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Reconceptualizing Mixed Methods Research Design in the Social Sciences: From Typology-Driven Templates to Context-Responsive Inquiry

Reconceptualising Mixed Methods Research Design in the Social Sciences: From Typology-Driven Templates to Context-Responsive Inquiry

Mohamed Hussein Abdiweli[1] & Mellitus Nyongesa Wanyama[2]
[1]*Tangaza University, Kenya*
[2]*Kabarak University, Kenya*

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Abstract
This paper presents a thematic narrative review of mixed methods research (MMR) design in the social sciences, critically examining its evolution, philosophical foundations, typologies, integration strategies, dimensions of validity, strengths, and limitations. Three guiding questions frame the review: (1) How can mixed methods design move beyond typology-driven templates toward context-responsive, problem-driven approaches? (2) What constitutes strong integration in practice, and how can it be systematically designed? (3) How should researchers navigate philosophical pluralism — Pragmatism, Transformative Paradigm, and dialectical pluralism — in concrete design decisions? Drawing on a thematic synthesis of peer-reviewed articles, handbooks, and methodological works published primarily between 2004 and 2024, the review argues that mixed methods research should not be treated as a menu of fixed designs. Instead, it advances five context-responsive design principles: starting from the problem and context; pre-specifying integration points across design, data collection, analysis, and interpretation; making philosophical stance explicit and reflexive; designing for genuine meta-inference rather than parallel reporting; and tailoring designs to social, cultural, and institutional contexts. The paper illustrates these principles with concrete examples of integration success and failure, provides a comparative framework contrasting typology-driven and problem-driven design, and translates findings into practical guidance for novice researchers, supervisors, and practitioner-researchers. The review concludes that MMR, when designed adaptively and implemented with deliberate integration and reflexivity, significantly enhances the depth, validity, and real-world applicability of social science inquiry.

Introduction

Mixed Methods Research (MMR) has gained significant traction in the social sciences as scholars increasingly seek to address complex, multifaceted research problems that resist adequate exploration through a single methodological approach. The discipline has evolved from informal and pragmatic mixtures of numeric and narrative data into a formalised third methodological movement with typologies, philosophical rationales, and specialised journals. However, the proliferation of named

designs has paradoxically raised concerns about whether the very flexibility that makes MMR valuable is being constrained by an excess of prescriptive templates, a tension that motivates the reconceptualisation advanced in this paper.

Three related findings inspire this review in the literature. First, not all studies labelled as mixed methods are truly integrated; many report qualitative and quantitative findings in parallel form without meaningful synthesis (Bryman, 2016; Bazeley, 2018). Second, researchers, especially novices, tend to select a named design template before fully defining the research problem, reversing the question-method relationship. Third, the issue of philosophical compatibility between paradigms remains largely unresolved and is typically avoided rather than addressed.

Against this background, the paper responds to three guiding questions: (1) How can MMR design move beyond typology-driven templates toward context-responsive, problem-driven approaches? (2) What does strong integration look like in practice, and how can it be designed? (3) How should researchers navigate philosophical pluralism — pragmatism, the transformative paradigm, and dialectical pluralism in concrete design decisions? The answers to these questions contribute to the ongoing effort to strengthen the theoretical and practical foundations of MMR in contemporary social scientific research, andeareelevantt relevance to doctoral researchers, supervisors, and applied practitioners.

Review methodology and scope

This paper is a thematic narrative review synthesising established and recent literature on MMR design. A narrative review was appropriate because the objective was not to quantify effect sizes or systematically map all possible studies, but to critically assess, synthesise, and reconceptualise prevailing arguments in the field in service of the three guiding questions.

Three strategies guided source identification. First, seminal handbooks and edited volumes were purposively selected — Creswell and Plano Clark (2018), Tashakkori and Teddlie (2010), Greene (2007), and Bazeley (2018) as foundational texts defining the field's terms and debates. Second, Google Scholar, JSTOR, ERIC, and Scopus were searched using keywords such as mixed methods research design, integration strategies, philosophical foundations of mixed methods, validity of mixed methods, and context-sensitive research design, with results restricted to English-language peer-reviewed journals from 2004 to 2024. Third, reference lists of retrieved articles were scanned for additional sources. Approximately 38 sources were reviewed and categorised thematically. The framework, covering evolution, philosophical backgrounds, typologies, integration, validity, strengths, limitations, reconceptualisation, and implications, emerged through iterative reading in response to the three guiding questions.

Evolution of Mixed Methods Research

The origins of MMR can be traced to early social science inquiries, in which researchers informally combined qualitative and quantitative techniques to better understand complex phenomena. Tashakkori and Teddlie (2010) observed that early method combination was a pragmatic reaction to research complexity rather than a theoretically defined methodology, and that the absence of formal terminology did little to undermine the utility of integrative practices.

The discipline gained formal momentum in the 1980s and 1990s as theorists began critically assessing the limitations of both quantitative and qualitative traditions. Creswell and Plano Clark (2018) established that the so-called paradigm wars between positivist and interpretivist traditions created demand for a methodology capable of accommodating multiple perspectives within a single study. Early proponents emphasised triangulation, applying multiple methods to verify results and increase

validity, as the primary justification for combining methods (Greene, 2007). Johnson and Onwuegbuzie (2004) subsequently identified complementarity, development, initiation, and expansion as additional purposes. The formalisation of named designs — convergent, explanatory sequential, exploratory sequential, embedded, and multiphase — in the 1990s and early 2000s provided researchers with accessible conceptual scaffolding, though Creswell (2014) acknowledged that strict adherence to these typologies' risks diminishing the contextual flexibility that real-world research demands, a tension arising from the pedagogical impulse to simplify complex design decisions into teachable templates.

Bryman (2016) established that a persistent gap existed between the concept of mixed methods and its practice: a considerable proportion of studies labelled as mixed methods reported qualitative and quantitative outcomes separately without meaningful synthesis. This observation drives the present review to reconceptualise design in terms of what genuine integration entails, rather than what labelled typologies prescribe.

Philosophical Foundations of Mixed Methods Research

The philosophical legitimacy of combining methods from different epistemological traditions remains among the most debated aspects of MMR. Traditional research paradigms are characterised by distinct assumptions regarding ontology, epistemology, and the role of the researcher. As Creswell and Plano Clark (2018) noted, quantitative methods are linked to objective, measurable reality, while qualitative methods foreground subjective meanings and the social construction of experience. Combining them within a single study raises the question of whether internally consistent knowledge can be generated from philosophically divergent premises. Liu (2022) identifies the failure to address this question as a widespread problem in published MMR, arguing that philosophical incompatibility directly affects the credibility and interpretability of findings. According to Johnson and Onwuegbuzie (2004), MMR constitutes a paradigm stance that does not require methodological dualism, enabling researchers to capitalise on the strengths of both traditions. Three philosophical orientations have been advanced to justify this integration: pragmatism, the transformative paradigm, and dialectical pluralism, each responding differently to paradigm tension with distinct implications for design choices.

Pragmatism

The most widely adopted philosophical basis of MMR is pragmatism, which repositions the research question rather than paradigm loyalty as the primary driver of methodological choice. Creswell and Plano Clark (2018) argue that pragmatism resists the obligatory separation of qualitative and quantitative approaches, enabling researchers to employ whichever methods best fit the research issue. Tashakkori and Teddlie (2010) identified this as pragmatism's central strength: it allows methodological pluralism without requiring researchers to resolve deep philosophical conflicts before proceeding.

However, pragmatism is not without critics. Tashakkori and Teddlie (2010) acknowledged that pragmatism risks being applied as a licence for eclecticism rather than principled integration when invoked without rigour. Liu (2022) cautions that paradigmatic compatibility cannot be assumed simply by invoking pragmatism and that researchers must be transparent about their epistemological commitments even when adopting a pragmatist stance. Feilzer (2010) further argues that pragmatism's philosophical roots, particularly in the work of Dewey and James, offer a richer basis for MMR than is often acknowledged, providing not merely methodological permission but an active theory of inquiry grounded in problem-solving and social consequences. The implication is that invoking pragmatism must not substitute for a substantive declaration of how qualitative and quantitative assumptions are being managed within a particular study.

Transformative paradigm

The transformative paradigm situates MMR within a broader context of moral and political commitment. According to Mertens (2015, 2017), this paradigm is explicitly value-laden, centring the experiences of marginalised and underrepresented groups and directing research toward social justice, equity, and empowerment. Within this paradigm, quantitative data, which can capture the magnitude and patterning of inequality and qualitative data, which can illuminate the lived experience of those patterns, are not only methodologically effective but ethically mandated.

Creswell and Plano Clark (2018) note that the transformative paradigm enhances MMR's capacity to inform policy and practice in complex social settings. The paradigm also imposes specific demands: it mandates collaborative and participatory relationships with communities, openness to power relations, and deliberate attention to how findings will be used. Critically, in development, public health, or educational equity contexts, the research relationship itself becomes a site of social change. The integration of quantitative evidence of systemic disadvantage with qualitative narratives of lived experience constitutes, in Mertens's (2017) framing, a form of epistemic justice amplifying voices that aggregate statistics routinely render invisible.

This is not merely a methodological strategy but an ethical imperative: the transformative paradigm demands that researchers remain accountable not only to their discipline but to the communities whose realities their data represent.

Dialectical pluralism

A third position, developed by Greene (2007), is dialectical pluralism, which neither resolves nor avoids philosophical tensions but treats productive tension between paradigms as an asset to richer inquiry. Rather than selecting a single philosophical framework, dialectical pluralism actively engages multiple paradigms within a study so that their divergent lenses generate critical reflexivity and more discriminating interpretation.

Johnson and Onwuegbuzie (2004) noted that by embracing a multi-perspective approach, researchers are better positioned to capture the complexity of social phenomena and to become analytically generative by engaging alternative interpretive frameworks. The practical challenge is that dialectical pluralism demands a high degree of philosophical fluency. Researchers must articulate what each paradigm contributes, where tensions arise, and how those tensions are managed in the particular study. Greene (2007) emphasises that what characterises this approach is openness to multiple forms of knowing, not their synthesis into a false unity, but their productive encounter.

Collectively, these three philosophical orientations demonstrate that the central question is not which philosophy makes MMR valid in general, but which orientation best serves the specific research problem, context, and purpose — an argument that directly justifies the context-responsive design principles developed later in this paper.

Typologies of Mixed Methods Research Design

Typologies serve a genuine pedagogical and practical function: they provide entry-level researchers with conceptual maps, facilitate communication about design choices, and support comparative appraisal of studies. Creswell (2018) identifies clarity and methodological consistency as their primary contributions. The utility of typologies should not be underestimated for a doctoral student confronting the complexity of a multi-strand research design for the first time; a named framework provides cognitive scaffolding that can make the enterprise manageable. The problem arises not from the existence of typologies but from their misuse: when researchers treat them as algorithms rather than heuristics, selecting a design name before defining the research problem and then forcing their

inquiry into the template's predetermined structure. Nevertheless, treating typologies as prescriptive templates rather than flexible starting points poses a significant danger, as this review maintains. The following subsections elaborate on the key design types and illustrate how rigid adherence to each can hinder rather than advance research.

Convergent parallel design

In the convergent parallel design, qualitative and quantitative data are collected simultaneously, analysed separately, and then compared or merged during interpretation. The strength lies in triangulation: when independent analyses converge, confidence in findings increases; when they diverge, the divergence is itself analytically informative. Creswell (2014) and Plano Clark and Ivankova (2016) stipulate that both strands should receive equal priority and thorough planning.

To illustrate effective integration, Morgan et al. (as discussed in Creswell and Plano Clark, 2018) employed a convergent design in community health studies, supplementing survey data on service uptake with in-depth interviews. The quantitative strand identified patterns of non-attendance while the qualitative strand contextualised these through narratives of distrust and logistical barriers — a synthesis neither strand could have produced independently. By contrast, a well-documented failure mode is what Bazeley (2018) terms 'parallel-play': researchers present quantitative findings and qualitative themes separately with merely a transitional paragraph connecting them. Here, a design label exists, but the defining characteristic of integration is absent.

Explanatory sequential design

The explanatory sequential design collects and analyses quantitative data first, then employs qualitative data to explain or elaborate on initial findings. It is particularly suited to situations where statistical patterns have been identified, but their causal mechanisms or lived meanings require contextual unpacking. Creswell (2014) observes that its strength lies in the shift between general tendencies and context-specific explanations; Plano Clark and Ivankova (2016) emphasise purposive sampling at the qualitative phase to ensure participants can meaningfully illuminate the quantitative results. An illustrative application would be a study finding that student achievement scores decline significantly in the middle school years: the quantitative strand identifies the gradient but cannot explain it, while purposively selected qualitative interviews with students, teachers, and parents generate the contextual narrative — adolescent identity transitions, peer dynamics, and institutional discontinuities — that together account for what the numbers alone cannot.

A failure mode occurs when the qualitative phase merely gathers additional information on the same topic rather than explaining the quantitative results — effectively producing two independent studies rather than one sequentially integrated investigation. According to Clark (2019), this breakdown most typically results from failing to define integration during the design phase, leaving the connection between phases implicit and ultimately unrealised.

Exploratory sequential design

The exploratory sequential design begins with qualitative inquiry, using emerging themes and constructs to develop instruments, hypotheses, or interventions underpinning a subsequent quantitative phase. This design is particularly appropriate when the phenomenon is under-theorised or when existing measures are culturally inappropriate for the study population. According to Schoonenboom and Johnson (2017), exploratory sequential designs are most effective when they demonstrably improve the measurement validity of instruments by grounding them in participants' own conceptual frameworks. A characteristic application is research on well-being or quality of life in a cultural context where existing Western-developed scales capture dimensions that may be

irrelevant, absent, or conceptually alien to the population under study. Qualitative interviews identify the local constructs through which participants understand wellbeing, and these constructs inform the development of a culturally grounded survey instrument administered in the quantitative phase. The primary risk is insufficient specification of how qualitative findings will be translated into quantitative tools — when the bridging logic is weak, the two strands are effectively disconnected, and the promised integration never materialises.

Embedded and multiphase designs

The embedded design incorporates a secondary dataset within a primary research design — for example, qualitative interviews nested within a randomised controlled trial to explain unexpected results or illuminate participants' experiences. Molina-Azorin (2016) and Schoonenboom and Johnson (2017) observe that the secondary strand must be designed from the outset with clear integration points identified; otherwise, its risks are added as an afterthought that cannot meaningfully influence the primary design. Multiphase designs consist of sequences of interrelated studies in which qualitative and quantitative approaches inform each other iteratively across phases. Greene (2007) identifies these as particularly suitable for policy research and programme evaluation where problems are dynamic, though they require consistent links between phases and sustained reflexivity over potentially lengthy research periods (Hanson et al., 2005).

Integration in Mixed Methods Research

Integration is what distinguishes genuine MMR from the mere co-existence of qualitative and quantitative data within a single report. Fetters and Molina-Azorin (2017) argue that the value of mixed methods lies not in the use of two approaches per se, but in their integration to generate meta-inferences that neither strand alone can achieve. According to Bazeley (2018), a considerable proportion of published research fails this test, producing parallel rather than integrated findings. The implications extend beyond scholarly rigour: when integration is absent, the unique explanatory capacity of MMR — its ability to illuminate the intersection of structural patterns and lived realities — is entirely forfeited.

Points of integration

Integration operates across four stages of the research process. At the design stage, researchers determine how and when qualitative and quantitative methods will interact, whether concurrently, sequentially, or through embedding, and how each strand will inform the other. Creswell and Plano Clark (2018) state that coherence is best achieved when integration logic is articulated at the outset rather than retrofitted at write-up. This design-level planning is the most consequential form of integration decision-making precisely because it shapes everything that follows: a researcher who has not determined at the design stage how their strands will meet at interpretation cannot retroactively manufacture integration that was never built into the study's architecture. At the data collection phase, one strand informs the other regarding its sampling, timing, or instrumentation. Guetterman (2020) observes that when qualitative findings shape the construction of a survey tool, or quantitative outcomes determine interviewee selection, data collection itself becomes integrative rather than two sequentially executed procedures.

Integration at the analysis stage takes the form of joint display, data transformation, or comparative mapping of qualitative themes and quantitative patterns. Bazeley (2018) argues that analytical integration yields insights beyond what either strand alone can produce, illuminating where the two strands converge, diverge, or illuminate distinct aspects of the phenomenon. Fetters and Freshwater (2022) emphasise that this stage is especially critical for managing divergence — instances where conflicting evidence demands explanation rather than suppression. Finally, integration at the

interpretation phase involves synthesising findings into meta-inferences: coherent explanatory statements about the research problem that transcend either strand individually. Tashakkori and Teddlie (2012) stress that transparent documentation of how individual strand findings were combined into meta-inferences is itself a dimension of rigour.

Strategies for integration

Freshwater and Fetters (2019) identify three principal integration strategies: merging, connecting, and embedding. Merging involves combining datasets during analysis and interpretation to compare, contrast, or synthesise findings; it is most frequently applied in convergent designs. Connecting involves one strand's results defining the next procedural step, characteristic of sequential designs. Embedding involves one strand being nested within the other in a supporting, explanatory, or contextualising role. Each strategy carries distinct implications: in merging, the researcher must decide whether to transform qualitative data into quantitative codes, quantitative results into narrative form, or create joint displays that present both side by side — each choice embeds assumptions about the commensurability of different knowledge forms (Guetterman, 2020). Plano Clark and Ivankova (2016) note that these strategies are not merely technical procedures but embody substantive research decisions about how evidence from different epistemological traditions will be brought into productive dialogue. Despite these developed strategies, Bazeley (2018) and Fetters and Molina-Azorin (2017) identify integration failure as arising not from a lack of awareness but from insufficient planning. Clark (2019) concludes that successful integration must be specified during the design phase: researchers must determine in advance where they will merge, connect, or embed, what the bridge logic will be at each integration point, and how divergences will be managed.

Validity and rigour in Mixed Methods Research

Validity and rigour in MMR are more complex than in single-method studies because researchers must ensure quality not only within each strand but also across their meaningful integration. Johnson and Onwuegbuzie (2004) observe that MMR enhances validity through triangulation — using one method to verify or elaborate on the findings of another. Tashakkori and Teddlie (2010) identify methodological accuracy, transparency, and integrative integrity across all research phases as the primary determinants of rigour.

Fetters and Freshwater (2015) delineate three validity dimensions specific to MMR. Design validity concerns whether the selected design suits the research problem and whether the sequencing of strands is logical. A study deploying a convergent design, where an exploratory sequential design would better address an under-theorised phenomenon, would exhibit a failure of design validity, despite each strand being internally rigorous. Interpretive validity concerns the accuracy and credibility of meanings assigned to data across both strands. Bazeley (2018) argues that high interpretive validity requires transparency about the analytical path from raw data to conclusions — a standard as applicable to statistical reasoning as to qualitative coding. Creswell and Plano Clark (2018) identify the most common interpretive failure as insufficient documentation of how the two strands' findings are linked in the construction of conclusions.

The most demanding standard in MMR is integrative validity. Fetters and Molina-Azorin (2017) maintain that integration must produce meta-inferences rather than merely juxtapose findings; Plano Clark and Ivankova (2016) observe that inadequate integration reduces a mixed methods study to two parallel single-method studies sharing a report structure. A concrete example: a study of school dropout rates may yield quantitative evidence of a socioeconomic gradient and qualitative evidence of stigma experienced by affected students. The meta-inference that genuine integration enables is that economic exclusion and social humiliation are mutually reinforcing — a finding accessible only

through integrative analysis. Failure to achieve this synthesis constitutes a failure of integrative validity. Superficial integration, in which findings are reported separately, with only a concluding paragraph asserting complementarity, remains one of the most prevalent shortcomings in published MMR (Bazeley, 2018).

Strengths and Limitations of Mixed Methods Research

Strengths

Mixed methods research is widely recognised for its capacity to generate richer insights than single-method studies. Greene, Caracelli, and Graham (1989) identify its greatest strength as the ability to combine diverse data types to address problems that resist single-dimensional analysis. Johnson and Onwuegbuzie (2004) frame this as bridging breadth and depth: quantitative strands yield measurable, generalisable outcomes, while qualitative strands yield contextual meaning and specificity. Combining data types enables researchers to move beyond description toward explanation — addressing not merely what is happening but how and why — a dual analytical capacity particularly valuable in applied settings such as community development, education policy, and public health (Freshwater and Fetters, 2019; Bazeley, 2018). This explanatory power is especially important in applied and policy-facing research where evidence must be not only statistically robust but also contextually intelligible to practitioners, policymakers, and the communities whose lives the research addresses. Triangulation enhances credibility through cross-verification, and adaptive flexibility allows researchers to adjust their approach as a study progresses, leveraging unexpected findings from one strand to redirect the design of the other (Creswell and Plano Clark, 2018).

Limitations

The most commonly cited limitation is complexity. MMR involves two methodological traditions within a single study, placing substantial demands on design, data collection, analysis, and interpretation. Managing multiple datasets is particularly challenging for novice researchers, and inadequate planning can produce incoherent findings (Creswell and Plano Clark, 2018). Skill requirements constitute a parallel constraint: MMR demands proficiency in both statistical analysis and qualitative coding. Plano Clark and Ivankova (2016) note that weaknesses in either strand can compromise integration and reduce validity, while Creswell and Creswell (2018) propose that team-based approaches can mitigate this limitation, though they introduce new coordination challenges. The difficulty of achieving genuine integration — producing the 'parallel-play' pattern documented by both Bazeley (2018) and Bryman (2016) — reflects both a planning challenge and the greater epistemological difficulty of meaningfully combining data types from fundamentally different knowledge traditions. Finally, the absence of an explicit philosophical stance can generate conceptual ambiguity: as Greene, Caracelli, and Graham (1989) noted, while pragmatism may help manage paradigm tensions, it does not dissolve them, and clear reflexivity remains necessary.

Reconceptualising Toward Context-Responsive Inquiry

The preceding discussion substantiates the argument for a fundamental reconceptualisation of how MMR designs are conceived and implemented. The strengths reviewed in Section 7 — comprehensiveness, triangulation, flexibility — are not inherent properties of mixing methods; they are outcomes that must be deliberately designed for. Equally, the limitations — complexity, skill requirements, integration failure — are not inevitable features of the approach but predictable consequences of poor planning, philosophical incoherence, and over-reliance on typological shortcuts. The reconceptualisation proposed here does not abandon typologies, which retain genuine pedagogical value, but treats them as heuristics rather than prescriptions: useful devices for thinking through design, to be adapted, combined, or departed from whenever the research problem and

context demand. Grounded in the three guiding questions introduced at the outset, this section develops five concrete design principles and presents a comparative framework contrasting typology-driven and problem-driven approaches.

Five principles of context-responsive Mixed Methods design

Principle 1: Start from the problem and context, not from a named design. The initial design decision must emerge from careful formulation of the research problem and its contextual features, not from the selection of a typological label. Tashakkori and Teddlie (2010) assert that MMR is by nature dynamic and should be shaped by what the problem demands. In practice, this requires asking: What do I need to know? What types of data are required to answer these questions? What relationship between them is necessary? Only after these questions are answered — if a design name applies at all — should a typological label be invoked.

Principle 2: Pre-specify integration points. Researchers must determine in advance how qualitative and quantitative strands will interact at the design, data collection, analysis, and interpretation stages. Clark (2019) argues that successful integration cannot be improvised. This means specifying the bridge logic at each integration point: which qualitative themes will be operationalised into survey items, or which quantitative patterns will direct the focus of follow-up interviews.

Principle 3: Make philosophical stance explicit and reflexive. Researchers must identify which philosophical orientation — pragmatist, transformative, dialectical pluralist, or a combination — best fits their research purpose, and must demonstrate how that orientation informs concrete design choices. Liu (2022) cautions that invoking pragmatism without this reflexive engagement creates an illusion of philosophical coherence rather than genuine consistency. Greene (2007) stresses that reflexivity regarding paradigmatic assumptions is not a preliminary formality but an ongoing practice that continuously informs data collection, analysis, and interpretation.

Principle 4: Design for meta-inference, not parallel reporting. An MMR study is ultimately aimed at a meta-inference: a conclusion that exceeds the sum of individual strand findings. According to Fetters and Molina-Azorin (2017), meta-inference quality is the appropriate criterion for evaluating integration. At the design stage, researchers must ask: What meta-inference am I pursuing? Which integration strategy will enable it? This reconstitutes integration as an intellectual commitment rather than merely a technical procedure.

Principle 5: Tailor designs to context. Research designs must be responsive to the social, cultural, and institutional contexts in which research is conducted. Creswell and Plano Clark (2018) argue that designs cannot be generalised and must be calibrated to each situation. In contexts marked by power disparities, the transformative paradigm may require participatory data collection practices that a purely pragmatist approach would not dictate. Contextual sensitivity also extends to feasibility: a methodologically ideal multiphase design may be impractical given available resources (Morgan, 2014).

Comparative framework: typology-driven versus problem-driven design

Table 1 summarises key distinctions between traditional typology-driven and reconceptualised problem-driven mixed-methods designs across seven dimensions.

Table 1: Typology-driven versus problem-driven Mixed Methods design

Dimension	Typology-driven design	Problem-driven design
Starting point	Named design (e.g., convergent, explanatory sequential)	Research problem and context
Role of typology	Template to follow	Heuristic to adapt, combine, or depart from
Integration	Determined by design type; often implicit	Explicitly pre-specified at each stage
Philosophical stance	Assumed (usually pragmatism by default)	Explicitly articulated and reflexively applied
Flexibility over time	Design fixed at outset	Design evolves responsively as data emerges
Target outcome	Parallel findings from two strands	Meta-inferences that transcend either strand alone
Contextual fit	Secondary consideration	Primary design constraint

Implications for Social Science Research Practice

The five principles and comparative framework carry practical implications that differ by audience. This section provides differentiated guidance for three groups: novice researchers, supervisors and teachers, and practitioners and policy researchers.

For novice researchers

Novice researchers are most susceptible to the typology-first fallacy: selecting a named design before fully articulating the research problem. The foremost counsel is to invest substantially in problem formulation before making any design decision. The research problem statement must specify what is known, what is unknown, why both quantitative patterns and qualitative meanings are needed, and how the two types of evidence will relate to each other. MMR should not be chosen for its apparent sophistication but because the research question genuinely demands both statistical and contextual evidence. In cases of uncertainty, Creswell and Plano Clark (2018) recommend asking: Would a purely quantitative study fail to answer my question? Would a purely qualitative study fail? If both answers are affirmative, MMR is justified. To prevent parallel-play failures, integration must be planned.

Table 2 presents design questions that novice researchers can use as a checklist when planning an MMR study.

Table 2: Design questions for planning a Mixed Methods study

Stage	Key design questions
Problem formulation	What is known? What is unknown? Why do both quantitative and qualitative evidence contribute? What is the expected relationship between strands?
Philosophical stance	Which paradigm — pragmatist, transformative, dialectical pluralist — best fits the research purpose? How will epistemological tensions be managed and documented?
Design selection	Should strands be concurrent or sequential? Which strand takes priority? Could a named typology serve as a starting point, or does the problem require a bespoke configuration?
Integration planning	At which stages will integration occur (design, data collection, analysis, interpretation)? What is the bridge logic at each point? How will divergent findings be handled?
Validity assurance	How will design validity, interpretive validity, and integrative validity be maintained? What documentation will demonstrate the analytical trail?
Contextual fit	Does the design fit the social, cultural, and institutional context? Are data collection methods appropriate for the target population? Is the design feasible within available resources?

For supervisors and teachers

Supervisors and teachers of MMR face a distinctive pedagogical challenge: communicating the value of typologies for structuring initial learning while simultaneously cultivating the critical capacity to depart from them when the research problem demands. The most effective approach is to present typologies as conceptual devices rather than procedural checklists, using case studies of successful and unsuccessful applications to demonstrate the distinction. The community health example in Section 4.1 and the school dropout example in Section 6 are precisely the kinds of anchored illustrations that supervisors should routinely incorporate into their teaching — cases where the reader can see not only what integration looks like when done well, but what its absence costs analytically.

Integration and validity warrant particular emphasis in MMR pedagogy. Bazeley (2018) and Bryman (2016) identify inadequate integration as the most prevalent failure in published MMR, suggesting it is the aspect most often neglected in initial training. Supervisors should insist that students develop explicit integration plans — specifying where and how strands will interact before data collection begins — and revisit those plans as data become available. Reflexivity regarding philosophical assumptions should permeate research methods courses rather than being confined to a single introductory lecture on paradigms. When students learn to link their philosophical position to concrete design choices — rather than invoking pragmatism as a default without further reflection — they produce more coherent and intellectually credible research. A useful supervisory exercise is to require doctoral students to write a one-page reflexivity statement before submitting their research proposal, explicitly identifying their philosophical orientation and explaining how it constrains and enables their design decisions.

For practitioners and policy researchers

Practitioners and policy researchers face additional constraints of time, budget, and the demand for actionable evidence. The most valuable guidance centres on feasibility and contextual fit rather than methodological comprehensiveness. A well-designed, genuinely integrated two-strand study is more valuable than an ambitious multiphase design that exceeds available resources and ultimately yields disconnected findings. Practitioners should resist the temptation to select designs based on their apparent methodological sophistication; a simpler design executed with rigorous integration will yield more credible evidence than a complex one implemented poorly. The challenge for practice-based research is to identify the minimum viable integration that is sufficient to address the research question without overwhelming available resources.

The transformative paradigm is especially relevant for practitioners working with marginalised communities, where the ethical imperative to amplify participant voices and generate socially useful evidence must inform design decisions. According to Mertens (2015, 2017), this paradigm requires participatory relationships and deliberate attention to how findings will be disseminated and used — considerations as important as technical rigour. For community-based practitioners, this means involving community members not only as data sources but also as co-designers of the research, ensuring that the questions asked, and the forms of evidence gathered reflect community priorities rather than solely external researchers' agendas. Context-sensitive designs are more likely to generate findings that are both credible and actionable (Fetters and Molina-Azorin, 2017), making early engagement with the institutional environment essential for policy researchers seeking evidence that resonates with decision-makers.

Conclusion

This review has examined MMR design through three guiding questions: how to move beyond typology-driven templates; what strong integration entails and how to achieve it; and how to navigate philosophical pluralism in concrete design decisions. The field has produced abundant conceptual resources — typologies, integration strategies, validity frameworks, and philosophical justifications — that provide researchers with a substantial foundation. Yet the documented prevalence of integration failure, the persistence of the typology-first fallacy, and the tendency to invoke pragmatism without substantive reflexivity indicate that this foundation is unevenly translated into practice.

The five principles of context-responsive design — beginning with the problem and context; pre-specifying integration points; making philosophical stance explicit and reflexive; designing for meta-inference; and tailoring designs to context — constitute a practical orientation for transitioning from typology-driven templates toward genuine context-responsive inquiry. These principles are design-agnostic: they apply whether the researcher employs a convergent, sequential, embedded, or custom configuration, and they preclude the unreflective selection of a named design before problem formulation, the deferral of integration planning to the write-up phase, and the invocation of philosophical labels as substitutes for genuine epistemological engagement. Future scholarship should examine how these principles can be operationalised in the Global South, where methodological traditions and institutional pressures may shape MMR practice differently from the North Atlantic contexts in which much of the foundational literature was developed. Ultimately, mixed methods research is most productively understood not as a catalogue of named designs but as a commitment to the proposition that complex social phenomena require complex methodological responses — ones that synthesise evidence coherently, remain reflexively sensitive to context, and hold themselves accountable to the communities whose experiences they seek to understand.

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