousand plateaus: Capitalism and schizophrenia*. University of Minnesota Press.
- Deleuze, G., & Lapoujade, D. (2003). *Gilles Deleuze*. adpf.
- France, E. F., Cunningham, M., Ring, N., Uny, I., Duncan, E. A., Jepson, R. G., Maxwell, M., Roberts, R. J., Turley, R. L., Booth, A., Britten, N., Flemming, K., Gallagher, I., Garside, R., Hannes, K., Lewin, S., Noblit, G. W., Pope, C., Thomas, J., ... Noyes, J. (2019). Improving reporting of meta-ethnography: The eMERG e reporting guidance. *Journal of Advanced Nursing*, 75(5), 1126–1139. <https://doi.org/10.1111/jan.13809>
- France, E. F., Ring, N., Noyes, J., Maxwell, M., Jepson, R., Duncan, E., Turley, R., Jones, D., & Uny, I. (2015). Protocol-developing meta-ethnography reporting guidelines (eMERGe). *BMC Medical Research Methodology*, 15(1), 103. <https://doi.org/10.1186/s12874-015-0068-0>
- Grigoryan, T. (2024). Short essay: Current issues in digital ethnography: is all ethnography digital? *Journal of Organizational Ethnography*, 13(1), 19–28. <https://doi.org/10.1108/joe-02-2024-0008>
- Hardman, D., & Bishop, F. L. (2018). *The Importance of Logic When Choosing How to Approach a Systematic Review: Lessons From a Meta-Ethnography of How Healthcare Professionals and Patients Understand Placebos and Their Effects in Primary Care*. Sage Publications. <https://doi.org/10.4135/9781526445353>
- Hine, C. (2020). *Ethnography for the internet: Embedded, embodied and everyday*. Routledge.
- Hu, W., & Chan, C. K. Y. (2024). Evaluating technological interventions for developing teamwork competency in higher education: A systematic review and meta-ethnography. *Studies in Educational Evaluation*, 83, 101382. <https://doi.org/10.1016/j.stueduc.2024.101382>
- Li, M. (2024). Non-native English-speaking (NNES) students' English academic writing experiences in higher education: A meta-ethnographic qualitative synthesis. *Journal of English for Academic Purposes*, 71, 101430. <https://doi.org/10.1016/j.jeap.2024.101430>
- López Fuentes, A. V. (2024). Student voices in creative teaching practices with digital media: A meta-ethnographic research. *Ethnography and Education*, 19(4), 411–429. <https://doi.org/10.1080/17457823.2024.2368034>

- Markham, A. (2012). Fabrication as ethical practice: Qualitative inquiry in ambiguous Internet contexts. *Information, Communication & Society*, 15(3), 334–353. <https://doi.org/10.1080/1369118X.2011.641993>
- Markham, A. N. (2013). Fieldwork in Social Media. *Qualitative Communication Research*, 2(4), 434–446. <https://doi.org/10.1525/qcr.2013.2.4.434>
- Mertala, P. (2019). Teachers’ beliefs about technology integration in early childhood education: A meta-ethnographical synthesis of qualitative research. *Computers in Human Behavior*, 101, 334–349. <https://doi.org/10.1016/j.chb.2019.08.003>
- Murphy, S., & Headley, M. (2020). The role of digital technology in teen mothers’ and their children’s literacy. *Journal of Early Childhood Literacy*, 20(4), 755–782. <https://doi.org/10.1177/1468798418783326>
- Noblit, G. W. . & Hare, R. Dwight. (2012). *Meta-ethnography: Synthesizing qualitative studies*. Sage.
- Noblit, G. W., & Hare, R. D. (1988). *Meta-ethnography: Synthesizing qualitative studies*. Sage Publications.
- Orlikowski, W. J. (2007). Sociomaterial Practices: Exploring Technology at Work. *Organization Studies*, 28(9), 1435–1448. <https://doi.org/10.1177/0170840607081138>
- Orlikowski, W. J., & Scott, S. V. (2008). 10 Sociomateriality: Challenging the Separation of Technology, Work and Organization. *Academy of Management Annals*, 2(1), 433–474. <https://doi.org/10.5465/19416520802211644>
- Orlikowski, W. J., & Scott, S. V. (2021). Liminal innovation in practice: Understanding the reconfiguration of digital work in crisis. *Information and Organization*, 31(1), 100336. <https://doi.org/10.1016/j.infoandorg.2021.100336>
- Orlikowski, W. J., & Scott, S. V. (2023). The digital undertow and institutional displacement: A sociomaterial approach. *Organization Theory*, 4(2). <https://doi.org/10.1177/26317877231180898>
- Pérez-Castejón, D., & Vigo-Arazola, M. B. (2021). Investigating the education of preservice teachers for inclusive education: Meta-ethnography. *European Journal of Teacher Education*, 1–18. <https://doi.org/10.1080/02619768.2021.2019702>
- Pink, S., Horst, H. A., Postill, J., Hjorth, L., Lewis, T., & Tacchi, J. (2016). *Digital ethnography: Principles and practice*. Sage.
- Rasooli, A., Zandi, H., & DeLuca, C. (2018). Re-conceptualizing classroom assessment fairness: A systematic meta-ethnography of assessment literature and beyond. *Studies in Educational Evaluation*, 56, 164–181. <https://doi.org/10.1016/j.stueduc.2017.12.008>
- Sung, H., & Tsai, T. (2023). Supporting Early Literacy in Public Libraries: A Meta-ethnography of Qualitative Studies. *Proceedings of the Association for*

*Information Science and Technology*, 60(1), 1140–1142.

<https://doi.org/10.1002/pra2.971>

Toye, F., Seers, K., Allcock, N., Briggs, M., Carr, E., & Barker, K. (2014). Meta-ethnography 25 years on: Challenges and insights for synthesising a large number of qualitative studies. *BMC Medical Research Methodology*, 14(1), 80.

<https://doi.org/10.1186/1471-2288-14-80>

Vo, T. (2023). Southeast and East Asian immigrant women's transnational postpartum experiences: A meta-ethnography. *Journal of Clinical Nursing*, 32(9–10), 1556–1568. <https://doi.org/10.1111/jocn.16037>

Yao, H.-Y. (2021). Constructing a conceptual framework for professional identity development in international social work students: A meta-ethnographic review. *Qualitative Social Work*, 20(4), 928–949.

<https://doi.org/10.1177/1473325020912831>