Mending the Research–Policy–Practice Gap: Conceptualising Research as Social Change in Education

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Abstract
There is a widely acknowledged gap between research, policy, and practice owing to a lack of capacity to translate and mobilise research results to end-users including policymakers, practitioners, and community members. Acknowledging the divide amongst researchers, policymakers, and practitioners, this conceptual paper seeks to address the following: How do we devise ways to strengthen the research–policy–practice nexus in the education landscape such that research institutions can better attend to the needs of policymakers and practitioners? How can we facilitate greater interaction among researchers, policymakers, practitioners, and other stakeholders to create a common understanding of the challenges, needs, and what works for all stakeholders? To do this, we propose a new approach that employs research as a mechanism for social change and uses the consciousness of the self as a resource for research. More specifically, we develop a framework that facilitates the conditions for the mutual understanding of norms, operational roles, academic rigour, and policy and practice outcomes among all stakeholders. Additionally, this framework seeks to foster increased inter-stakeholder conversations and dialogues to narrow the divide between researchers and policymakers and, correspondingly, improve policy translations from academic research.

Introduction

The gap between research, policy, and practice has been an enduring feature of the educational landscape in many countries. Akin to numerous fields such as healthcare, social work, criminology, national defence, and others, the research–policy–practice gap in education and its attendant causes and implications in research and policymaking has been well documented and analysed (Broekkamp & van Hout-Wolters, 2007; Plank, 2011). Although there are several complex and interrelated factors contributing to this gap, it can be posited that the cultural differences amongst researchers, policymakers, and practitioners in terms of work environment, priorities for knowledge, levels of technicalities employed during communication, and the time frames for results, feature as the dominant reasons (Lewig et al., 2006; Shonkoff, 2000). Accordingly, these cultural differences are manifested in the lack of an intersubjective understanding of the systemic issues and concerns throughout the educational landscape amongst the various stakeholders involved, thereby further impeding the utilisation of research in policymaking and practice (Christakis & Kakoulaki, 2021). Moreover, systemic constraints involving the lack of existing networks or forums as avenues for researchers, policymakers, and practitioners to communicate about research and to develop the relationships needed to sustain ongoing communication is another barrier to research utilisation (van der Arend, 2014).

In this paper, the main question we seek to address is: "How can we devise ways to strengthen the research–policy–practice nexus in the enterprise of higher education such that research institutions can better attend to the needs of policymakers and practitioners?" To address this, we will also analyse the following issues: What kind of framework would be conducive for research utilisation? How can we devise strategies to facilitate more inter-stakeholder conversations underpinned by an intersubjective understanding of the key issues? What social mechanisms should be present to incentivise stakeholders to participate in such a framework?

Thus, we propose a theoretical concept for mending this research–policy–practice gap through an organisational approach that seeks to enhance research translations to policy and practice. In so doing, we anticipate that our theoretical model could produce research that better attends to the needs of policymakers and practitioners in a timelier fashion. We envision that mending the research–policy–practice gap, in this case, necessitates fostering an intersubjective form of research collaboration that accords various stakeholders with an equal partnership while delivering substantive outputs for policy and practice. The partnership needs to be collaborative rather than the complementary forms they traditionally possess (Furlong et al., 2000). According to Furlong et al. (2000), complementary partnerships are limited in the level of educational discourse that occurs between partners. On the other hand, collaborative partnerships are those in which members of the partnership—whom we see

as including policymakers, researchers, and educators—work as a team toward a common professional goal. Such collaboration facilitates the development of a greater understanding of one another's role, respect for one another, and the nature of learning that can be achieved in each setting—thus, better able to eliminate power differentials.

In this regard, we advocate for a new approach, termed, *research as social change*, which centres research as a mechanism for social change. To do this, we seek to apply the principles of the design-based implementation research (DBIR) framework to the research process in order to empower stakeholders to overcome the disparate social and cultural milieus in which they operate. Therefore, we argue for an organisational framework fostering productive inter-stakeholder discourse that facilitates the conditions for the mutual understanding of norms, operational roles, academic rigour, and policy outcomes. Although this paper will draw on ideas and discussions from past empirical work, it should be qualified that this is not based on empirical research but, rather, seeks to offer a theoretical proposition that can be advanced in future research projects. Our goal, eventually, is to broaden the application of our theoretical model of research–policy–practice collaboration to contexts across the world.

This paper will be divided into six sections. The first section provides a review of the existing literature on the research–policy–practice nexus in education, in particular, the various models of collaboration among researchers, policymakers, and practitioners. In the second section, we highlight the theories of situated cognition and knowledge management as the underlying ideas informing our collaborative model. We explicate, in the third section, the limitations of design-based research (DBR) and the need for a design-based research implementation (DBIR) approach whilst detailing the principles of DBIR that are integral to the research as social change framework. The fourth section provides an account of the overall process of the research as social change approach, elaborating on the three key phases of the process. The implications of our proposed framework to research, policy, and practice will be subsequently discussed in the fifth section followed by a discussion of the challenges in its implementation, and then, the concluding section.

Literature Review

In the scholarship of research utilisation, Murray (2011) identified three main models of collaboration between researchers and policymakers based on the level of deliberation among various stakeholders: i) the customer/client model, ii) the interactive model, and iii) the joint construction model. The customer/client relationship can be understood as a scenario whereby policymakers identify a policy-related problem, and the solution is sought through existing research and information. In this case, research is utilised instrumentally with minimal knowledge exchange and collaboration between researchers and policymakers (Elliott & Popay, 2000). This approach, however, has been criticised for its lack of adaptability to real-world situations (La Brooy & Kelaher, 2017) and for reinforcing groupthink in policy development because policymakers pick-and-choose existing research that validates their worldviews (Jørgensen, 2011). The exclusion of some key stakeholders in this deliberative process, correspondingly, could be detrimental to the interests and well-being of the relevant stakeholders in the long term. In the interactive model, by contrast, there is some level of interaction between researchers and policymakers, but the exchange remains technocratic and does not involve deliberation. The joint construction model, to a larger extent, is deliberatively oriented and includes a process of communication between policymakers and researchers. According to Murray (2011), in this model,

> there is a joint construction of social knowledge-based on the dialogue between social science and the social world so that the process should include two-way communication between researchers, policymakers and citizens; examine the contexts in which research

is to be implemented; and continue to interpret and recontextualise the research within the implementation context. (p. 461)

Another benefit of incorporating researchers and other actors in the deliberative process is the increased influence of researchers and practitioners in agenda setting and conceptual rethinking of educational policies in the policymaking cycle (Jørgensen, 2011). Moreover, it accords opportunities for empowerment and ownership over policy beyond the initial stages of policy development (La Brooy & Kelaher, 2017). Figure 1 depicts the range of deliberation involved between researchers and policymakers in the three models with the customer/client model being the least deliberative and the joint construction model having the most dialogue and collaboration.

Figure 1

Murray's (2011) Typology of Collaboration Between Researchers and Policymakers
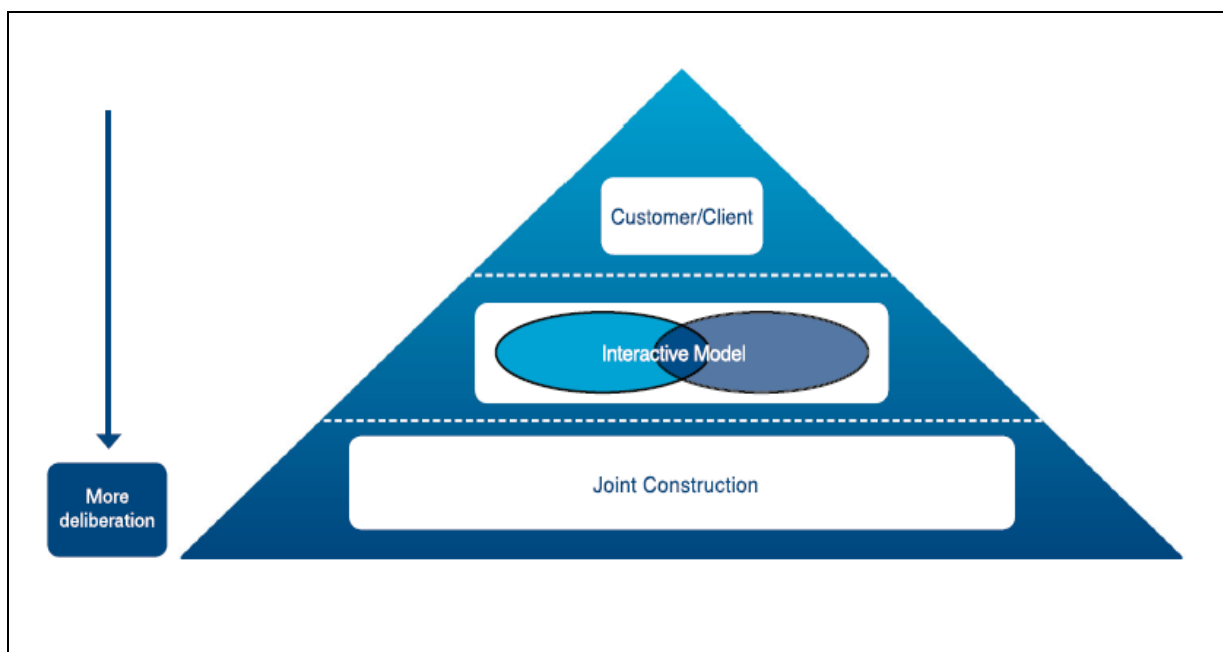
Although we are inclined to advocate for the joint construction model as an ideal framework for engagement, the limitations of this model should not be understated. Specifically, the varying skills, worldviews, and work-related exigencies amongst the key actors pose an obstacle to collaborations and joint engagement. An effective framework for a research–policy–practice nexus, therefore, should entail anticipating and pre-empting these obstacles by preparing the necessary organisational and procedural guidelines that incentivise engagement in a coordinated and sustained manner in the policy process.

Additionally, the significance of research as a process for social change should be underscored by enabling actors to influence the research agenda, methods, methodology, and the general conduct of the research process. More importantly, participation in this context should mean active, and not passive, involvement and it should be transformative (Slocum & Thomas-Slayter, 1995). Transformational participation has the potential to lead to genuine empowerment, leading to a shift in power at both the behavioural and structural levels (La Brooy & Kelaher, 2017). As such, with proper implementation, deliberative models can facilitate shifts in power toward less powerful or marginalised groups by according them the opportunity to actively participate in policy processes that directly affect them.

Research as Social Change: Definition and Significance

Within the context of education, the discourse on social change has typically focused on the role of the school system in the transformation of society. John Dewey, in his earlier works on the significance of education on social change, articulated that the main objective of education should be to nurture individuals who possess the capacity to grasp the complexity and broader implications of social issues, who are empowered to engage with such issues, and who are motivated to work towards developing real solutions to systemic problems (Dewey, 1937; Pérez-Ibáñez, 2018). Thus, social change is understood to be a process that empowers learners to be active participants in redressing systemic injustices and inequalities for the betterment of society. To Dewey (1937), democracy was an integral frame of reference that engenders critical thinking, free association, and communication with others as a means of sparking social change. Dewey (1958) noted that "society must have a type of education which gives individuals personal interest in social relationships and control and the habits of minds which secure social changes without introducing disorder" (p. 99). While we concur with Dewey's stance on the role of education in endowing individuals with the critical attributes to advocate for social change, we contend that democracy may not be an appropriate frame of reference in all contexts given the variations in political settings across countries. Rather, we advocate that education needs to be rooted in current social problems (Pérez-Ibáñez, 2018). This is especially pertinent in East and Southeast Asian countries such as Singapore where a hierarchical work culture and a society that values pragmatism (Hairon, 2017) would be less receptive to the societal disruptions common in liberal democracies. Moreover, we argue that school systems are not the exclusive domain for social change in the educational ecosystem. In fact, education research can also be a vital impetus for social change by mobilising key stakeholders to address systemic problems. To do this, we propose a new approach termed, *research as social change*, that employs research as a mechanism for social change and uses the consciousness of the self as a resource for research.

Research as social change is defined as an approach whereby research is used as a mechanism for systemic social change by including relevant stakeholders across the system, who collaboratively work to identify problems and design solutions through iterative studies for the benefit of all stakeholders. This diverges from traditional conceptions of educational research as a positivist process that documents the teaching and learning patterns across the whole system and provides a systemic overview of the social change enacted. Such positivist models of research divorce researchers from the interactional patterns of teaching and learning. Our model also differs from design-based research that aims to verify the efficacy, effectiveness, and efficiency of interventions needed for the development of evidence-based policy and practice (Levin & O'Donnell, 2000). Rather, our model seeks to address some of the existing limitations regarding the capacity of educational research for social change.

Shulman (1997) noted that the conduct of education research studies has shifted from the laboratory to schools and classrooms. Hence, one key obstacle for existing models of educational research is the varying conditions across schools, classes, teachers, and students—consequently diminishing the transferability and generalisability of findings (Labaree, 1998). Moreover, obtaining conclusive evidence for effective methods across these contexts remains an enduring challenge (Berliner, 2002). In seeking to address these issues, our collaborative framework seeks to deliver adaptable strategies to these varying contexts.

Collaboration between researchers, practitioners, and policymakers could also deepen trust in research findings (Mohajerzad et al., 2021). With technology and social media becoming the prevalent form of communication across the world, the spread of misinformation has become increasingly commonplace. This has adverse implications for research–policy collaborations in times of crises such as the Covid-19 pandemic because an inability to counter misinformation can undermine public trust

in science (Enders et al., 2020; Roozenbeek et al., 2020). However, misinformation is not exclusive to fringe voices in popular and social media. Rather, the scientific and scholarly communities also face a parallel set of challenges—from hype and hyperbole to publication bias and citation misdirection, predatory publishing, and filter bubbles (West & Bergstrom, 2021). Hence, we posit that research as social change could potentially mitigate the spread of misinformation given that stakeholders would be able to disseminate information and knowledge within these collaborative settings, thereby enabling stakeholders to identify and flag sources and themes of misinformation within the scholarly community.

The research as social change framework, additionally, intends to address some critical gaps in the policymaking cycle by extending participation and incorporating critical inputs from researchers and practitioners. While policymakers are the chief custodians of the policy cycle, seeking information and data from researchers, practitioners, as well as a diverse range of actors is vital for the promulgation of fair and equitable policies. Where key actors are excluded, policies implemented could have adverse effects on marginalised and underrepresented communities (La Brooy & Kelaher, 2017; Murray, 2011). Policymakers, furthermore, may often lack the requisite technical expertise necessary for the effective formulation and implementation of evidence-based policies. Neglecting to consult key actors, therefore, could lead to inadvertent consequences and even the exacerbation of social inequalities (Jørgensen, 2011; Quah, 1984). Accordingly, establishing frameworks that consistently cultivate engagement among researchers, policymakers, and practitioners ensures that the interests and well-being of the relevant stakeholders in the development of evidence-based policy are carefully considered.

Theory: Intersubjectivity and Knowledge Management

A critical pillar of our framework rests on developing a culture of intersubjectivity amongst various actors in the research process. Intersubjectivity can be defined as "the sharing of subjective states by two or more individuals" (Scheff et al., 2006). Cognitive sociologists conceive intersubjectivity as a group of individuals sharing similar social experiences, which induces a common worldview or epistemic understanding of a social phenomenon, alternatively known as thought communities (Zerubavel, 1997). Examples of thought communities include churches, professions, scientific beliefs, generations, nations, and political movements. To foster a culture of intersubjectivity in a collaborative framework, we employ the theories of situated cognition and knowledge management to underscore the significance that all knowledge is linked to activities bound to social, cultural, and physical contexts (Greeno & Moore, 1993).

We posit that developing a culture of intersubjectivity engenders affordances in specific learning contexts. Utilising one of the key principles of social constructivism—that learning is inseparable from its social context (Gibson, 1979; Vygotsky, 1978)—we contend that intersubjective knowledge is the product of the flow of knowledge derived from the interaction of personal knowledge (i.e. embodied learning experience influenced by cognition, idiosyncrasies, affective, historical dimensions such as parenting, family environment, life and cultural experience and our professional training) and knowledge as object (i.e. the abstract or reified representation of the subject matter, material object, resource, artefacts or thing; Chiam, 2018). As shown in Figure 2, an agent's process of acquiring knowledge on a subject matter is the product of the flow of interaction between the subject content (K1 or knowledge as object) and the agent's cognitive and socio-emotional capacity (K2 or knowledge as personal), which arises through the individual's relational engagement with the context of time and space of their development (Chiam, 2018). In other words, knowledge as nexus (K3) is about being in the flow state—the here and now.

Figure 2: Knowledge as a Nexus Between the Personal and the Object (Chiam, 2018)
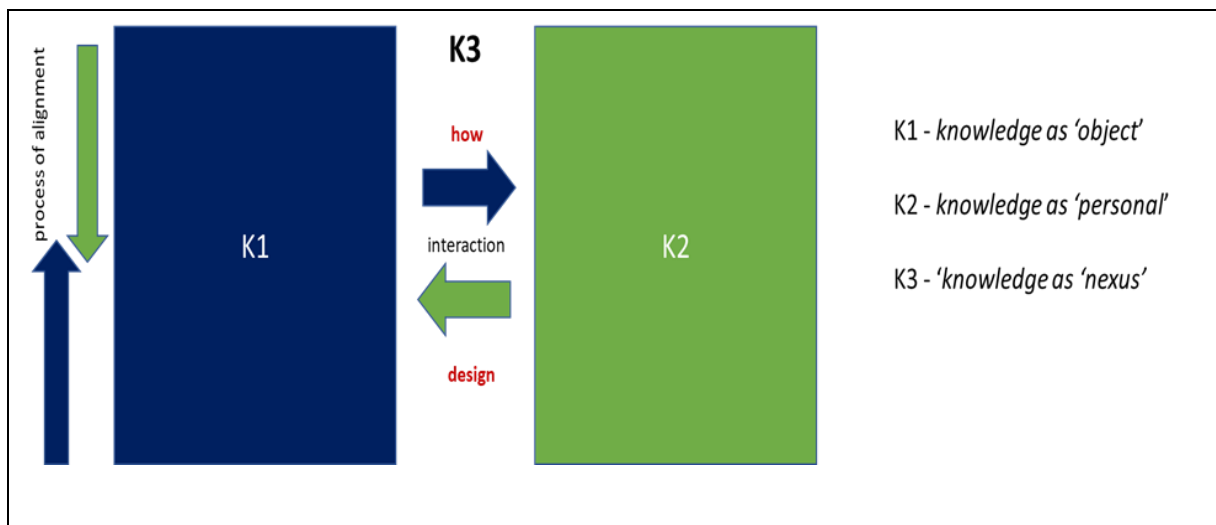
Appropriating Gibson's (1979) idea of affordances, we contend that any interaction between an agent and the environment, inherent conditions, or qualities of the environment induces the agent to perform certain actions within the environment. Greeno (1994, p. 340) also suggested that "affordances are preconditions for activity," and that while they do not determine behaviour, they increase the likelihood that a certain action or behaviour will occur. Research as social change, therefore, is the result of K3 knowledge, which extends participation to the agent in a deep meaning-making process with other agents in a common environment. Herein, the consistent and sustained interactions with others within a social group increases the likelihood of forging a common intersubjective understanding of themes and topics discussed.

In acknowledging this awareness of K3 as the interaction or the interplay of the reified, the selves, and the phenomenon (Hung & Chen, 2008), considerations necessarily come to the table on the need for individuals to have greater opportunities for engagement with situated and dialogical processes that prompt reflection and learning across the widest field. Herein, a consequence of this consciousness is the need for greater inclusivity of the types of knowledge, embracing the differing values and moral framings that underpin the preferences of different stakeholders' "hats." Helping individuals through metacognition becomes important to enable them individually to reflect on who they are, what they know, what they want to know, and how they can get to that point and monitor their learning.

However, a great challenge to that change lies in the fact that human beings are creatures of habit with different stages of openness to, or readiness for, change—and ingrained habits are difficult to change. Therefore, we suggest that research as social change is a process that requires deliberate inclusive processes and conscious action at all levels of dominant player—at the policy and service levels, directly or indirectly.

Using Design-Based Implementation Research (DBIR) for Research as Social Change

Research as social change aims to address systemic problems through iterative research that can be more effectively translated and scaled to practice and policy. To achieve this, we apply the principles of design-based implementation research (DBIR) as a conceptual framework. DBIR can be understood as a design-based approach at the nexus of research, policy, and practice that engages researchers, policymakers, and practitioners to collaboratively produce innovations that are iterative and scalable to education systems (Fishman & Penuel, 2018; Penuel et al., 2011). DBIR emerged as a result of concerns that even though many design-based research interventions were effective in field trials,

subsequent implementations in real-world settings were unsuccessful in achieving the desired results (Fishman & Penuel, 2018), thereby precipitating a gap between "what works" and "what works where, when, and for whom" (Means & Penuel, 2005, p. 181, as quoted in Fishman & Penuel, 2018, p. 393). Moreover, most design-based research interventions tend to be context-specific and are, therefore, difficult to generalise. Hence, findings from design-based research do not allow for classroom innovations to be scaled up to a systemic or policy level. DBIR, as a result, seeks to provide the mechanisms necessary to scale and translate findings to various contexts and a broader systemic level. Specifically, we aim to include the following four principles of DBIR (Fishman & Penuel, 2018; Penuel et al., 2011) in our conceptual framework:

- A focus on persistent problems of practice from multiple stakeholders' perspectives.

- A commitment to the iterative and collaborative design of programmes, or change interventions, to achieve desired outcomes.

- A concern with developing theory related to both classroom learning and implementation through systematic inquiry.

- A concern with developing capacity for sustaining change in systems.

Historically, DBIR in education was conceived as a means of advancing organisational change and quality improvement. It shares common characteristics with several theoretical approaches to educational research and evaluation, specifically, in programme evaluation and evaluation research, community-based participatory research, and social design experimentation (LeMahieu et al., 2017). In community-based participatory research, for instance, researchers collaborate with stakeholders outside of academia to execute joint research on common objectives (Strand et al., 2003). This kind of research represents a hybrid of research and social action and is used to mobilise support and ownership of the co-designed interventions as well as the scaling up of innovations that show evidence of effectiveness (LeMahieu et al., 2017; Wallerstein & Duran, 2010). Another research approach that informs DBIR is implementation research, which can be understood as the systematic study of the implementation of interventions by focusing on how interventions are adopted in specific organisational contexts by actors or individuals (Fixsen et al., 2005; LeMahieu et al., 2017). In this regard, DBIR represents a patchwork of various research approaches that adhere to the pragmatic tradition of education philosophy (Dillon et al., 2000; Penuel et al., 2011) with a commitment to solving practical problems through collaborative efforts among researchers, policymakers, and practitioners.

Applying Research as Social Change

In our conception of research as social change, DBIR is an integral aspect of this endeavour. While conventional designed-based research deploys a linear trajectory of research from the laboratory to the classroom and eventually scales up to the system, our process would enable researchers to seed potential experimentations throughout the system through joint collaborations with policymakers, practitioners, and other stakeholders at various rankings. Figure 3 encapsulates an overview of research as social change as a deliberative model of research that seeks to foster inter-stakeholder conversations throughout the research process.

Figure 3: Overview of Research as Social Change as a Process
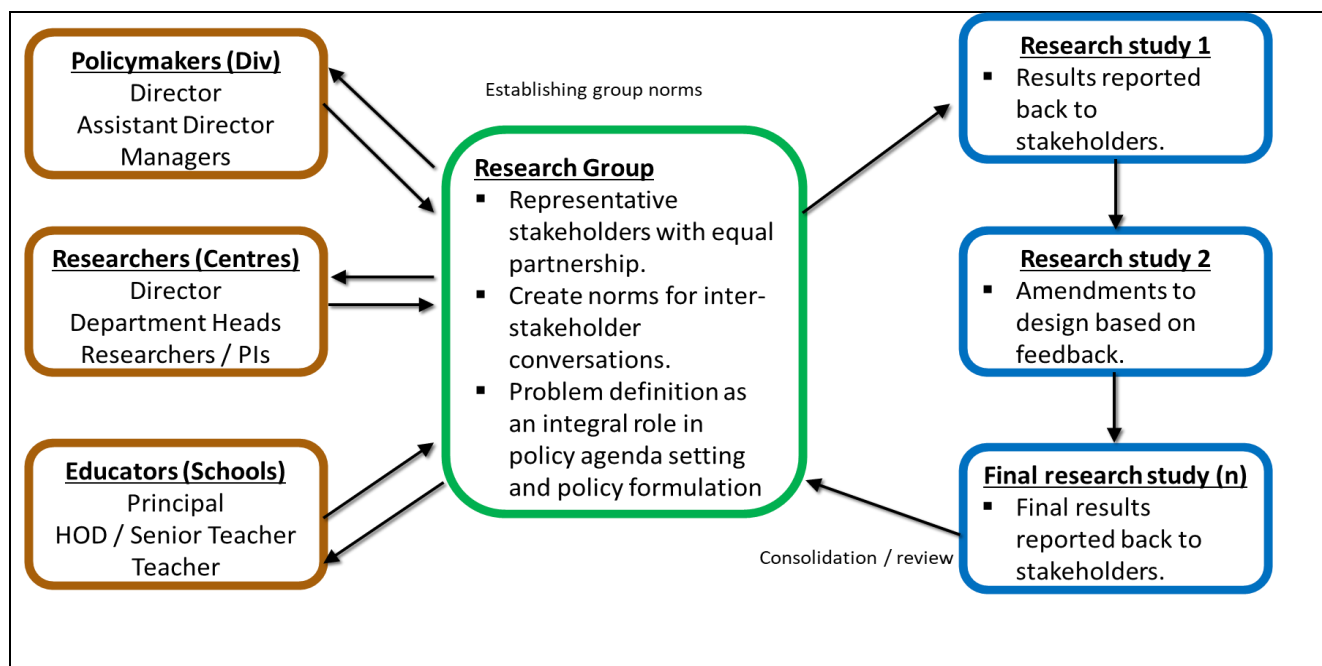
The process as depicted in Figure 3 can be disaggregated into three main phases, which will be explained in the subsequent sections: i) establishing group norms, ii) iterative research cycles and feedback loops, and iii) consolidation and review of research activities.

Phase I: Establishing Group Norms

In the first phase of the research process, it is imperative to establish group norms that enable a common intersubjective understanding of the significance of the research problem and to cultivate empathy amongst participants for the underlying concerns of all stakeholders. This would be vital for the facilitation of productive inter-stakeholder conversations and to ensure, internally, the coherence of the research process as well as minimising the potential for attrition by members. As observed in Figure 4, representatives from various stakeholders, including but not limited to policymakers, researchers, and practitioners would be nominated by their various organisations to participate in the research group. Each stakeholder may nominate representatives from varying levels of seniority. Nominations would be contingent on the significance of the issue and the respective needs and concerns of the organisation. Upon nomination in the first phase, representatives may hold frequent meetings to foster group norms and build a collective identity as a team to ensure the long-term viability of the group. More significantly, the established norms should ensure that collaboration throughout the research process is based on an equal partnership and mutual understanding amongst all stakeholders.

Figure 4: Phase I: Establishing Group Norms
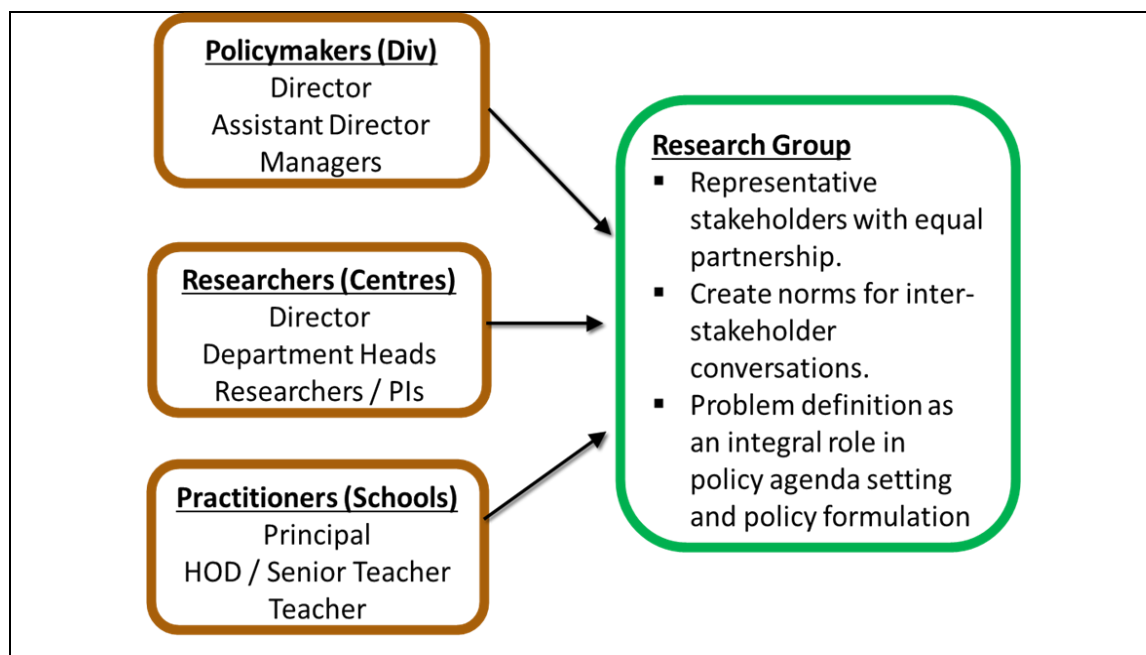
The challenge of establishing group norms and social trust is especially pronounced when considering the differences in the levels of expectations, skills, and commitments among stakeholders (Lewig et al., 2006). Despite the vast literature on organisational management and social capital, there is no universal approach to ensuring (with absolute certainty) that stakeholders from disparate backgrounds will be able to overcome their epistemological differences and collaborate without conflict. Rather, successful group dynamics in such collaborations would depend on multiple variables including, but not limited to, how closely stakeholders have worked together in the past, the research topic being investigated, and the alignment of interests amongst stakeholders. Nonetheless, we contend there are three main norms or issues that stakeholders should build consensus on to ensure that inter-stakeholder conversations are effective. As noted from the research utilisation literature, the three main issues to be discussed are:

Languages for Communication

Researchers, policymakers, and practitioners typically employ different vernaculars in their respective fields. The languages used by a stakeholder are reflective of the priorities for knowledge and the work environment germane to each profession (Lewig et al., 2006). Researchers, for instance, usually employ highly technical, inaccessible, and expert language within the scholarly community whereas policymakers may utilise bureaucratic or specialised terms that may be exclusive to the public sector. Devoid of familiarity with either profession, practitioners may feel alienated during a collaborative research process. To mitigate such scenarios, we advise stakeholders to adopt an open mindset while actively engaging other stakeholders in their work. Through deliberative and sustained interactions, trust, empathy, and social capital can be fostered—which are instrumental in assuring the resilience of the research group (Putnam, 1993). In the initial stages, this can be achieved through educational games or icebreaker activities but would require a more concerted effort by the nominated leaders of the collaborative group to ensure an inclusive research unit where perspectives, knowledge, expertise, and values are respected throughout the research process. This could be achieved through various activities such as spontaneous and planned exchanges, best practice demonstrations, workshops, and seminars (Lewig et al., 2006).

Time Frames for Results

Policymakers and practitioners in professional settings usually operate in shorter time frames compared to researchers who require longer timelines to produce high-quality research (Lewig et al., 2006). If left unresolved, this could be a potential source of fissure within the research process. To alleviate this, research groups should openly deliberate and build consensus on the planned time frames of the research group at the outset of the research phase. More importantly, all actors should adopt an open and flexible mindset given that research work tends to be circumstantial and contingent on multiple intervening variables that could cause delays to the research timeline. Hence, the dynamic nature of research and its attendant effects on the timeline of the project must be communicated at the initial stages of the formation of the research group.

The Nature of Evidence and Building Agreement Around It

Another source of contention amongst researchers, policymakers, and practitioners deals with the nature of research evidence and its perceived usefulness to a stakeholder (Lewig et al., 2006). In this regard, the subjective interpretations of research evidence and its use are largely informed by a stakeholder's priorities for knowledge. Hence, assessing the professional priorities of each stakeholder is useful for apprehending the logic guiding the decisions of each profession. Researchers, for instance, tend to ask questions that can be answered scientifically and are drawn to theory-making, conceptualisation, methodology, and data collection. Conversely, policymakers are concerned with questions of feasibility, implementation, benefit, and relevance, while practitioners are guided by questions of "what works," efficiency, and effectiveness (Lewig et al., 2006). Although we acknowledge that these concerns are not universal to all of the aforementioned stakeholders, we emphasise that there needs to be a discourse in the incipient stages of the research group on the significance of the evidence and the underlying concerns and objectives influencing the participation of each stakeholder.

According to Shonkoff (2000), one strategy for building consensus around the nature of the evidence is to employ a simple taxonomy that classifies knowledge based on three main categories:

- Established knowledge—as defined by the scientific community and regulated by the scholarly community's strict criteria for evidence.

- Reasonable hypotheses—produced by researchers, policymakers, or practitioners as assertions to be tested based on established knowledge.

- Unwarranted assertions—ideas that are either distortions of, or far removed from, established knowledge and do not inform responsible policymaking or service delivery.

In establishing these categories, the collective understanding and mutual norms of the group would more likely converge towards a scientific understanding of knowledge and evidence, which is integral to the long-term conduct of the research process (van Zyl & Sabiescu, 2020). Aside from establishing group norms, the first phase also enables stakeholders to identify key problems in education and sets the research agenda for subsequent phases of the research process.

Phase II: Iterative Cycles and Feedback Loops

Upon identifying the key research questions, the research group conducts further investigations conceptualising, operationalising, and implementing multiple field trials of the intervention in real-world settings. As can be observed in Figure 5, following the conception of the intervention, the research group conducts multiple field trials through several iterative cycles to fine-tune and improve the intervention. This is also a core attribute of the DBIR approach of conducting multiple cycles of

design, implementation, and refinement of educational innovations (Means & Harris, 2013). During these cycles, the necessity for introducing modifications or enhancements to the interventions will vary according to the nature of the partnership, the issue that is being addressed, as well as prior insights, experiences, and suggestions of stakeholders (LeMahieu et al., 2017). Nevertheless, such a DBIR partnership would refer to multiple types of evidence to warrant changes to the intervention, and the evidence that the research group relies on should be influenced by the goals and the design of the intervention (LeMahieu et al., 2017).

**Figure 5: Phase II: Iterative Cycles and Feedback Loops**
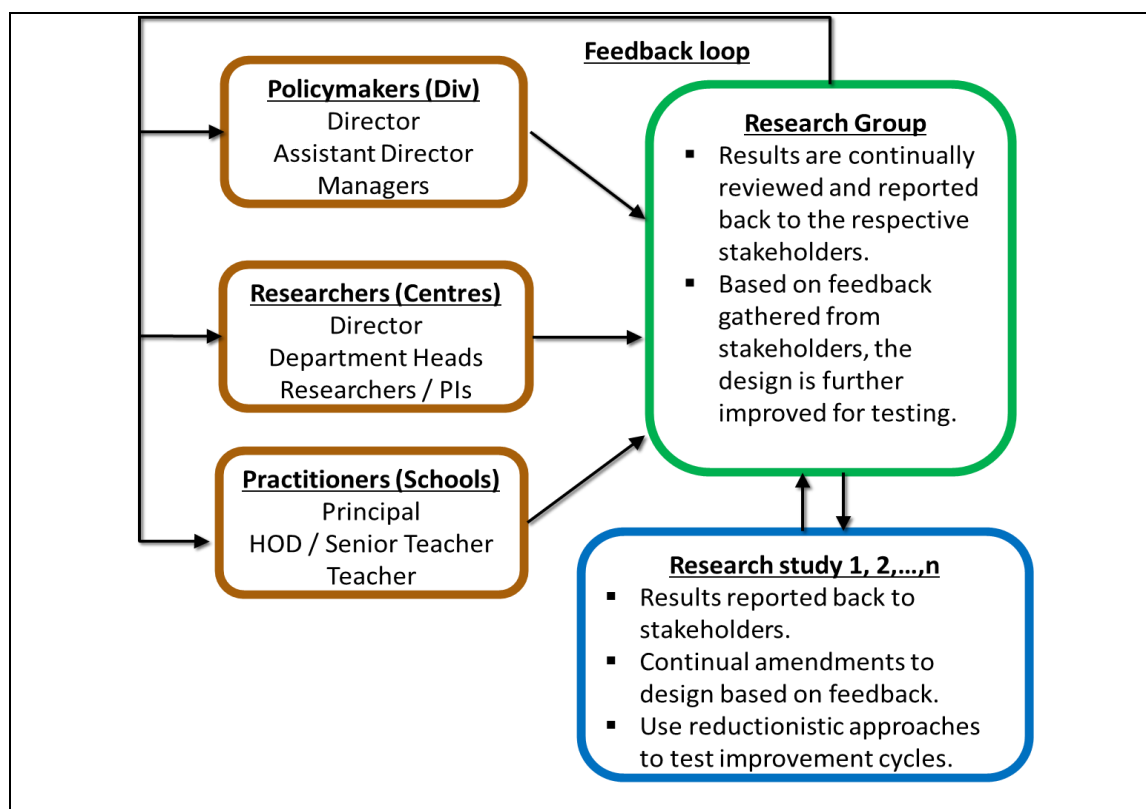
Following each improvement cycle, the research group reviews the results, and representatives from the research group will report on the status of the intervention to their respective organisations. As a feature of systematic inquiry, the organisational leadership is expected to review the results and provide feedback to the research group through their representatives in order to improve the design of the intervention in successive cycles—also known as feedback loops. In each cycle, the perspectives of each stakeholder are shared in the research group, and conflicting views are resolved within the group. The cycle continues until the objectives of the group are fulfilled or participants are satisfied with the design of the intervention. Where necessary, reductionist approaches may be employed to distinguish significant variables in the iterative process.

Phase III: Consolidation and Review

At the final stage of the research study, the results would be reviewed by the research group and representative stakeholders would discuss the changes to be implemented at all levels of the system, from classrooms to the policy level. As depicted in Figure 6, upon reaching a consensus, participants of the research will report on the results of the study to their respective organisations where the results and recommendations are reviewed. Where appropriate, the recommendations may be adopted by the stakeholder. To raise the likelihood of stakeholders adopting the recommendations, representatives can act as a broker to lobby for changes to be implemented. Considering the

investments in time, expertise, and resources into the research process, the representatives would be incentivised to advocate for the adoption of the proposed interventions. In so doing, our framework seeks to embolden actors in the research as a social change process to undertake the initiative to develop the organisational capacity for sustainable system change.

Figure 6: Phase III: Consolidation and Review
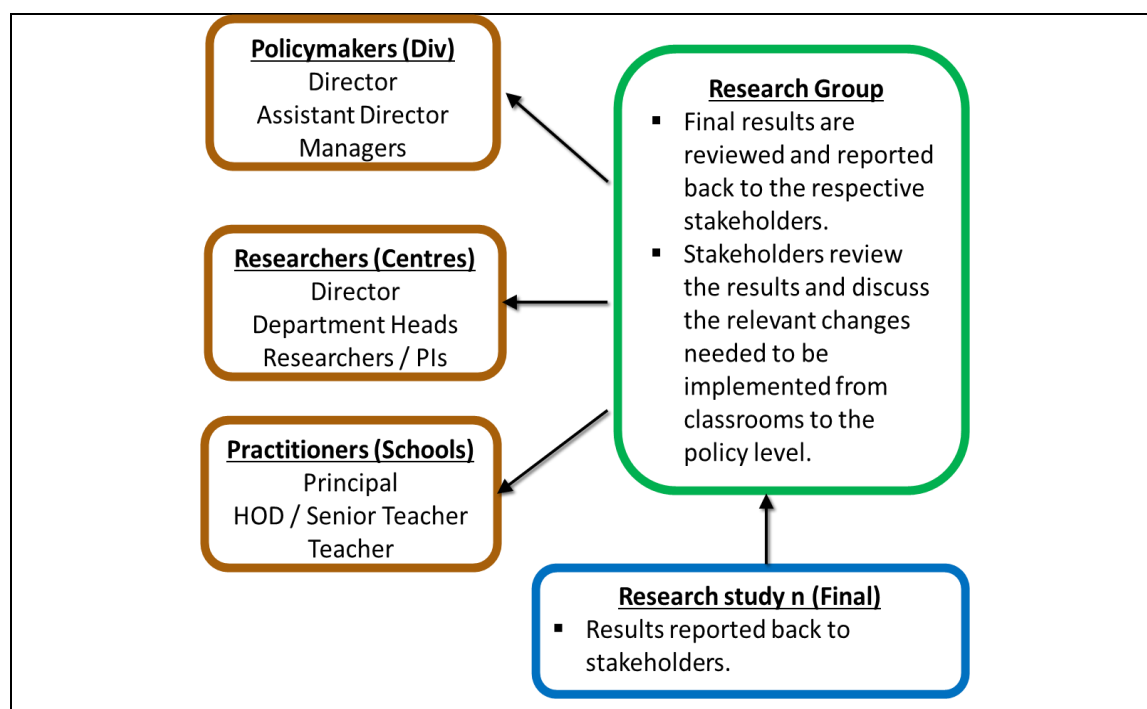
Implications

Beyond empowering policymakers, practitioners, and researchers with the agency and support to undertake collaborative research in co-designing interventions for social action, our framework also seeks to deliver affordances to its stakeholders. At the policy level, a collaborative team comprising multiple stakeholders could improve the agenda-setting phase of policymaking given that it endows researchers and practitioners with greater influence in the development of policy narratives (Jørgensen, 2011). Collaborations between researchers and policymakers could also lead to the sharing of ideas and technical knowledge that could improve other aspects of the policymaking process such as policy evaluations. With more stakeholders involved, policymaking could lead to more equitable outcomes while better addressing the needs of society. For researchers, our framework could see improvements to research utilisation and impact because policymakers and practitioners would be more inclined to adopt these interventions in classrooms and at the policy level owing to their participation in the process. In addition, it also allows higher education institutions to foster productive partnerships with multiple agencies to address complex issues such as low progress for learners, and educational inequalities. It further enables institutions to better forecast and plan research projects that can be tailored to the needs of policymakers.

Amongst practitioners, research as social change could have multiple effects at the school and classroom levels. At the classroom level, practitioners may be more receptive to experimenting with innovative practices and pedagogies learnt from the collaborative process. Moreover, having participated in the design of these interventions, practitioners would be more likely to advocate for their adoption in classrooms. Another affordance of this process is the potential for the creation of networks between schools that can be leveraged to scale up knowledge building. These networks could

comprise teachers, principals, curriculum planning officers, and other invested stakeholders. Aside from discussing knowledge building principles, these networks could also function to enact these principles in classrooms.

Challenges

Although our framework presents multiple affordances to researchers, practitioners, and policymakers, it is critical to acknowledge potential challenges in its implementation. Firstly, difficulties in coordinating collaborative research are inevitable due to the tight schedules and varying commitment levels of stakeholders. As a research group increases in size, the more difficult it may be to find a common time for participants to convene and conduct participatory research. For those in non-research settings, it may be an obstacle to adopting a research mindset. Hence, there needs to be investments in time and resources to train participants in the rigours of research design and methodology before the execution of the research.

A notable challenge in implementing such a framework is the difficulty of forging equal partnerships in a hierarchical culture. This is especially so in East Asian contexts like Singapore where power differentials between groups and a deference to authority may lead to a hierarchical relationship rather than an equal one. This could stifle the social dynamics of the research group given that some stakeholders might be unwilling to air dissenting perspectives on enhancing the design of interventions in improvement cycles. To prevent this, stakeholders should be mindful of the underlying objectives of the research group and endeavour to inculcate a climate of openness and transparency. Another issue concerns the mindset of practitioners towards research. Practitioners may be reluctant to undertake work outside of teaching due to their tight schedules and a perceived lack of benefits to classroom practices in the short-term (Hairon, 2017). Guskey (2002) highlighted that teachers who participate in professional development seek to acquire knowledge and skills that will contribute to their growth and enhance their effectiveness with students in the day-to-day operations of their classrooms. Hence, the mindset that engaging in such participatory research is merely an "add-on" to the teacher's workload rather than a vital component of professional development is an obstacle to recruiting practitioners to the research process. Nonetheless, more effort should be expended on promoting the benefits of research as social change to practitioners and to listening to their concerns. For example, school leaders could ensure that educators who participate in this programme receive additional benefits—either in terms of career development or being offered a reduced workload.

Conclusion

While research has varying purposes, a key goal of research, from our perspective, is to enable social change through conversations and dialogue, and designing research through an iterative process to bring about social change. Each stakeholder's consciousness of the self is a powerful way to make conversations and dialogue empowering and effective in achieving the goal.

This paper has sought to improve research utilisation by fostering the structural conditions to engender collaborative research for social change. To do this, we have proposed a framework that fosters inter-stakeholder conversations and joint ownership of the research process by facilitating the conditions for mutual understanding of norms, operational roles, academic rigour, and policy outcomes. Research as social change is, therefore, a collaborative partnership that empowers stakeholders to participate in research that influences outcomes at all levels of the education system. DBIR is an integral element in the creation of the socio-technical infrastructure for research as social change to happen. Despite its challenges, research as social change presents manifold benefits and affordances to its stakeholders such as more impactful educational policies, improvements to research

utilisation and impact, capacity building to address systemic issues in education, and developing more productive school networks for knowledge building.

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