VALUING MIXED AND MULTIPLE METHODS FOR EDUCATIONAL POLICY RESEARCH IN THE ANGLOPHONE CARIBBEAN: Illustrative Cases Privileging Epistemological Diversity

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The question of "which method" is fundamental to the utility of educational policy research within the postcolonial Anglophone Caribbean. Although qualitative approaches might be more sensitive to these unique contexts, the heterogeneity of populations and spaces are a significant threat to the generalisability and transferability of findings. Therefore, to generate comprehensive and contextualised theory, Caribbean policy researchers must adopt a multiplist philosophy which explicitly privileges multiple and mixed methods. This paper first describes some critical issues related to education policy research in the Anglophone Caribbean part of the global South. It then illustrates the value of promoting epistemological diversity by examining three multimethod and mixed methods research (MMMR) policy studies conducted in Trinidad and Tobago. All three illustrative studies were guided by paradigm stances favouring the mixing of methods. The findings suggest that MMMR offers a degree of flexibility that better captures heterogeneity and local knowledge. Integrated findings from these studies were both divergent and comprehensive. Nevertheless, instrumental use by policymakers was rare. The future challenge is for Caribbean policy researchers to (1) perhaps make better use of MMMR designs; (2) incorporate indigenous epistemologies; and (3) employ designs and strategies that further enhance the political legitimation of findings

The Coloniality of Knowledge and Epistemology in Education Policy Research

Educational policy and policy-relevant research are critical areas of knowing in countries of the global South. The term global South refers to the lesser resourced economies primarily located in the southern hemisphere (Rigg, 2007). This label, with political and economic implications, includes countries in Africa, Latin America, the Middle East and developing Asia. However, this paper is focused upon the diverse small island states of the Anglophone Caribbean. These

islands are a cluster of sustained democracies, with a strong British colonial heritage that is embedded in both the public administration and education sectors (Duncan & Woods, 2007). Postcoloniality and small size are unique characteristics which impinge upon knowledge generation for education policy (Crossley, 2008, 2010).

Education policy research is meant to provide evidence about "the formation, implementation, effects, and trade-offs of policies and programmes" (Desimone, 2009, p. 164) and is therefore about what ministries of education do, why they do it, and the difference it makes (Wolf, 2010). Education policy research also includes policy and programme evaluation, which are important components of evidence-informed policy making (Burch & Heinrich, 2015). Policy-relevant research has a much broader scope and examines different events and processes within an education system. This is the kind of research that often dominates the agenda of university schools of education in the global South.

The knowledge and methodology of policy research include both globalised and localised elements (Rizvi & Lingard, 2010). However, much of the knowledge about policy in the Caribbean has come from the global North. This is the coloniality of knowledge, imperialism expressed in the asymmetry of power and exercise of influence (Smith, 2012). The geographical reach of theories and ways of knowing from the global North derive in part from implicit and explicit claims of universality and superiority to local knowledge. This dominance of the Euro-American perspective is also evident when researchers from the global North cross borders to investigate issues in the global South using theoretical frameworks imagined to be universal (Gomez, Rios-Osorio & Eschenhagen, 2013; Nagar & Ali, 2007). Such approaches are often silent on the critical issues of researchers' identity, representation, and positionality.

Epistemological coloniality is the dominance and transfer of ways of knowing from the global North. The consequences of epistemological coloniality is often expressed by silences, mistranslations and pauses in policy advice. These aberrations hinder policy translation and implementation (Ibarra-Colado, 2006). Conflicts over the hegemony of specific approaches to knowing have long existed within academic communities of the global North (Gage, 1989). This strife might have filtered down to the policy research communities of the global South through the: (1) introduction of methodological innovations and fads, (2) methods-focused regimes and demands of funding agencies, and (3) work of foreign consultants from donor countries with specific research agendas and ideologies.

Additionally, specific research approaches are sometimes encouraged and privileged by local policy elites (Brannen, 2005; Preston, 1997).

Policy Research in the Anglophone Caribbean: Questioning Method

All of this is not to say that there is currently an abundance of credible and rigorous policy research within the global South (Asimeng-Boahene, 2012; Cook, 1998). The absence of local knowledge on many core policy issues is especially acute in Anglophone Caribbean where a pervasive lack of data and evidence has led to policy spaces governed by restricted experience and hopeful intuition (Crossley, 2008; Cueto, 2005; Wiltshire & Steward, 1991). In these knowledge-deficient spaces, global policy invasions can advance rapidly, often fuelling faddish responses and even mimicry.

In the Caribbean, Louisy (2004) spoke of the need for more local knowledge, and presumably she might have considered indigenous research approaches. However, Caribbean academic communities have not developed substantive indigenous methodologies to inform research methods. Perhaps, one of the more salient reasons for these weaknesses in knowledge generation is a lack of institutional and individual research capacity (Lewis & Simmons, 2010; Nchinda, 2002). The absence of high quality and reliable evidence-generating systems in small island states is paralleled only by the inefficiency of evidence use in policymaking systems (De Lisle et al., 2014).

The call to qualitative research.

Some researchers from the global North have made an explicit call for more qualitative, case-oriented research to guide educational policy in countries of the global South (Yach, 1992; Brock-Utne, 1996; Vulliamy, 2004). For example, Liamputtong (2010) noted the value of qualitative studies for cross-cultural research and its potential to give voice to marginalised peoples. These calls are perhaps aligned to changing priorities in comparative education and the increasing importance of qualitative paradigms in education research. Crossley and Vulliamy (1997) were among the first to make such a call:

> . . . It is therefore appropriate for us to reflect on our own collaborative work and to summarise our rationale for the application of qualitative research in such contexts. In doing this we are well aware of the dangers of promoting yet further international transfer - though, in this case, we believe that qualitative research may be more appropriate in developing

countries, where literacy and numeracy are less prevalent, than it is in the West (p. 13).

Crossley and Vulliamy (1997) identified five possible benefits of qualitative research for knowledge generation in the global South: (1) higher ecological validity, (2) appropriateness for studying processes, (3) capture of real life settings and the complex reality of schools and classrooms, (4) ability to probe the policy/practice interface with its many contradictions, and (5) usefulness in supplementing quantitative research. The last reason suggests that the core issue might be either greater attention to or inclusion of qualitative methods; a problem that is the very essence of mixed methods research (MMR) as a solution. Vulliamy (2004) provided several examples of qualitative research conducted in the global South which might have the potential to tease apart the uneasy interface between policy and practice.

There is certainly value in collecting and presenting context-sensitive research framed from the perspective of the constructivist-interpretive paradigm (Crossley, 2010; Denzin & Lincoln, 2007). Nevertheless, some key questions must still be answered: When are the findings valuable and to whom? Is the research truly "constructivist' or "interpretive" if the researcher fails to grasp the dynamics of the environment (Brock-Utne, 1996)? In the heterogeneous and data poor education contexts of the Anglophone Caribbean, how valuable are such findings for informing national policy (Erickan & Roth, 2014)? Therefore, greater caution is required when responding to calls for more qualitative policy research in the global South. Indeed, such demands might simply be manifestations of the methodological imperialism of the global North.

Valuing indigenous research

There is some kinship between qualitative and indigenous research methodologies. However, qualitative research that privileges constructs and typologies from the global North might not easily capture the unique contexts of the global South (Camfield, Crivello, & Woodhead, 2009; Ungar, & Liebenberg, 2011). Despite the apparent kinship, indigenous methodologies are method-neutral and may be combined successfully with other methods and methodologies (Botha, 2010; Mertens, 2007). Chilisa (2012) has theorised on the nature of a relational ontology, axiology, and epistemology for Africans and several native peoples in North America. In these epistemologies,

knowledge is socially constructed, and community building and social relations are explicitly valued.

Chilisa (2012) and Chilisa and Tsheko (2014) also spoke of indigenising research methodologies, a process by which Western methodological imperialism is resisted and universal approaches adapted through indigenous worldviews and perspectives. Chilisa (2012) argued strongly against the universality of rules and assumptions promoted by some researchers of the global North. Indigenised methodology, then, is suitably tailored to the context and culture of the third space, and both quantitative and qualitative methods may be appropriately indigenised. The need for indigenous approaches in the Anglophone Caribbean is enhanced by the multicultural context and sensitive policy environment. To illustrate, the ethnic and racial labels common in some western cultures might be deemed inappropriate or insensitive within a small-island state where coexistence and harmony are critical (Corbett, 2013; Morrison, 2006; Veenendaal, 2013). Indeed, in multicultural contexts, race is only one aspect of identity and may not be problematised (Truman & Humphries, 1994).

Enter the evidence-based movement

In the global North, positivism and post-positivism maintained paradigm dominance well into the 1980s (Gage, 1989). Methodological imperialism would have ensured transference of this privileged status to countries of the global South even when measurement and quantification processes were imported because of low research capacity. Positivism and post-positivism have continued to dominate educational policy research in the global South partly because of the demands and advice of funding agencies and partly because of limited research capacity (Hickling-Hudson, 2002; Lewis & Simmons 2010). However, this dominance of empiricism is more perception than reality. Evidence from large-scale assessments is often limited. The World Bank (1993) noted the absence of information on student attainment in the Caribbean outside public examinations results. Still, it would be naïve not to admit to the enhanced threat of epistemological dominance from post-positivism through the emergence of the evidence-based movement (Giddings, 2006; Shahjahan, 2011).

Although the evidence-based movement has often taken on an instrumental and pragmatic mask, many assumptions about the process rarely hold true even in the global North. The arguments for and against the evidence-based movement, then, must be carefully teased apart before deciding on its utility in the global South. Indeed, the concept of evidence itself is not unproblematic for many in the global North (Goldenberg, 2006). Still, credible evidence is to be valued in

the global South even if a specific hierarchy of evidence might be rejected. Indeed, in poorly resourced countries, the rationale for large scale interventions cannot rely solely upon theories generated from small-scale case study research. This is so even if some degree of credibility is achieved through combining findings from experimental and qualitative components (Onwuegbuzie & Leech, 2004; Mertens & Hesse-Biber, 2013).

The mixed methods solution as a third paradigm?

MMR provides a useful alternative to mono-method policy studies for several reasons (Fielding, 2010). Firstly, MMR holds true to Crossley's (2008) cautious desire for multiple paradigmatic perspectives. Secondly, various MMR designs are able to ensure procedural flexibility with different emphases on the qualitative or quantitative (Mason, 2006; Morse & Niehaus, 2009). Thirdly, the process of creating integrated inferences (meta-inferences) is valuable not only because these better capture different aspects of a phenomenon, but also the process of integration can make clear instances of dissonance, which then leads to additional or new insight. Fourthly, Chilisa (2012) highlighted the flexibility of MMR for incorporating indigenous approaches:

> The mixed method research approach can range from a design that imposes indigenous worldviews on a predominately Euro-Western paradigm or a design that uses a postcolonial indigenous paradigm, but borrows some Euro-Western methods to a culturally integrative approach with a balanced borrowing from Euro-Western paradigms and postcolonial indigenous paradigms (p. 51)

Still, MMR may have misleadingly presented itself as a third paradigm, because in fact it does not represent a single philosophical perspective (Greene, 2007, 2008; Teddlie & Tashakorri, 2009; Christ, 2013). More importantly, rather than providing neutral and safe ground, the mixed methods community has itself become entrapped in the paradigm wars, with some adherents continuing to question the utility and philosophy of some kinds of mixing. Concerns have also been expressed about the role of paradigms, epistemologies and methods (Creswell, 2011; Shannon-Baker, 2016). There may be little truth, then, to the existence of a third paradigm with the capability to bridge "the schism between quantitative and qualitative research" (Johnson & Onwuegbuzie, 2004, p. 15). As Denzin (2012) has noted, very little real bridging has taken place despite the growth and

evolution of mixed methods research (MMR). Indeed, what Bryman (2006) once described as peace is perhaps not tranquillity at all, but simply a momentary calm, a pretentious lull in the eye of the hurricane, as a storm gathers energy to return again, perhaps now, with greater and more magnificent fury.

Perhaps there is value, then, in not seeing mixed methods simply as a third approach, because it then becomes just another strategy rather than a solution (Frank, 2013). I will argue that multimethod[1] and mixed methods research (MMMR) approaches do present a unique and efficient solution for policy research (Morse, 2003; Hesse-Biber & Johnson, 2015). To some extent, this utility was foreseen by the comparative education community as is evident in the work of Crossley and Vulliamy (1997), who noted that "there have been many educational research questions in developing countries to which a quantitative research strategy has been applied when either a qualitative one or a combination of the two would have been more appropriate" (p. 13). This resembles a call for a pragmatic approach to selecting methods, one that is governed by the utility of the method.

The Value of MMMR for Conducting Policy Research in the global South

MMMR offers several advantages for conducting policy research beyond the mere capacity to address different types of research questions. As a multifaceted tool, MMMR can better address issues of complexity as well as offer findings of greater credibility. These are both critical issues for policy research. Certainly, several policy issues in education are inherently complex, function across different sub-systems, and are affected by several emergent factors (Bray & Thomas, 1995). These complex, multilevel policy issues have been described as wicked policy problems (Mertens, 2015; Rittel & Webber, 1973). MMMR's utility for addressing such complexed layered policy issues is seen in the early MMR study of Goldenberg, Gallimore, and Reese (2005) where a variety of methods were used reflexively and interactively to address literacy attainment in Latino children. Significant findings were that different factors operated at multiple levels and acted in specific niches; sometimes interacting both synergistically and redundantly.

The capability of MMMR to address the different research questions associated with complex and emerging policy issues might

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[1] Multimethod is the term used by Hesse-Biber and Johnson (2015); but this author prefers the term multiple methods, which can refer to different qualitative or quantitative methods. An example of a policy study using qualitative multiple methods is found in De Lisle (2015).

be linked directly to the multiple and flexible ways in which quantitative and qualitative components can be combined (Creswell & Plano-Clark, 2011). For instance, qualitatively-driven MMR designs can facilitate appropriate capture of the local context (Morse & Niehaus, 2009). Several different protocols may be used for combining the components in MMR and MMMR studies (Teddlie & Tashakorri, 2009). Creswell and Plano-Clark (2011) proposed two broad design approaches: dynamic and typology-based. Dynamic approaches are non-linear and attempt to combine different components rather than relying on selecting a specific variant from a typology. In the design process, the research questions are at the heart, and these are connected to the conceptual framework, methods, purposes and validity considerations (Maxwell & Loomis, 2003). Published typologies may be cautiously used to address specific policy issues (Creswell & Plano-Cark, 2011; Morse & Niehaus, 2009; Niglas, 2009).

Hall and Howard (2008) proposed a hybrid synergistic approach positioned between these dynamic and typological approaches. Four principles guide this approach: (1) the concept of synergy, (2) the position of equal value, (3) the ideology of difference, and (4) the relationship between the researcher(s) and the study design. Supporting these four principles as the core is a conceptual framework which outlines the practical and theoretical aspects of mixing the components and includes "epistemological, methodological, theoretical, and methods positions of a study" (p. 253). Especially useful in this approach is the attention to context and the researcher, the privileging of synergy as an outcome and the fostering of difference. The latter is in line with approaches to integration, such as dendritic crystallisation (Ellingson, 2009).

Promoting epistemological diversity in policy research

There is value in education policy researchers adopting an explicit reflexive and multiplist strategy. A reflexive researcher is willing to subject his role and his actions in the research process to scrutiny. This means interrogating not only why certain actions are chosen but also questioning the values and belief systems that inform the epistemological basis of the study (Guillemin & Gillam, 2004). Such reflexivity is critical to policy research, because it enhances the avenues and strategies for exploration. Reflexivity from this perspective means that a specific methodology does not completely dominate the study of phenomena, events, and disciplines. After all,

methodology is itself a social construction of academic communities, much as everything else (Fries, 2009).

Goldenberg, Gallimore, and Reese (2005) described a multiplist strategy as one that rejects mono-methods in favour of using multiple probes, heterogeneous methods and inferences across contexts, times, populations, datasets, analytic strategies, and perspectives. This strategy allows the researcher to use multiple worldviews and multiple methods, a practice inherent to qualitative research (Denzin, 2012). Even assuming that worldviews were fixed, a multiplist philosophy might be enacted as quantitative and qualitative teams collaborate on a study. A multiplist philosophy is consistent with earlier calls for epistemological diversity as opposed to epistemological single-mindedness (Pallas, 2001). The term multiplist, as used in this paper, is focused on the methodological logic of difference as captured by concepts such as dendritic crystallisation (Ellingson, 2009, 2014).

Epistemological diversity implies a willingness to understand and utilise multiple ways of knowing. MMMR is an opportunity to demonstrate epistemological diversity, especially when using single paradigmatic stances, such as dialectical pluralism, critical realism and pragmatism (Johnson, 2012). The creation of researchers capable of epistemological diversity and/ or dialectical pluralism depends much upon the quality of graduate training in local universities. In the Anglophone Caribbean, graduate training must seek to develop a cadre of researchers who are trained across methods and epistemologies. This demands greater engagement and discourse on issues through collaboration within and across academic communities. A worldview promoting epistemological diversity will reject the common tendency to adopt fixed positions or create imaginary boundaries. There will be, then, no sacred cows, with every philosophical and methodological position critiqued and interrogated (Siegel, 2006).

Paradigmatic stances and protocols that support mixing

Several philosophical stances support the efficient mixing of methods (Greene, 2007). Boucher (2014) defined a philosophical stance as a pragmatically justified perspective and way of seeing the world. Greene (2008) described new emergent paradigms that support mixing as an alternative paradigm stance. Three of the most useful stances for mixing are dialectical pluralism, pragmatism, and critical realism (Christ, 2013). Dialectical pluralism is not a single perspective, but instead is a metaparadigm carefully listening to and engaging with several "other' paradigms. Therefore, it is ontologically pluralist in character, using dialecticism to tease apart differences in methods and methodologies. Johnson (2012; 2017) detailed the protocol of use for individual and team researchers as follows: (1)

34

dialectically listening to differences; (2) combining competing ideas and values; (3) explicitly considering different epistemological values from stakeholders and researchers; (4) ethically conducting the research; (5) disseminating findings locally and broadly; and (6) formatively evaluate outcomes.

Pragmatism has been considered as the most popular single paradigm stance for mixing methods in the global North (Christ, 2013). In some fields, such as program evaluation, researchers have long been prone to mix methods using the criteria of practicality, contextual responsiveness and consequences - the hallmark of pragmatism as a philosophical epistemology. Datta (1997) presented a framework for adopting pragmatism using four key questions: (1) Can salient evaluation or research questions be adequately answered? (2) Can the design be successfully carried out considering the resources and skills available? (3) Are design trade-offs optimised? (4) Are the results usable?

Hall (2013) employed Deweyan pragmatism when framing a philosophical approach to mixing. The primary criterion for legitimation in this variant is *intelligent action*, with truth linked to action, continuously tested and substantiated. Intelligent action means that different methods are used insightfully to attend to specific issues and events. This process requires problem identification, consideration of various lines of action, and recognition that inquiry takes place within a community of people. From the standpoint of Deweyan pragmatism, the focus of mixing is on theoretical assumptions, methodological traditions and techniques. Building upon Deweyan pragmatism, Morgan (2014) outlined a five-step model for conducting inquiry. The steps are: (1) selecting a problem, (2) reflecting on the choice of the problem, (3) conceptualising a potential research design, (4) reflecting on the choice of methods, and (5) conducting the research.

A third paradigm stance that facilitates mixing is critical realism. This stance has been adopted by several researchers in management accounting and business education (Modell, 2009, 2010; Mingers, Mutch, & Wilcocks, 2013; Syed, Mingers, & Murray, 2010). Critical realism is a paradigm-bridging approach seeking middle ground between positivism and constructivism (Sayer, 2000). This philosophical position acknowledges the impossibility of fully capturing reality, because researchers' perceptions are always shaped by their resources and interests. Reality is neither easily apprehended nor reducible to perceptions or experiences. However, it is still possible to obtain feedback from some aspects of the observable world

(the empirical rather than the actual or real) (McEvoy & Richards, 2006).

The advantages of critical realism for conducting educational policy research in particular is: (1) the acceptance of causality as recurring processes and mechanisms and (2) the understanding of diversity and difference in a study population (Maxwell, 2012a, 2012b). As argued earlier, small states are heterogeneous, and issues in education often function at several levels, making critical realism especially useful for implementing MMR. Wynn and Williams (2012) identified five principles in conducting studies in critical realism: (1) identifying and abstracting events from experiences, (2) explicating events, (3) using retroduction, (4) seeking empirical coronation for proposed mechanisms; and (5) employing multiple approaches to support causal analysis. Although the law-like regularities proposed by positivism are rejected; the focus is on recurring processes by which structures, actions and contexts come to be generated (Maxwell, 2004; Wynn & Williams, 2012).

The state of educational policy research in Trinidad and Tobago

The prior discussion provides a useful backdrop for an analysis of the educational policy research context in Trinidad and Tobago. The most salient issues in this regard are: (1) limited local knowledge on core issues, (2) heterogeneity of contexts and outcomes, and (3) complexity of policy issues. Notably, too, there are limited sources of policy research. As Lewis and Simmons (2010) argued, local universities have limited research capacity in general. Although several large universities exist in Trinidad and Tobago (The University of the West Indies, University of Trinidad and Tobago, and the University of the Southern Caribbean), none are significant sources of policy research in education. In comparison, funding agencies, such as the World Bank and the Inter-American Development Bank (IDB), are important source of local knowledge (See World Bank, 1995).

The Trinidad and Tobago Ministry of Education is an increasingly important source of large-scale data with analysis of achievement at the primary school level published (De Lisle et al., 2005, 2010; De Lisle et al., 2012). Data and evidence are also available from international large scale assessments, such as the Programme for International Student Assessment (PISA), (Alexander & Maeda, 2015). The data from these studies suggest that there is significant heterogeneity in the system with achievement patterns and characteristics varying across schools and geographic location (De Lisle et al., 2016). This heterogeneity means that place is a significant factor that must be accounted for in policy studies. Heterogeneity of context and performance means that small-scale studies are not easily

generalisable to the full population, and theory developed might be specific to particular places.

Closely connected to the heterogeneity of context and outcomes is the complexity of policy issues. Complexity derives from multiple factors operating at multiple levels with emergent and changing influences. Complex problems have been called wicked policy problems characterised by interdependencies, multicausality, instability, social complexity, and requiring action by multiple agencies (Australian Public Service Commission, 2007; Parkhurst, 2016). Some policy issues in the Caribbean are complex or wicked, because they are influenced by varied factors that are unique and specific to the context of Caribbean small states. This means that there is often a higher degree of uncertainty on the issue.

The unique socio-historical ecologies of education systems in small states also accentuates the complexity of some policy issues in education. For example, in Trinidad and Tobago schools, there is a dual management system in which denominational schools coexist with government schools (Mackenzie, 1991). Although both are funded by the state, the denominational schools are given much greater autonomy, different clientele, and presumably have different transformative processes. System change in such a context is often very difficult. This complexity, then, is a challenge for both policy evaluation and evidence-informed policy (Rogers, 2008; Sanderson, 2000). As a solution, Head and Alford (2013) suggested more holistic and broader approaches to policy thinking combined with greater collaboration and boundary crossing.

The illustrative education policy studies

Aim and purpose

The overall aim of this section is to highlight the value of and to detail a multiplist strategy for education policy research in the Anglophone Caribbean. To achieve this, the paradigm stances, justification logics, and varied MMR designs of three education policy studies conducted in Trinidad and Tobago are provided. The exploration is intended to show how the MMR designs better facilitated the capture of policy complexity and the generation of needed local theory. The research questions guiding the review are: (1) *To what extent did these MMR designs add value to the process and outcomes of policy research; (2) To what extent did the MMR integration process lead to more comprehensive, credible, and usable findings* and (3*) To what extent were these findings utilised in the final*

37

policy decision. The first question relates to overall research design, and the second and third to the use of knowledge from the policy research process (Brown, 2012).

The research questions are answered in four summary tables (Tables 1-4). The tables provide details of the choices made in the MMR designs as well as the outcomes derived. The four tables consider: (1) overall purposes, designs, and outcomes; (2) details of the MMR design including rationale, role of components, level of interaction, priority, and timing; (3) use of local and western theory in conceptual framework, research questions, and how the fundamental principle of MMR data analysis is addressed; and (4) level of congruence, divergence, and generation of new local theory.

These four aspects capture the four domains of social sciences inquiry proposed by Greene (2008), namely: (1) philosophical assumptions and stances; (2) inquiry logics; (3) guidelines for practice; and (4) sociopolitical commitments. Philosophical assumptions and stances deal with the paradigmatic issues associated with mixing and are addressed in Table 2. Inquiry logics are justificatory in intent and cover purposes, questions, designs and procedures which are detailed in Tables 1 to 3. Guidelines for practice deal with specific procedures for collecting interpreting and reporting data and are broadly covered in Tables 2 and 3. Sociopolitical commitments which relate the research to society and to the knowledge that is generated and used are covered in Table 4.

Findings

Table 1 identifies the purposes of the three policy issues investigated, the policy intent, the role of the components in the MMR design, and the overall outcomes. Several issues addressed in Table 1, such as MMR design, are considered in further detail in subsequent tables. Table 1 provides insight into the value added by the MMR designs, the nature of integrated and component findings, and the final policy action. The three policy issues are secondary school choice, low-performing schools and continuous assessment practice. Each issue may be considered as a wicked policy problem due to the complexity, multiple interdependencies, multiple levels of operation, intractability, and lack of stability (Australian Public Service Commission, 2007).

Table 1: Connecting Research Purposes, Designs, and Outcomes in Three Policy Studies (2007-2010)

| Name | --------------*Policy* --------------- | | ---------*Design Elements*-------- | | --------*Actions/Outcomes*------- | |
	Purpose	Policy Intent	MMR Design	Role of Components	Overall, Integrated and Component Findings	Final Policy Implemented
1) **Secondary School Choice**	*To determine decision making patterns when choosing secondary schools and evaluate the consequences for selected groups*	To generate system and local rules that govern secondary school choice	**Multilevel Design** (Teddlie & Tashakorri, 2003)	QUAN is system level study of choice rules. QUAL is focus group study of student and parent choice patterns.	Choice outcomes and decision-making patterns are complex across education system and within family units. Choices vary by gender and location of community. Academic performance of school is not the only factor.	Ministerial proposal for restrictions in school choice in 2007-2008 rejected by Cabinet of Trinidad and Tobago
2) **Low Performing Schools**	*To determine the nature of education practice in schools facing exceptionally challenging circumstances*	To develop targets and strategies for turning around low performing schools	**Explanatory sequential** (Creswell & Plano Clark, 2007)	Phase I is QUAN system level study. Phase II is embedded mixed methods QUAL, of three sites	Low performance is linked to poverty, school size, and geographic locations. Multiple factors are involved and they	Performance Enhancement Project (2007-2009) School Performance Feedback System based on

					differ across geographic location and school type. Leadership is only one of many factors contributing to performance.	National Tests as of 2010.
3) **Continuous Assessment Practice**	*To determine the status of the continuous assessment programme in Trinidad and Tobago?*	To inform future effective use of continuous assessment	**Multiphase Design** (Creswell & Plano-Clark, 2011	PHASE 1 is qual multisite case study. Phase II is QUAN survey of 38 schools. PHASE III is qualitative case study of 2 different sites.	Practice varies sharply across schools but is associated with achievement context. Overall limited use of assessment for learning with practice mechanical and routine even when high. Prior training and collaborative learning assist implementation.	High Stakes Continuous Assessment implemented from standards 3-5 in the primary school as of 2013

*Valuing Mixed And Multiple Methods For Educational
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Secondary school choice in Trinidad and Tobago is connected to the high stakes placement procedure of the Secondary Entrance Assessment (SEA) (De Lisle et al., 2009). This policy issue had been considered in several early policy reports, including the 1993 White Paper and the 1998 Task Force on the Removal of the Common Entrance Examination (Ministry of Education, 1998b, 2003). A new policy was proposed in 2008 by the then Minister of Education. However, this initiative was short-lived, pointing to the intractability of the issue (Bethel, 2008).

The policy issue of low-performing schools was first explicitly mentioned in the 2002-2006 Strategic Plan of the Trinidad and Tobago Ministry of Education (Ministry of Education, 2002). In 2007, a system was developed to identify low performing schools using low stakes national test data. Soon afterwards, a parallel system was installed in 2008 to 2010 called the Performance Enhancement Programme (PEP). For the PEP, schools were classified primarily based on results from the high stakes SEA (the number of students scoring below 30%). Since 2010, the issue has evolved across different stakeholders, with a recent initiative being a 12-school intervention planned by the Catholic Board (Connelly, 2015; Moe, 2009).

The use of continuous assessment (CA) has been a long-standing policy intention in Trinidad and Tobago and had been considered extensively in the 1993 White Paper (De Lisle, 2013). The continuous assessment programme (CAP) (MoE 1998a), was an innovation piloted in 1998 with full implementation achieved in 2000. . This was both an assessment and instructional innovation seen as an essential tool for improving student learning outcomes and reducing reliance on a one-shot examination for high stakes secondary school selection (De Lisle, 2015). Since 2013, new policy on continuous assessment has been developed leading to the continuous assessment component (CAC) for the high stakes secondary school entrance examination (Ministry of Education, 2013). However, this policy was discontinued in 2016.

Table 1 also focuses upon the primary purpose of each policy study. Purpose, whether personal, practical or intellectual, is central to the design of an MMR investigation. Intellectual purposes are segregated into quantitative and qualitative purposes (Maxwell & Loomis, 2003). Qualitative purposes are focused on context, process, and meaning, whereas quantitative purposes include precise measurement, establishing relationships between variables, identifying patterns and regularities, and generalising to the

population. The purposes described in Table 1 are very broad, suggesting that there might be value in adopting constructivist-interpretive or indigenous worldviews. However, policy research also requires precise measurement and statistical generalisation. Indeed, in instances of insufficient local knowledge, it might be advisable to cycle between analytic and statistical generalisation; a strategy employed in the study of the CAP.

The three implemented MMR designs are described as (1) multilevel, (2) explanatory sequential and (3) iterative sequential-multiphase (Teddlie & Tashakorri, 2009).

Valuing Mixed And Multiple Methods For Educational Policy Research In The Anglophone Caribbean: Illustrative Cases Privileging Epistemological Diversity
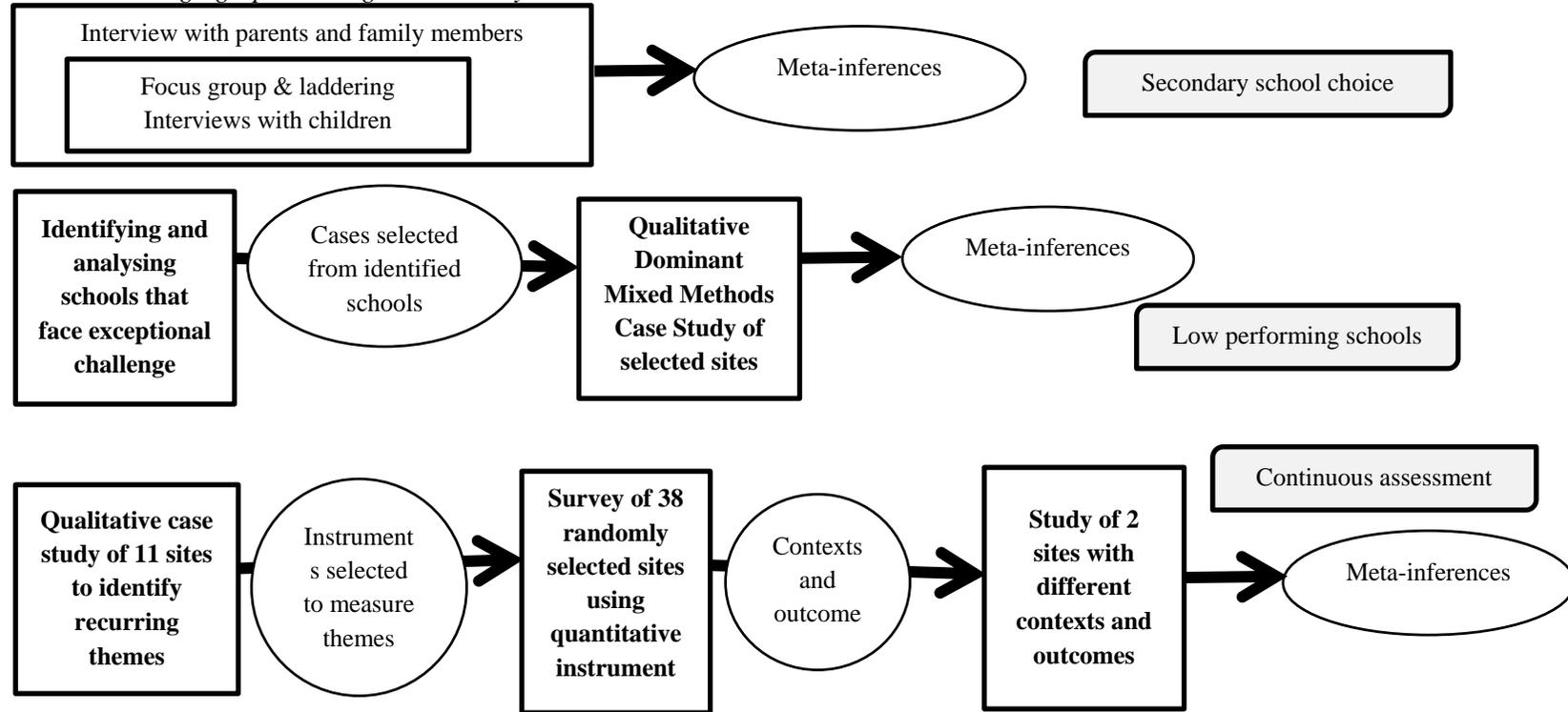
Interview with parents and family members

Focus group & laddering
Interviews with children

Meta-inferences

Secondary school choice

Identifying and analysing schools that face exceptional challenge

Cases selected from identified schools

Qualitative Dominant Mixed Methods Case Study of selected sites

Meta-inferences

Low performing schools

Qualitative case study of 11 sites to identify recurring themes

Instruments selected to measure themes

Survey of 38 randomly selected sites using quantitative instrument

Contexts and outcome

Continuous assessment

Study of 2 sites with different contexts and outcomes

Meta-inferences

Figure 1: Diagrammatic versions of mixed methods designs used for three policy studies conducted in the Anglophone Caribbean

Figure 1 provides a graphic comparing these three designs. As shown, in each design, the quantitative and qualitative components were connected in different ways. The different connections ensured the efficient capture of local knowledge and integration of large-scale data. For example, in the multilevel design used for the secondary school choice study, the quantitative component captured system level rules for school choice. The qualitative component was focused on family and individual level understandings of the rules, with the assumption of significance divergence in perspectives. Integration between the data sets using correlation and comparison is possible, but each data set was targeted to the specific level.

In the explanatory sequential design, the quantitative component was designed to first identify low-performing schools and then to explore the influence of selected predictors using multivariate analysis. The qualitative component which followed employed a qualitative dominant mixed methods case study design to provide in-depth insight into actual processes and events within selected schools (Johnson, Onwuegbuzie, & Turner, 2007). The two qualitative components in the iterative sequential multiphase design used for the study of CAP served quite different purposes. The Phase 1 qualitative component provided context whereas the Phase III qualitative component was used to illustrate, explain and expand on the findings of the Phase II quantitative study (De Lisle, 2015).

Table 1 also shows the overall, integrated and component findings and the final policy implemented. Notably, the final policy constructed was quite different from the findings and recommendations in all three instances. As implied earlier, this might be because evidence is only one factor in creating policy; with social and political considerations more important in this context. It might be that some evidence has been misused in the case of the CAP and low performing schools. A clear case of misuse was seen in the ministerial proposals for school choice submitted to Cabinet in 2007-2008. These proposals restricted choice patterns following a linear exact heuristic (Bethel, 2008; Moe, 2009). However, findings from the choice study had suggested that choice patterns were more likely complex, gendered, and multi-phased (De Lisle et al., 2009).

Table 2: MMR Design: Rationale, Components, Interaction, Priority, & Timing

	Policy Issue		
	Secondary School Choice	**Low Performing Schools**	**Continuous Assessment Practice**
Paradigm Stance/s for Mixing	Dialectical Pluralism (QUAN/ QUAL teams)	Critical Realism	Critical Realism
Primary Rationale	1) Problem must be studied at different levels	1) Case studies are required to explain how schools respond to national data	1) Problem needs to be studied through different methods 2) One data source might be insufficient to explore complex issue
Role of Components	QUAN study of system level rules 1995-2005. QUAL study of decision-making in family with students' and parents' views captured	QUAN study of system level data. Three MMR case studies of schools in different geographic locations and contexts.	For PHASE 1, qual study of 12 sites to explore contexts. In QUAN Phase II survey study of 38 schools. In PHASE III Study of 2 sites selected from QUAN database with different contexts
Level of Interaction (Linking or Integration)	Independent	Interactive through linking	Interactive through iterative linking
Priority	Equal	QUAL	QUAL
Timing	Concurrent	Sequential	Multiphase
Integration (Point of Interface)	Integrative findings	Linking of data and in integrated findings	Iterative linking and in integrated findings

Table 2 provides further details of the MMR designs in terms of: (1) the paradigm stance; (2) the primary rationale; (3) the degree of integration; (4) priority or emphases; (5) timing, and (6) points of interface. These are the core elements of an MMR design. An analysis of these inquiry logics can help assess the flexibility and utility of these designs for achieving the outcomes of policy research (Leech & Onwuegbuzie, 2009). As shown, critical realism was the paradigmatic stance adopted for two sequential studies. This perspective facilitated a focus upon recurring patterns and processes to be identified in the qualitative component. For the secondary school choice policy study, a team-based approach to dialectical pluralism was employed. The qualitative team explored choice at the level of family and individual students using a constructivist-interpretive approach. The quantitative team used a post-positivist paradigm stance to analyse quantitative data across eleven years for system level rules.

In all three studies, integration was considered to be a very desirable goal and the essence and purpose of a true MMR study (Teddlie & Tashakorri, 2009). The highest degree of integration was achieved in the iterative sequential multiphase design with linking, correlation, comparison and merging employed (De Lisle, 2013). Both sequential designs also facilitated linking since data from the quantitative component was used to select the sample for the qualitative case studies. Additionally, in creating meta-inferences, findings from the quantitative and qualitative components were correlated and compared. Although the multilevel design, in theory, offered substantial opportunities for producing integrated findings, in the write up, the emphasis was upon component findings with limited comparison and correlation between inferences from the components. However, the multilevel design did facilitate dynamic interaction between quantitative and qualitative teams, which led to valuable post-hoc analyses of the quantitative data set.

Table 3: Theory for Conceptual Framework, RQs, & Generalization Issues in Three MMR Designs

			Policy Issue		
			Secondary School Choice	**Low Performing Schools**	**Continuous Assessment Practice**
	Conceptual Framework	*Western Theory*	Different national systems have different rules for school choice and several factors (some unique and local) might be involved, with different valences for some stakeholders	Low performing schools may have unique contexts that challenge the school effectiveness movement.	Teachers do not always follow the "spirit" of the assessment for learning process.
		Local Knowledge/ Southern Theory	Several actors are involved in the process of making the choice, including children. Traditional schools are a	Poverty and rurality are strongly associated with low performing schools in Trinidad and Tobago.	CAP is formative focus, but teachers mostly practice continuous testing.

Fundamental Principle of Data Analysis	**Research Questions**	QUAN	How do choice patterns vary over the years with different system rules? How do choice patterns vary by geographic region?	strong preference, but choice patterns are variable. What are the characteristics of schools with high poverty, low performance schools?	How can we model the effect of various contextual and school factors on CAP use?
		QUAL	How do individual families make choices related to agency, gender and school factors		What is the understanding and nature of formative assessment practice at sites practicing continuous assessment?
		MIXED		What is the nature of educational practice in high poverty, low performing schools?	
		Theoretical (Analytical)	Individual laddering interviews	Study of three cases	Study of 11 contextual cases

Validity Generalization	Probability	Study of System rules over 11 years on all choices	Study of schools using national test and planning data (2005-2007)	Study of 38 schools and 436 teachers
	Case to Case	Study of families in geographic locations	Study of three cases	Study of practice in high and low achievement contexts with high and low CAP use

Table 3 provides further insight into the flexibility of the MMR design features using the frameworks of Maxwell and Loomis (2003), Hall and Howard (2008), Plano-Clark and Badiee (2010) and Onwuegbuzie, Johnson, and Collins (2009). The selected design features presented in this table are: (1) the conceptual framework, (2) sample research questions and (3) validity issues. For the conceptual framework, prior knowledge from both global and local theories are included. As shown in Table 3, there were notable differences between local and western knowledge on each policy issue. These differences were addressed in conceptualising and implementing the studies. To illustrate, information on school choice was obtained from children and the extended family based upon the likelihood of broader agency within the local context. Likewise, the observed association between achievement, poverty, school size, and rurality in the study of low-performing schools necessitated a deeper interrogation of the issue of small rural schools in Trinidad and Tobago.

In both the secondary school choice study and CAP evaluation, separate quantitative and qualitative questions were constructed. Mixed research questions were utilised only in the qualitatively dominant MMR case study of high poverty, low-performing schools. Onwuegbuzie, Johnson, and Collins (2009) regarded generalization to be a fundamental principle of data analysis. Table 3 shows how each policy study addressed this issue by distinguishing between theoretical, probability and case to case generalisability. Each study included a component that led to probability generalisation as well as a component that illustrated the effect of the policy on individuals, family units or sites. The inclusion of a component for probability generalisation ensured that broad claims could be made across the heterogeneous policy space.

Table 4: Congruence, Divergence and "Newness" of Findings

	Policy Issue	**------------------------ Findings--------------------**		
		Congruent	Divergent	New Local Theory (Initiation)
1)	**Secondary School Choice**	Academic prestige is an important factor in school choice	Traditional schools are more highly valued in system data, but system much more complex in family units and decision-making heuristics makes use of several factors and compensatory, conjunctive and disjunctive rules in combination	School choice is strongly gendered- Stakeholders make different choices for males and females.
2)	**Low Performing Schools**	Low performing, high poverty schools have distinct characteristics	The quality of teachers and the presence of resources are not always critical the factors in school performance	Poverty concentration contributes to unique client set, often unrelated to disadvantaged rural or urban communities.
3)	**Continuous Assessment Practice**	Use of CAP was variable, but formative practice with high fidelity was universally low. CAP use was associated with achievement context	CAP practice can be high without significant formative practice/ assessment for learning	Initial CAP training was important if supported by informal collaborative structures and leadership

Table 4 elaborates further on the nature and utility of the findings from the three MMR policy studies. As shown, the findings produced were both corroborative and divergent, supporting Ellingson's (2009) and Denzin's (2010, 2012) argument for use of crystallisation as a methodological metaphor. As argued earlier, divergent findings were an expected MMR outcome, related to capturing complexity. These divergent findings pointed to the multiple perspectives needed for the development of new policy in the Anglophone Caribbean. Divergence of findings leads to new insights and understandings, as illustrated in the case of the school choice issue. In the qualitative component, it was first observed that system rules were often reinterpreted locally by families and communities in multiple and divergent ways. This observed complexity in rules and patterns across boundaries suggests that policymakers must exercise caution when constructing new system level policy.

Table 4 also illustrates the ability of MMR to generate new theory - a purpose described as 'initiation' by Greene, Caracelli, and Graham (1989). According to these authors, initiation "seeks the discovery of paradox and contradiction, new perspectives of frameworks, the recasting of questions or results from one method with questions or results from the other method" (p. 259). This might be the most valuable feature of MMR for policy research, because it provides a mechanism for increasing local knowledge. However, a notable weakness in these policy studies was the failure to incorporate an indigenous relational epistemology. Such an approach could have been especially useful in the school choice study where several actors in the students' community were collaboratively involved in the decision to choose a secondary school; quite different to processes in the global North (De Lisle et al., 2009).

Implications for Educational Policy Research in the Anglophone Caribbean

The illustrative MMR policy studies provide insight into the: (1) value added; (2) comprehensiveness and credibility of integrated findings; and (3) and utility of findings. I have argued that the fundamental challenge for policy research in Trinidad and Tobago is to respond to heterogeneity in educational and geographic space (Bacchus, 2008; De Lisle et al., 2010). Heterogeneity is a critical challenge for mono-method qualitative studies, because only particular contexts are captured. Onwuegbuzie and Collins (2007) considered this to be a legitimation issue for the qualitative component in MMR studies. Legitimation is MMR validity, defined as "the difficulty in obtaining findings and/or making inferences that are credible, trustworthy,

dependable, transferable, and/or confirmable" (Onwuegbuzie & Johnson, 2006, p. 52).

The logic, strategies, and outcomes of the MMR designs were fundamental to capturing the observed differences across sub-systems, geographical locations, and in identifying new or hidden findings at different levels. The specific MMR features which helped achieve this were (1) the variety of sampling designs, (2) iterative linking and integrative strategies, and (3) the flexibility and variety of designs. Sampling was a critical factor even for qualitative components. For example, in the school choice and CAP policy studies, stratified purposeful sampling for the qualitative component ensured that variation across districts was adequately captured (Coyne, 1997). Significantly, great variation was found across communities and locations, supporting the hypothesis of heterogeneous contexts. Linking between the quantitative and qualitative components was as an integrative strategy that ensured findings from one component directly informed the next. To illustrate, in the school choice study, new insights into gender as a factor were provided when studying decision-making at the family level. This rule was applicable to system level data.

A notable advantage of the three MMR policy studies was design flexibility in determining priority, timing, and positioning of the point of interface. This flexibility was key to facilitating a better assessment of local or contextual knowledge on an issue. To illustrate, in the CA policy study, the then observed lack of local knowledge on CA practice was resolved by the Phase I multi-site qualitative case study designed to build theory and reveal contextual issues. The theory was gathered from eleven case studies using a variety of qualitative methods including observation, document analysis, and interviews (Firestone, 1993). Variables identified in Phase I were then measured through a quantitative survey in Phase II. This approach illustrates the flexibility of mixed methods designs to provide a mechanism for resolving issues related to generating credible and trustworthy data for policymaking in this particular context.

Although the MMR findings from these studies appeared divergent, credible and insightful, it was still startling to observe how much final policy decisions deviated from recommended actions. Perhaps, the continuing chasm between evidence generated and subsequent policy-making is one of the enduring weaknesses in small island states. Onwuegbuzie, Johnson and Collins (2011) considered the value placed on meta-inferences by consumers as a type of validity issue, political legitimation. This does not mean, however, that the

evidence was not used at all. For example, there were different levels of use of the findings from the CAP evaluation. New policy for the new high-stakes CAC did show increased attention to the use of formative assessment and to training. The evaluation document was also one of nine policy documents guiding the new primary school curriculum. However, at the same time, misuse of findings is evident in the decision to use CA for the high stakes SEA placement process (Ministry of Education, 2013). Use of evaluation findings might be enhanced through various strategies such as greater stakeholder involvement and qualitative and quantitative data visualisation (Azzam, Evergreen, Germuth, & Kistler, 2013).

An immediate challenge for MMR education policy studies in the Anglophone Caribbean and the global South is to better incorporate indigenous methods and methodologies. Local knowledge and indigenous philosophies have been given only lip service in the Anglophone Caribbean, especially in policy research. As argued earlier, however, MMR designs are flexible enough to incorporate indigenous methods and approaches. The studies described in this paper did consider the relevance of local knowledge but did not explicitly employ indigenous methodologies. Arguably, the use of a relational ideology would have been valuable in studying school choice among local families and communities, where decisions involve socially constructed knowledge.

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