
Title	Partnership between a central agency and its schools: Towards fostering laterality
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Source	<i>Educational Management Administration & Leadership</i> , 46(4), 578-601
Published by	SAGE Publications

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This is the author's accepted manuscript (post-print) of a work that was accepted for publication in the following source:

Imran Shaari & Hung, D. (2018). Partnership between a central agency and its schools: Towards fostering laterality. *Educational Management Administration & Leadership*, 46(4), 578-601. <https://doi.org/10.1177/1741143216682502>

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Partnership between a Central Agency and its Schools: Towards Fostering Laterality

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Educational Management Administration & Leadership*

Abstract

Central coordination characterises centralised education systems. Centralised systems pride on efficient systemic planning for strategic foresightedness. This study investigates how educators fostered partnerships towards lateral networking propensities or *laterality* in a centralised system with hierarchical tendencies. A qualitative method was applied in examining newly formed, centrally initiated yet interest-based partnerships that were supported by central agency affordances. The concept of ‘champion resource’ – that is, teacher-leaders who champion particular innovations – is introduced to explain the integration of individual resources and collective efforts that can benefit teachers in their learning process through the appropriation of pedagogical innovations. We argue that tenets of partnerships drawn from studies conducted in decentralised systems can inform the dynamics of laterality in centralised systems. In our study, developing laterality starting from champion resource/teacher dyads was witnessed, and the aim is that the dyadic relationships can grow to multi-connected teacher-to-teacher laterality. We argue that the growth of this laterality is both cultivated by the ‘champion resource’ and afforded through centralised coordination efforts, which we will illustrate through the data from this study. We are in a unique position to study partnerships in a centralised system from the early stages of inception and towards laterality. This study has begun to clarify the possibilities of developing these partnerships systematically, and recommendations are made on how to advance partnerships in centralised systems.

Keywords: Partnerships, Centralised Education Systems, Lateral Networks, Laterality

Partnership between a Central Agency and its Schools: Towards Fostering Laterality

Over the past few decades, there is increased demand for schools to form partnerships because there are limited resources to operate on their own (Hargreaves and Shirley 2009; P21CS 2009). Important aspects of partnerships include collaborations with joined rights and responsibilities (Sanders 2012).

The development of such partnerships is however not well understood or still nascent, particularly in centralised education systems (Shaari and Osman 2014; Toh et al. 2014). We hypothesize that laterality is important because it enables autonomy at the school and teacher levels. The complementarity of centralised structural affordances and decentralised lateral networks propensities could bring forth a more balanced interplay to meet the demands of the 21st century where demands abound, and resources remain often constant.

Hence, we focus on studying partnership development in a centralised education system to understand the enabling structures for lateral networks to happen. In this study, the partnerships involve educators from different schools brought together to collaborate with central agencies to address teachers’ needs by encouraging the formation of networks.

A centralised education system, such as the one in Singapore, is commonly associated with affordances through the efficient distribution of resources from central units to schools (Tan 2008). Practitioners can use the findings from this study in formulating strategies for

partnership development. Moreover, the findings from this study provide researchers with a baseline to delve subsequently into future research in exploring partnerships in their more mature forms.

This paper is structured as follows: The next section discusses tenets of partnerships from decentralised contexts and how they are relevant in centralised systems. This is followed by the methodology, which entails the context of the study, data collection, and analysis, is described. The findings are then presented, trailed by a discussion of how this study has extended the literature. The final section concludes with challenges and suggestions in moving the partnerships forward.

Literature Review

Tenets of Partnerships from Decentralised Contexts

Partnerships have recently become increasingly popular in educational research and practice. They can address limitations in teaching and learning practices by harnessing collaborative and complementary resources (Honig et al. 2010). The following review is about tenets of partnerships drawn from research conducted in decentralised systems, in particular, describing the cultivation of links between central agencies and their schools. Extant literature has little on this issue from centralised systems.

A strong sense of shared values is crucial in partnerships because it enables diverse members and stakeholders to work collaboratively (Saunders and Epstein 2000). In turn, it facilitates joint ownership, consensus, shared accountability and benefits that are authentic. In Sailor's (2002) work, for example, schools were partnered to provide full service to students in addressing social and psychological needs in ways that take advantage of the schools' shared motivation. Similar social issues that the schools faced were brought to attention and addressed together. Subsequently, external agencies were engaged to minimize affected students from being disadvantaged. However, tensions may still develop in partnerships that further require the schools to develop trust (Lieberman 2000).

Trust can help to ease the daily pressures of teaching and sustain partnerships (Lieberman 2000). It assists in balancing between teachers' experiential knowledge and knowledge from other sources, often encouraging receptiveness of new ideas in reinventing themselves (Cochran-Smith and Lytle 1999; Honig and Ikemoto 2008). Daly and Chrispeels (2008) concur that trust is a key enabler in successful partnerships. Swift trust assumes that other partners are trustworthy, and work starts almost immediately as if the trust were already in place (Jarvenpaa, Shaw, and Staples 2004). Whereas, to develop relationships, trust that is deep is based on interactions that demonstrate integrity (Saunders and Ahuja 2006). In our study, we assume that both types of trust – swift and deep – are important in developing partnerships. For example, in West and Ainscow's (2006) work, the data collected from a joint examination was used to develop short courses in each partner school that offered specific vocational courses. In sharing the data, swift trust was an element that assisted in the development of the short courses. To extend the partnership, they developed a joint curriculum planning system that required longer time, facilitating the partnership to develop deeper trust through further interactions.

Formal and informal communications can assist in developing trust and a collegial work environment (Hinds and Bailey 2003). In partnerships between a central office and its school, three patterns of effective communication are discussed (Johnson and Chrispeels 2010). First, to avoid confusion, a coherent message from the top (central agencies) is critical for the schools to operationalize centralised policies. Second, to attain coherency, the communication should be facilitated by the principals who act as the information gatekeeper

between the central agency and schools. Additionally, this approach can help teachers from being overwhelmed with information. Third, different modes of communication such as emails, telephones and prints should be encouraged to increase awareness of new policies and efficiency of work process across different levels of the partnerships. In a study by Datnow et al., (2002), for example, effective communication assisted schools to mediate the design of a customizable program. The communication could create a perception that the partnerships are practicing equal treatment and have a democratic ethos (Lieberman 2000).

Carefully designed work arrangements can offer an abridged representation of messy and convoluted work processes (Skrla et al. 2000). These work arrangements make processes systematic, acting as focal points for discussions to avoid conflicts (Hinds and Bailey 2003). They include mechanisms such as the district-wide curriculum planning. Although experiences may be enhanced, the motivation can be undermined if the work arrangements promote prescriptive and narrow work approaches that impede learning. The arrangements should instead be dynamic and evolve with the partnerships rather than a controlled form of mechanism to monitor individual performance *per se*. The partnerships are driven by real time and grounded data, constantly fed by schools, and act as a feedback mechanism guiding the partnerships toward their goals. To reiterate, in West and Ainscow's (2006) work, it was reviewed that data obtained from a joint examination was used to develop shared courses, which in turn propelled the partnership to develop joint curriculum planning systems.

Another feature that is necessary for partnerships is power relationships, referring to the degree in which one dominates the agenda of the collaboration in relation to other partners. The power relation can be either on equality or domination by one or more of the partners (Lindsay et al. 2005; Muijs et al. 2010). In theory, relations based on voluntarism should not be dominated by any actor, with partners working together to solve present issues on an equal basis. Although issues of personal power, unequal status between partners, or even unequal leadership capacities may modify the dynamics of partnerships considerably (Chapman and Allen 2005). This in turn can manifest coercive relations. In such situations, one can imagine that coerced equal relationship is unlikely. For example, schools come together to collaborate intuitively as they were facing similar issues. These schools usually shared similar profiles and as a result, there were plausibly no issues of power imbalance (Carley 1992). They were motivated to collaborate voluntarily as the issues they were facing were immediate and pressing. The schools could be working together to improve the grades of under-performing students who happen to be in the lower socio-economic groups in the community (DiMaggio and Powell, 2000). However, as the situation improved, and if the efforts only manage to benefit a few of the schools, other schools who volunteered originally may now become reluctant to continue taking part in the initiatives.

Researchers conducted the above studies in the context of decentralised systems. Despite the variety of partners' backgrounds, we postulate that networks in decentralised systems would likely demonstrate a high level of commitment. In Nooteboom's (2004) study, for example, schools can network voluntarily to address daily operational issues in saving operational costs. The shared goals would be sensitive to current predicaments that create the impetus for the formation of the network, enabling the schools to demonstrate creative approaches and resourcefulness. The network was to address pertinent issues in preventing the development of uncontrolled situations. The schools provided timely and grounded data to achieve the network's goals through a feedback mechanism. Brass et al.'s, (2004) supported Nooteboom's work, suggesting that formation of networks and their growth can ease when like-minded individuals collaborate to resolve the same issues. Also, Granovetter (1983) argues networks that comprise of individuals with similar perspectives can address the shared goals more naturally. We hypothesise that schools in decentralised systems have more natural and culturally collaborative dispositional settings in assisting partnerships to grow.

Overall, we view partnerships from collective and individual aspects. Individuals may perceive partnership benefits as social goods, and the processes to attain them can be stifling. Whereas, individualism may sow distrust that undermines the collective development of partnerships. Thus, questions about investing and mobilizing for collective benefits that are palatable to the individuals are raised.

Partnerships in Centralised Systems

In centralised education systems, schools have benefited from the central agency through affordances that were readily available. Tan and Ng (2007) assert that these schools are expected to address immediate issues individually. By maximizing resources from central agencies, schools are given space to demonstrate their creativity. The premise is that concerted efforts are needed from the level of bureaucracies to develop partnerships (Goldspink 2007; Karlsen 2000).

There may be less shared values within the partnerships that situate swift trust as critical because the partnerships are enthused to become proactive apparatus of the central agency from the start. The perception in centralised systems is that partnerships are for advancing strategies where goals are formulated to overcome future challenges (Ng 2003). For example, a central agency initiated partnerships to diffuse technology-mediated innovations (MOEb, n.d). In that sense, the partnerships are vehicles to execute the central strategic plan to increase capacity building through the innovations.

In other words, the partnerships are perceived to be formal, administratively managed from the central. This approach is efficacious that allows for highly efficient administration such as the flow of shared resources from the top-down ready at the disposal of the partnerships. By extension, from an administrative viewpoint, the formation of networks is perceived to be highly attainable, or is it? Divergent individuals that are motivated by different problems could be a member. However, while communication from top-down is coherent, communication among the members could be disparate – and commitment is likely to develop slowly. For example, Shaari and Hung (2013) observed that policy enacted by the central agency in managing schools' co-curricular activities was for administrative efficacy and not just for learning. However, the same policy can be constraining to the learners' development if it dictated how a program should be operationalised, especially in the milieu of a change in management. For example, pursuing a passion for the co-curricular activity could be disrupted because of a change in priorities and possibly funding, and hence fewer opportunities for equitable learning might result. Issues of funding and change are common across all systems. The literature base does suggest that if schools had lateral networks of partnerships, student could possibly continue with their learning opportunities as opportunities are less dependent on top-down movements.

In a small study within a centralised situation, working towards school reform, shared resources in a partnership such as willing teachers, niche programs, and external agencies were emphasised in strengthening individuals' capacity (Toh et al. 2014). These human and material resources were perceived to exert more influence on the social and political surrounding than individual agency. Collectively, the partnership was required to synchronise its immediate needs with long-term plans from the onset – which in turn motivated itself to pursue valuable resources that were accessible in producing the desired results. For the individual teacher and school in the partnership, the shared resources have assisted them in their daily teaching needs and endeavours for reform. For the partnership as a collective entity, the payoff included work satisfaction in witnessing the re-enactment of the niche program across different schools.

We conjecture that partnerships in centralised systems develop laterality *best* if the commitment is cultivated from the individuals, building incrementally towards networks on the premise of one relationship at a time. The question is how we can make use of central systems' affordances to hasten commitments within such networks. We aim to study interrelationships between individuals and the diversity of perspectives in the partnerships for the development of networks in centralised systems.

Methodology

Background Information on the Education System

Before we delve into the study context proper, a historical backdrop of the educational system at hand is important. Since its independence in the 1960s, it progressively moved from a centralised system but greater autonomies given to schools, especially in resource allocations within the respective schools. Curriculum is largely orchestrated by the central office – the Ministry of Education (MOE) (Ministry of Education 2016). This is largely also connected to national high stakes examinations at years 6, 10, and 12 of a student's schooling trajectory.

During this transitional period, the culture of performativity may still permeate in schools that can generate reform fatigue among teachers because they frequently need to balance teaching the students to the tests and experimenting with new pedagogy in developing their capacity. Thus, it is understandable if the teachers avoid voluntarily participation in activities which they perceived have minimal impact on their annual staff appraisal because of time constraint.

The MOE recognises these challenges and also values teacher collaboration and school partnership towards 21st century forms of learning. Therefore, provisions in term of time, funding and expertise are generously offered that witness increasing formation of Professional Learning Communities (PLCs) and Networked Learning Communities (NLCs) across the system over the last 5 years (Salleh 2016). These cooperative arrangements are seen by schools' leaders as (1) vehicles to promote genuine collaboration and sharing of resources that transcend schools' boundaries (2) means to address perceptions of unequal status and prestige among schools in Singapore (Ministry of Education 2015).

Like in other systems that are undergoing change process, there are tensions. The tensions have been documented in numerous case studies (Tan and Ng 2007). With increase process interactions within more schools, and budgets and funds being limited, alternative solutions to normative views such as increase teacher numbers have to be sought. Partnerships among teachers with a view to optimizing their resources and time are possible remediation because the sharing of expertise and experiences among teachers in seeking pedagogical solutions is evidenced (Heng and Marsh 2009).

Study Context – Partnerships@ED

Teachers involved in Partnerships@ED (*pseudonym*), the focus of this study, were at the early stage of transforming themselves from interest-based coordination efforts to becoming lateral networks. The study's context revolved around how a central agency manages technology-mediated innovations which teachers can benefit. Learning communities were initiated to orchestrate for learning beyond respective schools. The central agencies hope to diffuse the innovations to teachers through the mechanism of Learning Communities. In turn, the agency would like to see the partnerships which began centrally to evolve to become lateral relations.

The partnership's motivation was to assist teachers in enhancing students' learning through the innovations and equipping the students with the necessary skills to navigate the globalised and digitalised workplaces of the future. For example, the innovations' principles were shared to craft relevant practices jointly with teachers, hoping that the teachers will subsequently form semi-formal networks centring on the innovations. The semi-formal networks can take ownership to diffuse the innovations to others.

Structure of Partnerships@ED

Partnerships@ED consist of Education Innovation Officers (EIOs), management staff and teachers who were interested in the innovations. EIOs are practicing teachers who were seconded voluntarily to an educational technology division at the central office for a stint of two to three years. The selection criteria for these EIOs include a number of years in the teaching profession and proficiency in using technology-mediated tools. The EIOs were either head of departments or subject heads before the appointment. The management group included former teachers, subject heads and vice principals who had transferred to the division as permanent staff to provide stability.

Partnerships@ED offered a unique opportunity to witness the coming together of individual and collective resources from a central office and schools in a centralised system. The partnerships have loose linkages and were driven by teachers' needs. Participation was based on individual volunteerism and interest; it was not centrally coerced or assigned. Initially, the EIOs engaged teachers' interest by supporting them with the innovations. The teachers were free to join or leave Partnerships@ED without judgment. The partnerships enabled them to use resources for customizing the innovations to the individual school.

Heterogeneity of collective efforts in the form of researchers, senior teachers, peers from across schools and differing infrastructural supports were available. With these resources, the partnerships were well-equipped and informed with up-to-date information. They were able to execute a repertoire of activities, such as co-designing lesson plans with the teachers. Through Partnerships@ED, participants decided and came to a collective consensus with little intervention by schools' management or bureaucrats. They viewed themselves as able to address pedagogical gaps that benefitted teachers through the implementation of the innovations in the classrooms.

Data Sources and Collection

Yin's (2003) case study approaches were adapted. Qualitative data sources from interviews, observations, focus meetings, workshops and artefacts were included. The data offered robust descriptions of Partnerships@ED functioning and activities, and this assisted the researchers in interpreting the partnerships interactions with teachers. In this study, the researchers acted as the third party observers. Tables 1a and 1b present the data sources.

Table 1a. Major data sources and their descriptions

Data Sources	Descriptions
<p>14 in-depth interviews. We interviewed 2 management staff, 10 EIOs and 2 teachers. The questions are:</p> <ol style="list-style-type: none"> 1. Describe your understanding about the Partnerships@ED: What is it to you? 2. What do you envisage regarding the partnerships? 3. What are your plans for the Partnerships@ED? 	<p>The participants decided to be interviewed individually or in group. 9 of those interviews were conducted individually and 5 were in group of two or three. Two of the group interviews were conducted in the EIOs office and two were at the researcher office. Four of the individual interviews were conducted in the EIOs office and one at the researcher office. The two interviews with the teachers were conducted in their respective schools. One interview with the management was conducted in the researcher office and the other was at the management office.</p> <p>On average, the interviews lasted two hours. They were audio-recorded and transcribed. The interview objectives were to; get an inter-subjective understanding of the nature of Partnerships@ED from the people who did the actual campaigning on the ground with the teachers and the understanding the management had of Partnerships@ED; understand the expectations that the EIOs and management had and to get a sense of how reality meets expectations & tease out the progress of the partnerships and the likely future direction, as projected by both the EIOs and the management.</p>
<p>8 workshops observations. The workshops were conducted at the EIO central office facility.</p>	<p>Field notes were captured. The observations include witnessing activities such as:</p> <ol style="list-style-type: none"> 1. Workshops where lively discourse happened as the participants discussed context-specific challenges that may influence innovations. 2. Lesson plan co-design that involved close interactions amongst the members in concretizing artifacts that may be used in the classroom. It entailed analyzing teachers' needs, co-designing lesson plans that attempted to address those needs, enacting the lesson plans and sharing the lesson plans on a centrally managed portal so that the other teachers within the education system could benefit. 3. Hands-on sessions where the members were introduced to new pedagogical concepts by external agencies with the intent to give a deeper appreciation of how such concepts may affect students' learning in classrooms. Hands-on activities were organized to give opportunities to concretize the new concepts. Examples of such sessions include LEGO and game-based learning. 4. We took part in some activities (e.g., developing a story board using a board game and an ICT application) to experience how the members interacted and were immersed in the activities.

Table 1b. Major data sources and their descriptions (continuation from Table 1a)

Data Sources	Descriptions
<p>9 focus meetings. Five of the meetings were held at the EIO facilities and four were at the researchers' location.</p>	<p>The focus meetings were partly to update the participants about the research and validating with them in regard to the themes that had emerged thus far. The meetings were scheduled to spread across the 2 years research duration. Four were held in the first year and five were held in the second year. The meetings' agenda were broad and informal to include administrative matters pertaining to the research, analytical discussion about the findings and brainstorming session about researchers' reports.</p> <p>Five of the meetings were video recorded and four were captured in field notes.</p>
<p>9 Artifacts. The artifacts include:</p> <p>3 publications pertaining to the Partnerships@ED which are accessible to the public.</p> <p>6 reflection pieces by the participants about the partnership.</p>	<p>We obtained publications that documented the innovative practices that the Partnerships@ED had worked on and implemented in some schools. This gave us a better understanding of the nature of each innovative practice. We reviewed the websites and the press releases of the central office to enrich our information of the history and the purpose of the Partnerships@ED. We were also able to learn the types of activities that the partnerships conducted from the website. Images of the Partnerships@ED activities, offices and workshops locations were also captured.</p> <p>The seven reflection pieces by the participants were written in a group of 2 or 3. The participants were asked to reflect about the partnerships, the challenges faced, future plan for the partnerships and matters pertaining to the innovations. These reflections were used in the focus meeting discussion.</p>

Data Analysis

We followed Neuman (2006) in analysing the data. First the data was organised to make them more manageable. Subsequently, coding was performed, and themes were generated to study the patterns. Finally, the emergent understandings were validated through triangulation and checking with participants.

First level coding and themes identification

Sources of the data were used to organise the data. For example, interviews with the EIOs and field notes were mainly used to generate the data, whereas the focus meetings and reports were used in the validation process. We read the transcripts while reflecting on the literature reviewed. Using a grounded approach, we read the transcripts a second time to identify emerging themes that seemed relevant to the study. Similar keywords such as 'facilitate', 'specialist', 'strong interest' and 'passionate' were identified to represent ideas to form labels. For example, 'Element of Champions' was created to represent these keywords. Subsequently, they were analysed for similarities and clustered into sub-themes. For example, the 'Elements of Champions' and 'Multiplicity' labels were put into a sub-theme called 'EIO Influences' because both were dependent on how the EIOs driving the partnerships influenced the partnerships' functioning.

Clustering themes and pattern analysis

Then, these sub-themes were clustered and analysed, looking for similarities in the descriptions and underlying arguments of the literature. Dyadic relationships (e.g., Rowley 1997) and networks (e.g., Muijs et al. 2010) provided the initial focus. For example, Johnson and Chrispeels' (2010) conception of partnership dimensions was used to identify patterns underlying the sub-themes by determining if they supported or contradicted the dimensions. Subsequently, we observed emergent themes and analysed them by perusing concepts from the literature related to networks (e.g., Lieberman 2000; Tan 2008) and other relevant studies, such as our review of the literature on centralised education systems. This step was useful for unpacking overlapping and conflicting themes that could drive the Partnerships@ED. For instance, clustered labels such as 'innovation-centric pedagogies and teacher-need pedagogies' and 'strong beliefs of innovation versus being assigned to head a Partnerships@ED' appeared to be necessary forces that arose from the partnerships' functioning. We named these forces 'Productive Tensions'.

Validation process

Finally, a validation process was conducted with the participants through focus meetings. In the meetings, the themes were represented in (Microsoft) power-point format for presentation by the researchers. Subsequently, the themes' development procedures would be brief. Next, in groups of two to three persons, the findings were discussed analytically, enabling the participants to reflect deeper on the themes before coming to an agreement. When necessary, video recordings of the focus meetings were viewed. Additionally, participants' reports about their involvement in the partnerships were used to generate reports for the management staff to validate. Table 2a/b summarises the major themes and sample evidence.

Table 2a. Summary of major themes and sample evidence

Major Themes / Sub-Themes	Sample Evidence
<p>EIO Influences – abilities in encouraging change among teachers’ practice through the chosen innovations</p>	<p>A group of EIOs described themselves as needing to be able to judge the situation as they interacted with the teachers—determining whether to ‘act fast’ with the teachers by pushing through the practice in school, to go in to ‘test the water’ to see whether the teacher would accept the practice in the first place before proceeding with the lesson co-design with the teacher, or to go slow as he negotiates with the teacher the things that can be worked out by the teacher at the moment without his interference.</p>
<p><i>Commander:</i> Be able to manage how information flows, be able to influence behavior expectations and co-opt stakeholders</p>	<p>A mix of commandeering, negotiating and subordinate influences was portrayed to be crucial in helping to build a trusting relationship within the partnerships. This trust made it easy for them to work out the innovation with the teacher from the inception of the partnership until the end.</p>
<p><i>Negotiator:</i> Be able to reduce the ambiguity of the issue at hand by reaching an agreement with another person</p>	<p>All the influences he portrayed were crucial in helping them to get buy-in from the teachers. As they did that, they were able to build a trusting relationship with the teacher. This made it easy for the partnerships to work out the practice with the teacher from the inception of the partnership until the end.</p>
<p><i>Subordinate:</i> Be in a vulnerable position and cede their position to get the agreement of the dominant partner in the negotiation</p>	
<p>Elements of a Champion-characterizing leading resource/</p>	
<p><i>Strong Beliefs/Passion</i></p>	<p>Described the Partnerships@ED as a worthy cause that the EIOs would continue to pursue in their tour as teachers provided the schools allowed them to.</p>
<p><i>Holds some leverage</i></p>	<p>As former HOD in schools, some EIOs knew other similar HODs. That made it easier for them to propagate the envisaged Partnerships@ED’s practice in schools.</p>
<p><i>Credibility</i></p>	<p>Seconded to central as EIOs helped in building credibility with the teachers as they worked to get teachers to adopt the Partnerships@ED practices and be part of the Partnerships@ED during the Partnerships@ED workshops.</p>
<p><i>Social Capital</i></p>	<p>The EIOs shared that they were able to use their teachers’ contacts to introduce Partnerships@ED in the first instance.</p>
<p><i>Artifacts/Stories</i></p>	<p>The 6 educational innovations that the central office was propagating as successful innovations that were churned from the schools and central efforts. Each had its own success stories to tell.</p>

Table 2b. Summary of major themes and sample evidence (continuation from Table 2a)

Major Themes / Sub-Themes	Sample Evidence
Elements of a Champion-characterizing leading resource/	
<i>Skill Set</i>	An EIO shared, it was imperative that he be able to execute things efficiently. Another EIO agreed that skill harnessed in his previous job in the logistics sector was useful.
<i>Community-Builder</i>	EIOs had a better capacity to build a community across schools as they worked with different schools and drew resources from the schools to implement the innovations.
Structures/	
<i>Outreach Efforts:</i> (workshops, exhibitions, gatherings, cold calls)	The partnerships had booths in ExcelFest (roadshow format) the previous year, where the EIOs also distributed brochures for their respective Learning Communities to the teachers attending the conference.
<i>Funding:</i>	A system of funding for the development of pedagogical innovations was promoted to schools, including provisions for the purchase of hardware, the development of applications and support for physical infrastructures to facilitate sharing.
<i>Infrastructures (Physical resources & expertise):</i>	
Productive Tensions/	
Accountability with regard to their direct supervision versus allowing for adaptation beyond their supervision	The desire to spread innovation has a productive tension with respect to enabling teacher adaptations with sufficient fidelity.
Strong beliefs in innovation versus being assigned to manage the partnerships	Central office concern for spreading the innovation (quickly) versus teachers' concern regarding the pedagogical principles of the particular innovation without the need for scaling. In other words, central office appeared to focus more on breadth (of reach in the system) more than depth (of pedagogy, which is the teachers' concern). In other words, central office may have an unintentional desire to spread the practice sooner rather than focusing on how deeply the innovation had taken root in a particular school.

Findings and Discussion

The findings address how partnerships in a centralised education system may evolve towards lateral networks that transcend individual schools. They afford processes that brought disparate resources together to benefit teachers and individual efforts in developing relationship for laterality across schools. The goal is to provide the reader a sense of the partnerships while presenting the findings in a manner that provides the reader with insights

on partnerships that are intentionally designed by a central office with the view to invoke laterality.

In the following section, the central themes of 'bridging resources' and 'individual efforts' are described. Together, they combine disparate resources from the central office and schools. Subsequently, laterality development in centralised systems is discussed. We conclude by addressing some of the challenges in developing the partnerships.

Bridging resources between a central agency and its schools

Resources include material, technological, and human capital brought together into school systems (Lasky 2004) to improve capacity building in content and pedagogy (Datnow et al. 2006). We extend the literature by describing processes that link resources between a central agency and its schools which have benefited teachers, and how they differ from approaches in decentralised systems. Partnerships@ED were set up to propagate six different ICT-led innovations to schools across the system (MOEb, n.d.; MOEd, n.d.; MOEe, n.d.), taking charge of pedagogical frameworks that integrate learning design with ICT tools. The partnerships initiated their work processes by consistently engaging potential schools and teachers. The management believed that more schools could benefit from the innovative practices. We observed that the partnerships reached out to schools and teachers to demonstrate the benefits of respective innovations. In doing so, teachers' needs were identified to map with the innovation's potential. The key words used by the partnerships to describe this process include, 'connecting the dots', 'cross-sharing', 'building relationships', 'grouped according to topics' and 'convened for interest'.

The work processes ranged from broad to customised practices, bridging the resources revolving around the innovations. The following field notes illustrate the different phases of the work processes.

First Phase: *Reaching out.* Partnerships@ED conducted workshops and held booths at Ministry-organised exhibitions to attract the attention of potential teachers who were interested in innovative pedagogies. Additionally, the partnerships used their contacts to attract other prospects to learn about the innovative practices.

Second Phase: *Establishing links.* Partnerships@ED contacted potential teachers via phone and email to cement their interest and booked a date to meet the teachers in their schools. Subsequently, they presented the innovations to schools. The audience could be a group of teachers in a department or to only a few teachers. Frequently, HODs, subject heads for academic and non-academic subjects, and IT staff would be involved in this phase.

Third Phase: *Working together.* Depending on the response of the teachers after the presentation, Partnerships@ED worked together with interested teachers to co-design a set of lesson plans to integrate the innovative practices into the subjects the teachers were teaching. Next, the teachers executed the designed lesson plan while the EIOs observed and provided the necessary scaffolding.

Final Phase: *Sharing collectively.* The teachers who had used the partnership resources were then invited to share the lesson packages (a newly generated resource). First, they uploaded it online to a shared teachers' portal. Second, they were invited to share their experiences of using the innovative practices in their classrooms in other similar workshops conducted by the partnerships.

From the above field notes, it appeared that sharing of resources related to the innovations was encouraged incrementally in systematic phases. The phases assisted the teachers with the innovations and partnerships without overwhelming them. First, they can become spectators, then subsequently to partners and finally contributed to the partnerships' growth. In doing so, they extended different resources such as directing activities in the workshops that were demonstrated in our data frequently.

Typically, 12-16 teachers attended the workshops who had signed up voluntarily, moderated by the EIO(s) and held in a seminar room managed by the central office. The workshops usually started at 2.30 and ended by 5 PM. The teachers were encouraged to sit in groups of 4 to 5. ICT tools such as interactive whiteboard, PowerPoint, and collaborative applications were used to assist discussions. The following sample of event logs and quotations (Figure 1) exemplified the workshops.

2.40 pm: The moderator introduced himself and welcomed the teachers who had taken the trouble to travel from their respective schools to attend the workshops after their usual teaching hours. He stated that the workshop was to enable teachers to “network, share ideas, discuss challenges and possibly collaborate” pertaining to the innovation – which is the mobilized learning.

Subsequently, he briefed about the seminar room computer systems, the login procedures and administrative matters. He highlighted how the partnerships were link to other groups such as the “Subject Chapters which is a LC within the community” and explained to the teachers how they might want to get involved.

The workshop program was elaborated. It included presentations from two schools about their experiences with mobilized learning, a video clip of how the innovation has benefited students in another school, two breakout sessions to discuss operational issues related to the innovation and a presentation by senior staff member about how he had benefited through collaborations when he was a beginning teacher.

3 – 3.10 pm: A group of three teachers took over the floor. They talked about how mobilized learning was used to enhance the concept of geographical inquiry to students of diverse abilities.

A female teacher started the presentation. She linked how mobilized learning was consistent with the current approach of “geography inquiry that encourage more hands-on learning that go beyond classroom” and thus it was important to introduce the inquiry skills early to her students and had chosen a topic on tourism. She further elaborated that the project was first started without ICT and the concept could still be implemented. Subsequently, with mobile devices, the lesson plan was further enhanced, as the devices enabled them to extend inquiries that were discussed in classroom to the actual outside settings.

However, the introduction of ICT tools in her class had brought new dimension of problems that spanned across from dealing with parents concerns such as the ICT cost, maintenance, technical matters to students discipline in dealing with the internet. Nevertheless, she claimed that the advantages of the innovation outweighed the challenges: “we can bring them out for outdoor experiential learning and back to their homes, they should be able to access whatever information they we have given them within the classrooms and they are supposed to be able to give their input even though they are at home and also come together back into the classroom to share whatever their findings are. So, this is the concept in alignment with the-our 21st century skills where our students are self-directed and learn how to collaborate. They also are able to use ICT tools in alignment with the 21st century. So, these are our objectives”....

3:10 – 3:25 pm: Subsequently, her colleague – a male teacher – took over the floor to elaborate the pedagogical principles of the innovation and highlight the advantages of mixing two ICT applications that were complementary with regards to their functionalities, and how these ICT tools were mapped into the three broad inquiry questions pertaining to the topic on tourism. Subsequently, he demonstrated how the lesson plan was enacted.

3:30 – 3:40 pm: Another male teacher took over the floor to talked further on the technicalities of the ICT applications, other resources that were available and challenges pertaining to these applications and approaches that they had adopted to overcome the challenges.

3:45 pm: The first break out session. The teachers – in small groups of 4 to 5 – were asked by the moderator to discuss potential issues, benefits and future plan that they may have pertaining to the innovations.

...

Figure 1: An example of Workshop Event Log

The Partnerships@ED demonstrated the abilities to link resources between a central agency and its schools. As the event logs and conversations above depict, the workshops as a work arrangement facilitated sharing of information between the schools and central agency

regarding the innovations such as the technical issues, challenges, and solutions. In essence, it was a work arrangement designed with the view towards developing a shared value of addressing teachers' needs. The central agency organised the workshops informally. The partnerships and teachers interacted without coercion. They shared information, stories, and personal experiences. Through these workshops, the partnerships worked towards developing trust with the busy teachers, creating opportunities for the teachers to interact outside schools in discussing daily challenges. The communications were structured to utilise resources without obligations. For example, the central agency's resources such as the exemplary lesson plans available for download were highlighted and discussed subsequently.

Past studies suggest that ideologies that reflect shared values, visions, and goals (Lasky 2004) – can help bridge the differences between units in an organisation (Datnow et al. 2006). However, Coburn and Talbert (2006) argued that educators from different units have diverse motivations related to their positions and roles within the partnerships. Face-to-face communication in eliminating or minimizing the differences is emphasised to overcome the differences (Snipes et al. 2002; Togneri and Anderson 2003).

In our study, the resources such as the innovations and their related processes were emphasised. Two aspects have played key roles in creating the initial impetus that guided the partnerships. Central to the partnerships was openness about the innovations. The innovations were not “pushed down their throat”, mentioned a management staff. They were “carefully chosen for their relevancy”, claimed another. Next was the stock-take process in determining commitment levels and creating provisions for doubters. Some studies suggest that a formal structure of accountability, fixed scheduling, and intense data gathering to inform instruction are central to increase commitment (Rowan, 1990; Hightower, 2002; Thompson et al. 2008). O'Day (2002) further argued that combining outcomes with professional accountability allow for ongoing adaptation within partnerships, which may be true in some contexts.

In our study, the Partnerships@ED adopted agile approaches and portrayed a less formal perception – as typical in centralised contexts. The intention could be to increase participation. The design arrangements such as conducting the workshops have taken pragmatic approaches. The partnerships emphasised free ownership of the innovations, the customization of innovation to school-based curricula, accommodations for different school timetables, and the commitment to share tenets of the innovation's principles. Formal accountability from the central structure was minimal. A management staff stressed that a “coherent narrative of the journey taken was of interest in evaluating his teams' progression rather than appropriating quantitative indicators.”

Champion resource as individually led efforts toward laterality

In the literature review, we suggested that in centralised systems, developing partnerships with lateral network propensities should start with the individuals themselves. Similarly, Lin (1999) argued resource investment constitutes collective contributions and the degree of quality efforts offered by individuals for rewards. The Partnerships@ED invested time and effort in bridging the resources to gain collectively. We will illustrate how individuals have contributed to the efforts.

Our analysis of the in-depth interviews and reflection pieces by the participants suggest that the EIOs afforded by the central agency acted as a champion resource at the individual level, driving the Partnerships@ED by directly influencing how the partnerships would grow. The EIOs performed crucial roles from the start. They initiated, organised and participated in spreading the innovations and championed the partnership's purpose through

various activities. The following is a sample abstracted from a report by a group of three EIOs (Figure 2). The report was part of their reflection as co-members of the partnership.

Level of Outreach

General Awareness

The [redacted], established by [redacted] [central], was started to engage and collaborate with Science teachers to deepen and strengthen science inquiry ICT practices through LC-led professional learning activities such as workshops, networking events and lesson co-design sessions. In conceptualizing the LC for scaling and spreading good ICT practices, teachers' needs were analyzed in establishing the key processes and support structures. The LC-led activities were carefully designed by the [redacted] [central] officers, taking into consideration the feedback of teachers and updated regularly to ensure that the LC continues to stay relevant in an education landscape of rapid changes and adaptation.

The needs of the teachers are central in adopting and adapting ICT-enabled practices. The professional learning activities surround and meet the needs of the teachers and aim to foster teacher change in technology use in the classroom through the approaches ([redacted]) as shown in Figure 3.

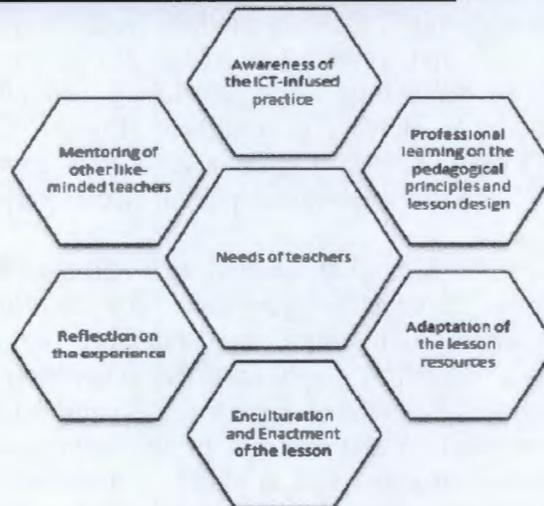


Figure 3. Approaches offered by Collaborative Science Inquiry LC to meet teachers' professional needs.

The LC's broad-based outreach, through *generating awareness* to teachers, is done through [redacted] workshops, schools and clusters sharing, conferences and networking sessions. The [redacted] officers also conduct sharing of practice with key personnel, such as the heads of department in Science and ICT, and in the process, find out the concerns and needs of the teachers, and provide recommendations specific to the school context, teacher and student profiles. The learning activities have an underlying emphasis of creating the culture for orchestrating reflective conversations and fostering teacher change in terms of knowledge, self-efficacy and beliefs in the use of technology for teaching and learning. They are situated within processes of the LC, described in Table 1:

To advance and promote the partnerships, the EIOs had to juggle multiple roles in working with schools. The keywords that emerged from the interviews in describing this phenomenon include 'commander', 'negotiator' and 'subordinate'. Individually, the EIOs worked to encourage each school to adopt the innovations that they were propagating. As a champion resource, they assessed situations and assumed one of the three roles as necessary.

As commanders, key players influenced behavioural expectations and co-opted stakeholders through managing the flow of information (Oliver 1991). For example, several EIOs agreed that they needed to decide how to react—'to act fast, to test the water first or perhaps to go slow with the teachers'—in regard to sharing the amount of information needed to attract the teachers. In making such decisions, the EIOs need to be decisive and adapt accordingly.

As negotiators, the EIOs negotiated in stabilizing outcomes (Pfeffer and Salancik 1978). One EIO reported, in agreement with a management staff, that they would engage in a process of 'give in and take' to get full buy-in from the schools. For instance, although the lesson plans pertaining to a particular innovation were co-designed by both the EIOs and the schools, the schools had full ownership of them.

The EIOs may have had some degree of control over how they worked things out in the first two roles discussed earlier. However, there were situations in which they were not able to do so because schools had the prerogative to withhold information from them. In such circumstances, they acted as subordinates, took a 'hands-off' approach and readily admitted that in some situations, they were not influential enough to change the teachers' practices. Likely, this was because they were operating outside the schools' mandate and bureaucracies. They were frequently accessing their approach as highlighted in the following discussion. The discussion was about how teachers may perceive a specific innovation and ways in which the partnerships can be more focused.

EIO 1: What can we do and how can we shape the innovation. That is something we can think about. So there are certain things that we can control and something that we cannot control. At the central level, at EIO or partnership level, how the innovations grow is something difficult but it is something within our control. The thing is some of our innovations have a high need for technical knowledge.... What can we do to this innovation in order to reach to all levels of the system?

Management 1: [*in agreement with EIO1*] When technical complexity is high, teachers' practicality is definitely low. Because it is so complex, teachers don't use.

EIO 2:that is if they [*the teachers*] are creating it but if they are the users, it's a totally different thing

EIO 1: I think for OSP, like [*TTTT*] mentioned, there are two levels. Like what you said. It depends on how we define the innovations. And here, we are referring to pedagogical innovation. So, you are saying that if a teacher can design the entire thing, then the technical complexity will be very, very high because we need to use the java and all the programming etc... But, for a teacher in class to use the product, it is actually very low.

Researcher 1: Maybe want to have sub-categories between creating and using. For example, OSP, I would argue that the creating must be done at [*LLLL's*] community. And the using can be done at the teacher's level.

EIO 3: [*Sarcastically*]When you use the word complex, it invokes a whole body of knowledge..... So it's more of usingor creating.... If I want to speak in human language. Can I propose to see whether the understanding is accurate.....

EIO 1: [responding to what EIO 3 suggestion, wrote on whiteboard to simplify the technical words used]... I have similar framing...*[subsequently the conversation was directed to the drawing on the whiteboard before a consensus was reached]*

As the above discussion depicts, in performing this multiplicity of roles, the EIOs can be characterised as a champion resource that facilitated conscientious interactions (in their respective LCs). They showed passion in meeting teachers' needs. To some extent, they were pedagogy interventionists. As former teachers, they could empathise with the fellow teachers that helped to increase their credibility and have the required social capital to connect with schools' leaders. It was also helpful that they had relevant ICT, negotiation and brokering skills and dispositions of community builders. These elements comprise some of the champion resource attributes that need further investigation. As a champion resource, the EIOs have important roles to play in permeating Partnerships@ED from the central agency to schools in a ground-up manner as opposed to top-down approaches.

We believe that the champion resource can facilitate sharing, cooperation and community building for Partnerships@ED, cultivating connections for teachers from across schools who share interests in innovative practices and giving informal ownership to the partnerships. As a champion resource, the EIOs advocate voluntarism for collective sharing. They may be an impetus to initiate laterality, particularly when they return to schools after their secondment. Future documentation about this journey is necessary because they could translate their experience into a champion resource at the schools. Champion resource plays a facilitating role, nudging the partnerships forward, but it was not domineering or controlling in nature. We suspect this phenomenon is not unique to Partnerships@ED. It could advance other new partnerships (Chrispeels et al. 2008; Leithwood et al. 2004).

The studies in decentralised systems consider trust as crucial in addressing issues to ensure successful partnerships (e.g., Hubbard et al. 2006; Bryk and Schneider 2002). Whereas our study recognises that hierarchical systems and bureaucracies permeate at different levels of the partnership functioning, thus rendering implied trust more important at the level of teacher enactments. For instance, it was possible that some teachers were coerced initially by their principals to take part in the Partnerships@ED's activities, and while this is plausible in some cultures, subsequent efforts of good facilitation for trust building towards laterality is still necessary.

From our study, the champion resource – the EIOs and facilitating teachers – can develop the partnerships that were learning centric, providing provisions to these reluctant teachers to voluntarily take part more actively in the future. We argue that champion resource is essential for enhancing commitment and initiating systematic work processes, promoting learning in the process of change. By extension, this could hasten the trust-building processes.

In centralised systems, it is common to enter into partnerships with an unclear purpose. In our study, the initial focus that bonded the partnerships was the particular innovation that was introduced by the central office. Many examples of productive discourse such as the above conversations (between researchers as observers and EIOs) focused the inquiry on the innovations in assisting teachers to understand their problems, in hoping to anchor them to play the champion resource roles. Subsequently, we have witnessed that convinced teachers took a central position in becoming the champion resource as illustrated in the above workshop event logs (refer to Figure 1, paragraph 3). In this example, their purpose was to interest others with the potential possibilities and solicit volunteers to experiment further with the innovations.

We believe that this phenomenon occurred because developing laterality among teachers in centralised education systems is a messy process; thus, goodwill and willingness

to participate are critical. In our study, these practices were effective when demonstrated by teachers who were supported by the central agency through the EIOs.

Towards Developing Laterality in Centralised Education Systems

Many studies confirm that trust is an essential element for successful partnerships (Daly and Chrispeels 2008; Hubbard et al. 2006). Our study further suggests that Partnerships@ED (through the champion resources such as the EIOs) was driven by a strong sense of belief in sharing successful pedagogical innovations. They have taken the initial steps towards establishing laterality for teachers by integrating work processes through constantly adapting the innovative practices to teachers' daily functioning needs. These efforts are critical to developing a sense of ownership and in cultivating an identity which are cores to network formation (Muijs et al. 2010).

Encouraging laterality at different levels

We learned that creating laterality in centralised systems is a complex endeavour, one in which tensions between centralised agencies' affordances and grassroots' prerogatives persistently present. Addressing these tensions, the Partnerships@ED started with manageable dyadic relationships and incrementally designed their approach towards laterality at multiple levels.

The relationships between the champion resource and the teachers were first initiated by the central agency through the innovations. In an interview with an EIO and a teacher, the teacher stated that he worked with the EIO to implement the innovation in his class because it was about 'if you scratch my back, I will help to scratch yours and it pays to work with someone like [XXX] who know his stuffs'. Subsequently, the partnerships forged seem to be interwoven with the champion resource experiences and theoretical understandings as ideas develop through the innovations. At this level, the champion resource took the lead and openness about the innovations is evidenced. For instance, the EIOs and their management repeatedly reminded us that the innovations 'are to address teacher needs.....it is not about one size fit all or neither is it about forcing down the innovations to the teachers' throat'. They emphasised that the efforts are not centrally orchestrated, giving further legitimacy of the nature of the partnerships. The persistent stance by champion resources to 'stand-with' the teachers who engage in experiment with the innovations is critical. These teachers need to know that when 'things do not work', they have someone to 'fall back upon', suggested by a group of EIOs when asked about why the teachers should work with them.

At another level, teacher-to-teacher relationships were encouraged. It appeared that the Partnerships@ED assisted in linking teaching practices with the innovations' principles. The topic of discussions in the workshops, for example, ranged from pedagogy to practicality issues to school supports (See Figure 1). In such workshops, we heard the teachers' voices and demonstrations lamenting about challenges that they faced pertaining to the innovation (Figure 1, paragraph 6 & 7). We believe these discussions (through the structured workshops organised by the champion resources) facilitated teacher-to-teacher connections and friendships, another tenet for laterality formation. We witnessed teachers embarking on productive discourse, supporting each other and forming sub-groups within the partnerships. However, currently, the concretizing process such as the lesson design was done on a one-to-one basis between the EIOs and the teachers of a particular school in isolation.. The EIOs elaborated that they 'also conduct sharing practice with key personnel....., and in the process, find out the concerns and needs of the teachers, and provide recommendations specific to the school context,..' (See Figure 2, paragraph 3).

Developing Laterality in Centralised Systems

In centralised systems, it thus appears that a strong shared value may not be crucial to initiate laterality. However, we believe that shared values can be developed overtime as the relationships progresses. The development of these relationships seems to start with a swift trust focusing on the innovations that triggers professional conversations among the members in the partnerships. There is much work to be done if we wish to investigate the trajectory of this swift trust and its relation to laterality in centralised systems. However, we are content that swift trust and focusing on innovations can offer a starting point for developing laterality. We also like to confirm the importance of formal and informal communication as a tenet for developing partnerships. Further, this study discovers that platforms for these communications are equally crucial. The initiative of the central agency and champion resource that designed platforms such as the workshops and informal meetings with the teachers are worth emulating. We realised that not all the teachers volunteered to participate for the workshops. These platforms however, at the least, have offered an avenue for the teachers to voice their opinions outside of their school boundary. We view that these concerted efforts as an encouragement to promote the culture of sharing and collaboration that can minimise the perceptions of unequal status among schools as teachers talk to discuss variety of issues.

Therefore, the opportunity that can create across schools teacher dialogues should be encouraged further to build collective ideas about the innovations in addressing the challenges faced. Moreover, further motivation by concretizing the proposed ideas at the schools and witnessed by the teachers is hoped. In the future, other teachers could get involve simultaneously in the process to offer opportunities for them to deepen their relationships. For instance, coordinated efforts between the champion resources and 3 to 4 teachers from different schools working on implementing the innovations for their classes should be encouraged and systematically embarked. In centralised systems, we believe it is productive to cultivate laterality through slight nudging from the central agency to mitigate members differing motivations who may be coerced to participate initially. As described, one way of cultivating this laterality is through champion resource building one relationship at a time rather than hoping on the advantage of strong shared values which is frequently associated with the partnerships in decentralised systems.

Offering grounded account of partnerships in encouraging laterality

We are just beginning to understand the enablers of laterality in centralised systems and their educational potential. If we are going to understand laterality further, a more grounded account of the phenomenon in practice is necessary. While the central agency initiated the partnerships, the processes are contingent on schools' and teachers' participations. Partnerships' tenets appropriated from decentralised systems can be useful for consideration. They can facilitate linkages between the central agencies and their schools. However, if bureaucratic controls dominate, it is highly likely to impede laterality (Cuban and Usdan 2003; Hubbard et al. 2006).

Central agencies can develop strategies for personalizing the partnerships to individual schools and not just with the teachers respectively. This approach may hasten laterality directly among the schools. However, it would be unwise if schools perceived the partnerships as a one-off relationship defined by central agencies. Rather, we would like to see real ownership demonstrated by the schools as the innovations are enhanced and champion resource increased.

We acknowledge that leaders may hold differing beliefs based on their positions and roles within the systems (Coburn and Talbert 2006). However, we hope that focusing on addressing teachers challenges through the innovations can help to increase mutual understanding and build relationships among the leaders.

Concerted efforts with the help of school principals and policy makers are needed. For example, the timetable can be synchronised to ease the implementing of new practices and sharing experiences across schools. As teachers' commitment in Partnerships@ED is heightened, seeking schools leadership support for the involvement is imperative. This support should be informal to encourage volunteerism. However, we believe there are values to make their activities visible on different platforms in recognizing their efforts to an audience comprised of policy makers.

Conclusion

It is not our intention to suggest that the findings are generalizable across partnerships in centralised systems. Rather, we aim to create awareness of the possibilities of designing laterality in systems that are hierarchical. By reflecting on the findings, we also hope to illuminate educators' struggles in developing their craft.

This study acknowledges that tenets of partnerships enable connections across organizations and subunits (Knapp et al. 2003; McLaughlin and Talbert 2003; Lasky 2004). We illustrate champion resource as enablers in bridging resources can assist the development of laterality. Thus, we argue that champion resource is a foundation towards laterality, helping to illustrate potential challenges to leaders in overcoming tensions that drive partnerships.

In centralised education systems, we argue that bridging resources are central to partnerships in determining commitment levels, setting the initial tone for future work processes, and anticipating challenges. The champion resource plays primary roles in developing the partnerships that offer a clear line of engagement for teachers who have the desire to create learning networks. In our future work, trajectories of lateral relationships fostered by the teachers will be documented. We foresee that the teachers could develop the network further with structures afforded by central agencies. Preliminary inquiries indicate positive signs that informal lateral networks of teachers are developing. Future work will unpack the dimensions of laterality in centralised systems to a greater extent.

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