

## **Strengthening Pedagogical Approaches for Relevant Knowledge and Skills (SPARKS)**

September 2023

### **Bridging the gap between policy and pedagogical practice**

During the first decade of the 21<sup>st</sup> century, the global community made substantial progress in providing access to schooling. However, despite [Sustainable Development Goal 4](#) (SDG4) calling for inclusive, equitable, quality, lifelong learning, improved quality has not accompanied increased access. At current rates, only 17 percent of countries will achieve universal secondary school completion targets, and approximately 300 million students in school will lack basic numeracy and literacy skills by 2030 (United Nations, 2023a).

In 2022, the Transforming Education Summit highlighted that “the world must reimagine and transform its educational systems if they are to be fit for purpose” (United Nations, 2023b, p. 1). Sixty-eight percent of the countries that participated in national and regional consultations made commitments to rethink their curriculum content and pedagogical approaches. One of the key outcomes of the summit was a call to transform teacher classroom practice by enhancing teacher capacity, agency, and autonomy through training and involving teachers in policy formulation, as well as addressing the teacher shortage and monitoring and evaluation of teaching for greater accountability (United Nations, 2023b).

Improving education quality, especially in international education development, has often focused on teacher professional development (TPD) to change classroom practices. However, despite investment, advocacy, and emphasis on TPD, **we have yet to see changes in pedagogical practice in most classrooms worldwide** (Yakavets et al., 2022; Darling-Hammond et al., 2017; TNTP, 2015; Serbessa, 2006; Linh Ho, 2019; Kay, 1975; Hirsh-Pasek et al., 2022).

Many policies, research, and training programs aimed to improve classroom practices have concentrated on visible aspects of pedagogies, such as student-teacher interaction, classroom management practices, assessment tools, and discipline strategies. Although there is some literature addressing teachers’ attitudes, context, and other intangible sociocultural, systematic, and structural factors affecting classroom practice, these are often not fully considered upon implementation of policies and programs (Tabulawa, 2013; Schweisfurth et al., 2020). There is also usually a lack of communication between different stakeholders in the education ecosystem about how these unseen factors contribute to policy as well as the teaching-learning process. As a result, policy development, teacher training, and actual teacher practice often operate separately, disconnecting pedagogical theory from research and policy development (Malcom & Zukas, 2001; Farkosh-Baruch, et al., 2021). **Specifically, there is a gap in research, policy, and practice. Even when policies around the globe change, classroom practices remain the same** (Hirsh-Pasek et al., 2022). The **SPARKS project** aims to bridge this gap by focusing on the non-

visible aspects of pedagogy that exist within education systems and structures and by fostering collaboration among policymakers, educators, researchers, and other stakeholders in the context of education transformation and SDG 4.

The [Center for Universal Education](#) at the [Brookings Institution](#), has been a global voice in the shift towards [system transformation](#). Over the past two decades, CUE has assisted policymakers, practitioners, and educators in understanding and implementing this transformation, including the tools and approaches necessary to foster a [breadth of skills](#) for all learners. **The SPARKS project** is housed within CUE and builds on previous workstreams such as the [Leapfrogging Inequality](#) work, which focused on the role of [innovative pedagogies](#) to address the learning crisis, as well as [Millions Learning](#) and other CUE workstreams which have highlighted the importance of collaborative participatory research. **SPARKS aims to advance CUE's overarching goal to collaborate closely with networks of international partners and to accelerate educational progress and systems change so that all learners—especially the most marginalized—can develop a breadth of skills to thrive in a rapidly changing world.**

### What is the SPARKS project?

**The SPARKS project is a collaborative mixed-method research initiative and global network** focused on examining the gap between research, policy, and classroom practice in primary and secondary education around innovative pedagogies in **3 purposefully selected locations**. **SPARKS** aims to investigate and **spark a global conversation** on how policymakers, educators, researchers, and other stakeholders view the role of pedagogies in their efforts toward educational system transformation, especially focused on the more intangible, socially influenced aspects that affect pedagogy that we call “*invisible pedagogical mindsets*” (IPMs).

**Invisible Pedagogical Mindsets (IPMs)** refer to the complex and multifaceted non-observable aspects of pedagogical approaches that impact all stakeholders within education ecosystems. These include but are not limited to epistemologies, attitudes, perceptions, contexts, politics, culture, experiences, and values that influence the process of teaching and learning.

While IPMs include the attitudes and the values of stakeholders in the education ecosystem, altering individual values or directly affecting teachers’ classroom practice is beyond the scope of the project. Instead, **SPARKS will create space for locally led discussions and dialogues through a collaborative research approach about IPMs and the systems and structures that surround them**. By creating these spaces, the project hopes to focus the attention of various stakeholders on the role that IPMs and collaborative research play in education system transformation.

### The need for collaborative research approaches for understanding pedagogical choices

Research shows that the process of changing pedagogical practice is complex, multifaceted, and requires a systems approach and going beyond focusing on the visible aspects of pedagogy and TPD. Despite the complexity of changes in classroom practice, we know several important things:

## **Teachers' pedagogical approaches are critical in shaping students' learning experiences.**

While quantifying pedagogical impact is challenging, studies suggest that teacher practices, beliefs, and approaches can explain up to 30 percent of differences in student outcomes (Hattie, 2003). Various research has shown that how teachers teach significantly affects student achievement (Baumert et al., 2010; Kersting et al., 2012; Lipowsky et al., 2009; AIR, 2014). David Istance and Alejandro Paniagua (2019) emphasize the importance of [innovative pedagogies](#)<sup>1</sup> for effective system transformation focused on the breadth and depth of skills. Additionally, Evans and Popova (2015) highlight that improving and personalizing pedagogy, as implemented by teachers, is one of the most critical interventions for enhancing learning outcomes.

## **There is an increased focus on improving pedagogies through teacher development.**

Numerous reforms have prioritized teacher development because of the importance of teachers' classroom practice in enhancing student achievement (Oppen, 2019; Rice, 2003). Between 2000 and 2012, around two-thirds of the 171 World Bank education projects included support for TPD (Popova et al., 2016). Many national policies also endorse ongoing teacher training. Thirty out of 35 OECD countries require all their general subject teachers to engage in professional development (OECD, 2022). Investment in TPD continues to rise, with the largest 50 school districts in the US collectively spending approximately \$8 billion annually on this effort (TNTP, 2015). In China, policymakers have invested heavily in the National Teacher Training Program (NTTP) to improve quality teaching, and in turn, improve learning outcomes especially for rural students (Lu et al., 2017).

## **Teacher professional development is not changing classroom practice at the rate we expect.**

Despite significant investment in TPD, there is little evidence of substantial changes in classroom practice. For instance, an extensive [2015 study by The New Teacher Project](#) found no evidence that professional development improved teacher classroom practice (TNTP, 2015). Darling-Hammond et al. (2017) also noted limited changes in teacher practice despite large financial investments in TPD in four districts in the United States serving a largely low-income student population. In Vietnam, the push for learner-centered teaching practices had mixed results due to teachers' lack of familiarity with the approach (Linh Ho, 2019). In Ethiopia, despite emphasis on learner-centered pedagogy, 90 percent of teachers responded saying that they used a lecture method because that is what they knew best (Serbessa, 2006). Similarly, despite significant investments in teacher professional development in sub-Saharan Africa, there is little evidence of substantial change in classroom practices. (Tabulawa, 2023).<sup>2</sup>

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<sup>1</sup> For the SPARKS project, "innovative pedagogies" refer to pedagogical approaches that shift classroom practice towards a learner-centered approach. Although what is "innovative" varies by contexts, "innovative pedagogies" are approaches that are new to a context and are focused on fostering a breadth of skills in an engaging and dynamic way.

<sup>2</sup> Although there has been limited evidence that teacher professional development impacts classroom practice, there is research that correlates coaching, a specific form of professional development, with improved teaching practice. Evidence shows that coaching models such as observation, demonstration, performance feedback, and alliance building strategies can improve teacher practice as well as learning outcomes (AIR, 2014). Additionally, a study conducted by Kraft et al. (2018) examining 60 coaching programs in the U.S. and other developed countries revealed that there was a .49 standard deviation effect on instruction and .18 on achievement.

## **Pedagogical change requires a focus on the non-observable and local contextual factors.**

Teaching and learning are not value-neutral, technical activities; they are shaped by various social, political, historical, systematic, structural, and cultural factors. These factors influence both the goals of education and how teachers choose to teach in the classroom (Schweisfurth, 2023; Olsen, B. 2008; Tabulawa, 2023). On a daily basis, teachers must balance their formal training, personal learning experiences, system expectations, and classroom relationships to make decisions about teaching practice (Denscombe, 1982). To bring about meaningful change, we must address teachers' beliefs, social norms, and teaching principles that impact their current classroom practices (Coburn, 2003), and have a better sense of the social, cultural, and political climates of the educational ecosystem (Kim et al., 2019).

“Pedagogy has at its core ideas about learners, learning, and teaching, and these are shaped and modified by context, policy and culture.” (p. 29)

- Alexander (2008)

## **There is a need for collaboration among policymakers, educators, and other education stakeholders.**

Schweisfurth et al. (2020) highlight a **split between outcome-oriented and process-oriented research on pedagogy in international education**. Outcome-oriented research measures skills and knowledge, often tied to factors like teacher supervision, class size, and resources. Process-oriented research explores how culture and teacher identity influence pedagogical choices, viewing context as an interconnected ecosystem (Rappleye & Komatsu, 2017).

These differing perspectives create separate communities that may inadvertently work at cross-purposes, even within the same educational context. Policymakers often prefer outcomes-focused approaches and clear variables for interventions. However, educators deal with complex bureaucracies, curricula, and assessment objectives and make decisions based on personal experiences, beliefs, and constraints within the educational ecosystem (Luoto et al., 2022). Reliance on only outcomes-focused research can lead to the misconception that what is visible in the classroom represents all pedagogical influences and can oversimplify the reality of pedagogical choice (Tabulawa, 2013; Alexander, 2008). An outcomes-focused approach also creates a culture where testing becomes a convenient proxy for quality and teachers become restricted and are pushed towards teaching to the test (Hartley, 2003; Alexander, 2008). Alexander (2008) notes that education is intricate and needs dialogue, contextualization, shared purposes, and a system-wide approach. In the end, teachers' established values and existing practices can outweigh technical considerations when it comes to decisions about teaching and learning practices (Schmiedel et al., 2015; Chafi & Elkhousai, 2017; Stafford, 1975).

## **To improve education systems, we need more collaborative research that meets policymakers' needs while respecting the complexities of teaching and learning in specific contexts.**

Traditional educational research often involves academics or development organizations studies within educational settings, often without much input from policymakers, educators, or other stakeholders. This siloed approach to research has widened the gap between research, policy,

and practice. In recent years, collaborative research approaches like research-practice partnerships (RPP<sup>3</sup>) and community-based partnerships have emerged as effective ways to bring together researchers, policymakers, educators, and other stakeholders. These collaborative approaches encourage multiple perspectives and seek system-level solutions to locally prioritized educational concerns. Unlike traditional research, RPPs focus on practical implementation problems, directly addressing urgent educational needs and informing policy decisions (Coburn et al., 2021; Guernsey et al., 2023; Mulvey et al., 2020).

Collaborative research approaches require a commitment from all partners and a long-term working relationship dedicated to improving locally identified education challenges (Coburn & Penuel, 2016). Building transparent, trust-based relationships among researchers, policymakers, educators, and other stakeholders is crucial for the success of such efforts. This requires active engagement, dedication, and an understanding of the priorities and perspectives of each team member. The William T. Grant Foundation has outlined a five-dimensional framework for effective research-practice partnerships that includes (1) establishing trust, (2) ensuring rigorous research, (3) supporting practice-oriented organization, (4) producing actionable knowledge, and (5) fostering organizational success (Henrick et al., 2017). This framework provides a valuable blueprint for establishing and sustaining successful partnerships. The **SPARKS project** utilizes the RPP and other collaborative research models to tackle the research, policy, and practice gap around innovative pedagogies.

### Taking a systems approach to explore pedagogical choices

Pedagogy, often seen as the art and science of teaching, is a complex and context-dependent term. Its meaning varies widely across different cultural and social contexts and is dependent on varying beliefs about individualism, creativity, and holism in education as well as the structures and expectations of actors within the education ecosystem (Marzano et al., 2011; Shah & Campus, 2021; Alexander, 2008). For instance, learner-centered approaches might conflict with traditional teacher authority (Vavrus, 2009) and might not be aligned with high-stakes testing practices in some settings. The complexity of pedagogy often leads to confusion in its definitions. Neglecting to address all aspects of pedagogy leads to numerous claims about 'best practices' in teaching and learning. Education is intricate and needs dialogue, contextualization, shared purposes, and a system-wide approach (Alexander, 2008).

Alexander (2009) defines [pedagogy](#) as “**the act of teaching *together with* its attendant discourse of educational theories, values, evidence and justifications**” (p. 928). We prefer this definition because it includes both the visible aspects like teaching methods and the hidden factors such as system structures and expectations, teachers' experiences, cultural context, and their understanding of knowledge and learning, which influence their teaching choices.

It is clear that we need a better approach to how we envision and integrate the role of pedagogies as part of education system transformation efforts. **Pedagogical changes are non-linear and are influenced by the socio-cultural, onto-epistemological, historical, structural, and contextual factors and values** that shape how both policymakers and teachers view and internalize good teaching and learning (Tabulawa, 2013; Schweisfurth, 2023). In other words, while pedagogical approaches can be understood with a

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<sup>3</sup> The National Network of Education Research-Practice Partnerships defines RPPs as “long-term mutually beneficial formalized collaborations between education researchers and practitioners” (NNERPP).

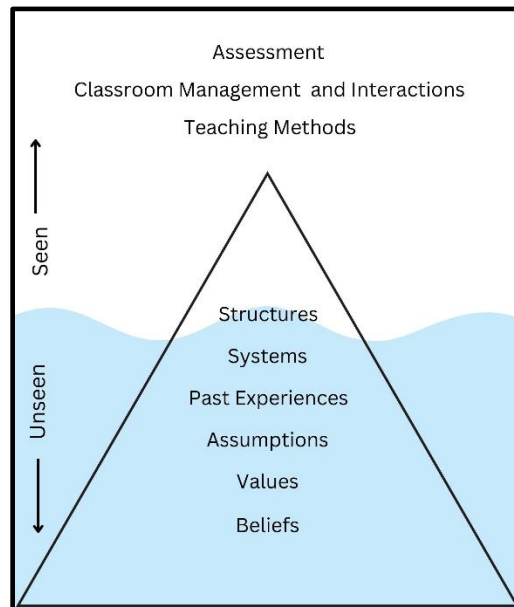
technical lens represented by the resources and methods employed, elements such as context, structure, politics, culture, and other significant underlying factors mediate how pedagogical approaches translate to classroom practice.

We use three conceptual frameworks to provide a more holistic understanding of the multiple system level factors that affect pedagogical choices in policy and practice.

**The Iceberg Model: Some influences on pedagogical choice are visible, but there are many factors hidden below the surface.**

Much like an iceberg, many factors that influence pedagogical choices in the classroom for teachers and for policymakers lie beneath the surface where it is difficult to directly observe impact. Teachers' past experiences, system constraints, beliefs, and values shape their teaching methods, interactions, and classroom management styles (Yakavets et al., 2022). Values, assumptions, ideologies, educational systems and structures, and available information also influence how policymakers and other stakeholders view pedagogies and which policies they support.

**Figure 1: The Iceberg Model**

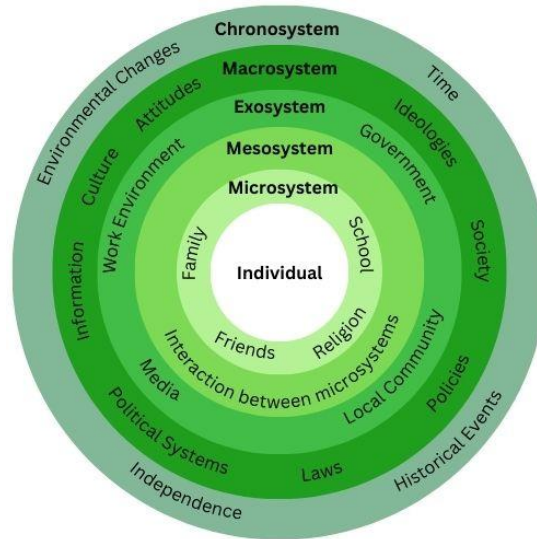


**The Ecological Systems Model: Pedagogical choices are influenced by the interaction of multiple forces within the education ecosystem.**

While the iceberg model highlights the importance of acknowledging the seen and unseen factors affecting pedagogical approaches for education stakeholders, **it is essential to consider the ecosystem in which policymaking takes place.** Policies emerge within the structures and systems of a specific environment; multiple factors influence the individual, and the individual impacts the systems around them (Crawford, 2020). Bronfenbrenner's Ecological Systems Model provides a theoretical framework that illustrates the interrelatedness of the factors, structures, and systems which influence policymakers,

teachers, students, and other actors in the ecosystem (Crawford, 2020). The effect of the different systems on the individual is based on the proximity of the systems as well as the interaction between the social, cultural and environmental factors that make up each system.

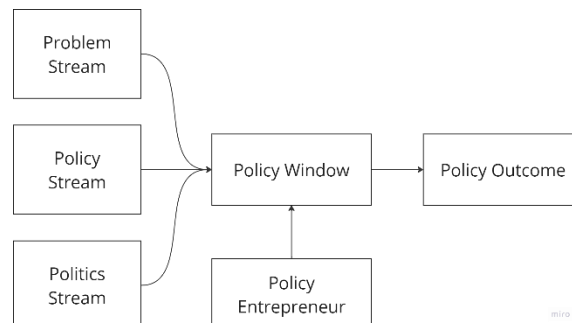
**Figure 2: The Ecological Systems Model**



**The Multiple Streams Framework: Policymakers make choices based on the problems, information, and political climate of the ecosystem.**

Policymaking is usually a push and pull between several actors in which available information and the presentation of information are key factors. Ambiguity, timing, and political maneuvering are key factors that influence policymakers. John Kingdon’s Multiple Streams Framework (MSF) tries to explain how policymakers formulate policies under conditions of ambiguity and when policymakers are under significant time constraints. MSF proposes that problems, policies, and politics – three different streams - operate independently in organizational systems and have their own rules and dynamics. He argues that significant policy change occurs if policy advocates can link the three streams during fleeting moments of opportunity when the three streams align. He calls these fleeting moments "windows of opportunity" (Kingdon, 1995; Sabatier, 2007; Zahariadis, 2007).

**Figure 3: The Multiple Streams Framework**



The **SPARKS project** will draw upon these three theoretical frameworks to explore the influence of system-level factors on the development and implementation of education policy within specific contexts, using a collaborative research approach.

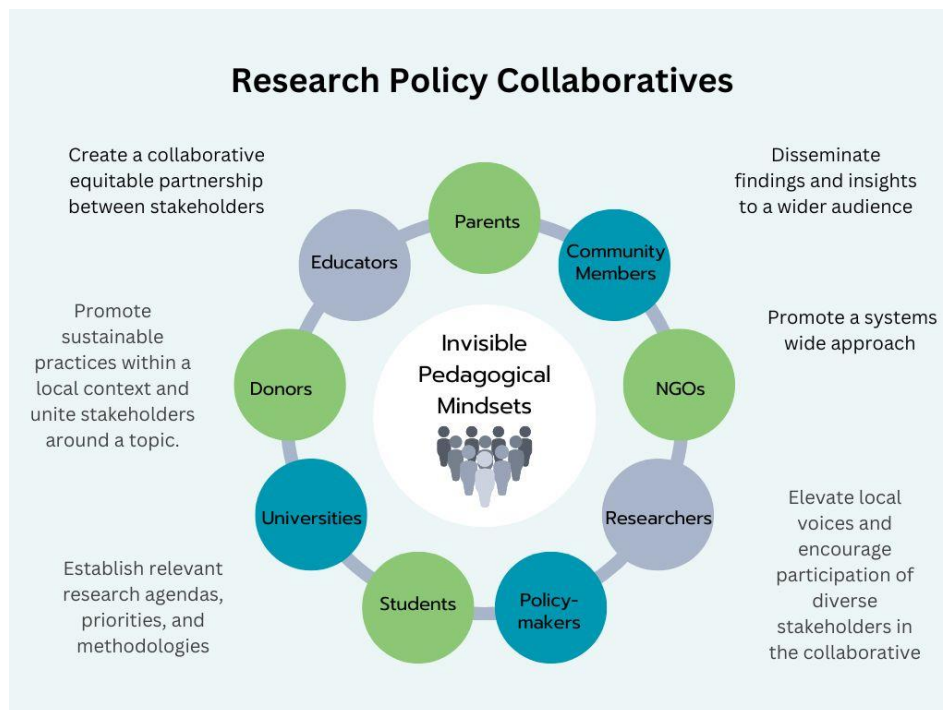
### SPARKS – Research Policy Collaboratives (RPCs)

The SPARKS project will build from the RPP model and form three Research Policy Collaboratives (RPCs) in unique sites to address the impact of IPMs on pedagogy and inform local policy. RPCs are designed as long-term collaborations to improve inclusive, equitable, quality education in each location by focusing on research questions that are identified by the RPC members. These collaboratives strategically bring together diverse stakeholders to bridge the gap between research insights, policy formulation, and effective classroom implementation within each local setting. RPC members will collectively identify research priorities, develop methods, conduct analyses, and discuss policy implications and dissemination strategies. RPC members will review all knowledge products and provide feedback in order to ensure maximum transparency and promote local ownership of the research.

Research Policy Collaboratives (RPCs) will bring together policymakers, educators, researchers, families, and other stakeholders within the local educational ecosystem to discuss the role of IPMs in shaping:

- Classroom practice
- Educational policy
- Teacher professional development, and
- System transformation

**Figure 4: SPARKS Research Policy Collaboratives**





## What are SPARKS-RPCs?

Similar to other collaborative research activities (Coburn & Penuel, 2016; Guernsey et al., 2023), RPCs are long-term, **mutually beneficial collaborations that use mixed-method research to better understand the challenges and opportunities of pedagogical change in teacher practice, with a special focus on how research can inform policy.** SPARKS-RPCs are intentionally organized, and bring together diverse stakeholders to co-create research priorities, methodologies, analysis, and dissemination strategies. Members of **SPARKS-RPCs** will include education policy leadership, educators, and educational researchers. Other members of RPCs, including civil society organizations, donors, parent representatives, business leaders, community leaders, journalists, student voices, entertainment representatives, and social entrepreneurs will be determined in each locality based on the dynamics of each education ecosystem.

## How do SPARKS-RPCs work?

We plan to establish three purposefully selected research policy collaboratives in different countries. These collaborative research partnerships will focus on studying the role of innovative pedagogies and IPMs in transforming education systems, their application in classrooms and their relationship to learning outcomes within specific local contexts. The **SPARKS-RPCs** will explore the role of pedagogies within formal schooling systems as well as educational opportunities within the overall education ecosystem for primary and secondary levels. **These collaborative partnerships aim to bridge the divide between research, policy, and practice, ultimately transforming education systems.**

## Why SPARKS-RPCs?

In a complex and interconnected world, there is growing recognition of the role that research plays in understanding and addressing educational challenges. **Locally led collaborative research partnerships between policymakers, academics, researchers, educators, and other stakeholders promote dialogue, offer multiple perspectives, promote a systems approach, and, most importantly, lead to relevant research that influences policy and practice.** Collaborative research is often more relevant because stakeholders that are involved in various areas of the education ecosystem can provide an in-depth and contextual understanding of local problems, perceptions, challenges, and opportunities. For example, policymakers can speak to the priorities, bureaucratic constraints, and current policy environment. Researchers can provide a summary of current research on pedagogies and education system transformation, provide options for research methodology, and carry out the agreed upon research agenda. Teachers' participation in the collaborative can provide insights into daily classroom struggles, students' realities, and typical classroom practice. Bringing together these stakeholders along with other important members of the education ecosystem can spark a rich discussion and creative solutions to local problems. As such, the SPARKS project aims to inform and influence local policy by collaboratively producing quality knowledge products that address important issues related to IPMs.

The **SPARKS-RPCs** will be designed with the following over-arching principles:

- Engagement in a long-term collaborative partnership (open-ended and continue beyond the project period)
- Focus on a local problem of practice related to scaling and use of innovative pedagogies
- Interest and openness in exploring the role of invisible pedagogical mindsets in the local ecosystem

- Commitment to the mutual benefit for all stakeholders, including policymakers, educators, and researchers
- Intentional collaborative working relationships with all partners with transparent and equitable roles for each partner
- Production of original learning products to answer identified practice and policy-related questions in each local context

### **What is the role of CUE with the SPARKS-RPCs?**

The **SPARKS-RPCs** aim to become self-sustaining research hubs for local education-focused mixed methods research, with a focus on pedagogies. CUE will support these RPCs by leading research and training, providing research and collaboration tools, and connecting the RPCs as a global network. We will also provide limited funding to each RPC for one local research manager (including limited travel funding). This person will serve as an organizer, facilitator, and a focal point for CUE. CUE will work with each RPC for 3 years to establish structure, conduct research, disseminate findings, develop sustainability plans, and connect the RPCs. After this period, CUE hopes that each **SPARKS-RPC** will continue to engage in locally driven educational research on their own. Local partners will provide the space, ensure that all stakeholders are part of the **SPARKS-RPC**, guide research focus, and seek additional funding for continuing the **SPARKS-RPC**.

### **Where will the SPARKS-RPCs be located?**

We will purposefully choose the location of each **SPARKS-RPCs** for greatest impact. Wherever possible, the **SPARKS-RPC** will be established in partnership with other existing similarly minded projects (such as the Knowing-Doing Network Leadership Coalition, Active Playful Learning, Schools 2030, or other similar projects) with the aim of complementing, synergizing, and avoiding duplication. We will also aim to have the RPCs in regions that have historically been underrepresented in this type of research.

We will prioritize locations that have relatively stable contexts in which there is a lower chance of turnover of key government policymakers. Additionally, we will prioritize locations where there is an existing interest and focus on education transformation at the national and local levels, where education is a priority focus on the government's agenda, and where there is strong commitment from multiple stakeholders, including policymakers, researchers, educators, and other key stakeholders to participate collaboratively in research.

These RPCs might be housed in a ministry or university and coordinated by a civil society organization. Although the exact processes and makeup of each **SPARKS-RPC** will vary to match local environments, all **SPARKS-RPCs** will focus on specific sociocultural problems or questions of pedagogy relevant for the local education ecosystem.

## **SPARKS-Global Network**

**The Global Network (SPARKS-GN)** consists of two parts:

- A community of practice that will bring together RPC members to co-create insights on the role of IPMs for education system transformation with a focus on the chain between policymaking and classroom practice
- A global collaborative platform to amplify the insights of the RPCs community of practice

## What are the primary components of the SPARKS GN?

One of the primary components of the **SPARKS-GN** is to bring together members of the three RPCs as a community of practice to learn about and discuss the role of IPMs in education systems transformation and their experiences with the RPCs.

To achieve this, the **SPARKS-GN** community of practice will participate in a virtual seminar series on the role of IPMs in education system transformation with leading academics, practitioners, educators, or policymakers. These seminars will be discussion based focused on a common theme around IPMs, policymaking, and classroom practice. Each seminar will focus on a specific theme and will culminate in a discussion around its application and limitations in local contexts.

The other component of the **SPARKS-GN** is to work with partners (such as the SDG Academy) to elevate and amplify the insights from the seminars and the individual RPC research by creating a Massive Open Online Course or other similar products.

The **SPARKS-GN** aims to produce and disseminate relevant knowledge products that inform policy and practice. We will decide on the most effective knowledge products and their dissemination strategy collaboratively with both the **SPARKS-RPC** and **SPARKS-GN** members.

### Potential Knowledge Products:

- Blogs that highlight one specific theme
- Individual research reports from each SPARKS-RPC
- Cross SPARKS-RPC report at the end of the project
- IPM toolkit
- Policy briefs based on reports
- Webinars
- MOOC on the role of pedagogies in education system transformation
- Edited Book

## Why do we need the SPARKS-GN?

Oftentimes, the various stakeholders who work in education ecosystems around the world find themselves siloed and with limited opportunities to connect to colleagues in the same role in different contexts, to someone working at a different level of the system, or with others in the overall ecosystem of education who might have unique insights to share. For example, there is often a disconnect between a policymaker's work and the vision and approach of a teacher in their classroom.

To achieve education systems transformation, all stakeholders involved in education need to be involved in the discussion of effective pedagogical approaches, the lessons learned from technical interventions, and additional sociocultural and political factors affecting pedagogies that need to be considered to achieve positive systems change.

Therefore, **SPARKS-GN** will create a platform for dialogue by bringing together the various **SPARK-RPCs** to promote knowledge sharing across countries and systems and produce important insights about the intangible aspects of pedagogies derived from social, political, and cultural contexts. Additionally, **SPARKS-GN** events, collaborations, and interactions will be essential for advancing education transformation related to pedagogy and for focusing national and global attention on the most pressing issues related to this topic.

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