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Vijaya Sherry Chand , Samvet Kuril and Anurag Shukla

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Dialoguing with teacher-educators, valorizing teacher innovations

Vijaya Sherry Chand* – *Indian Institute of Management Ahmedabad, India*

Samvet Kuril – *Ahmedabad University, India*

Anurag Shukla – *Indian Institute of Management Ahmedabad, India*

Abstract

This article describes the educational innovation fairs (EIF), a large-scale collaborative action research initiative undertaken by an academic institution and the teacher-education department of a provincial government in India over a three-year period (2015 to 2017). The EIF initiative primarily sought to help teacher-educators in 26 sub-provincial teacher training institutes (STTIs) realize the potential of teacher-generated innovations to enrich the teacher training curriculum in the state-run schooling system. It required teacher-educators to identify and validate innovative teacher-generated work, that was then displayed for two days in a year in a public exhibition visited by a large number of teachers. Case studies of the displayed work were then sent to schools and used in teacher training programmes. The EIF experience indicates the importance of setting the political and academic context carefully if action research is to take off in the public education system. Second, the policy adaptation that is inevitable in such a system implies an understanding of the deviations that might be considered tolerable. Finally, the partners need to jointly reflect on and consciously plan their post-collaboration individual trajectories during the collaboration itself, for the outcomes of action research have to be embedded in an evolving research agenda aimed at continuous improvement.

Keywords: teacher-generated innovations, collaborative action enquiry, partnering with teacher-educators, system-wide collaborative research, dialogic action research, action research in public systems

Genesis and rationale

In developing countries, such as India, the public schooling system has often been criticized for its poor outcomes (ASER, 2018). The state has responded with programmes that claim to promote innovation in the system; for instance, a national programme introduced in the early 2000s (Education for All) sought to introduce a number of curricular and pedagogical innovations. However, such programmes are constrained by the fact that 'innovation is not an elemental context for the public sector' (Potts and Kastle, 2010: 124) and by the presence of a number of barriers to innovation – the structure of the public system, the fear of experimentation, the costs of mistakes and the characteristics of the people in the public system (Van Duivenboden and Thaens, 2008; Kirby, 2006; Özcan and Reichstein, 2009). At the same time, there are many local teacher-driven innovations that are specific and relevant responses to problems that public school teachers face, such as teacher shortages, infrastructural constraints and having to deal with children from the poorest sections of society who cannot

afford private schooling (Chand, 2014). In February 2014, an academic institution, the Indian Institute of Management Ahmedabad (IIMA), which had been studying such innovations for a number of years, organized a conference of 100 innovative teachers in collaboration with the provincial Council of Educational Research and Training (CERT). The CERT, which operated through 26 sub-provincial teacher-training institutes (STTIs) and had about 400 academic staff, was primarily responsible for in-service teacher training in the province's 32,000 government elementary schools. The conference led to a realization that teacher-driven innovations might have a role to play in teacher preparation and development.

A national policy for teacher education, which guided the STTIs in their work, encouraged teacher-educators to incorporate relevant experiences of teachers – how teachers dealt with their sociopolitical contexts, their assumptions about children, knowledge and learning, and how they actually helped children construct knowledge – into the teacher-education curriculum (NCTE, 2009). A focus on teacher-driven innovations aligned with these prescriptions, and so CERT was open to engaging in further research. The teacher education policy had also suggested that teacher-educators should study the methods, including *melas* – a word that in many Indian languages means 'fairs', that teachers used to promote learning (NCTE, 2009: 69). This led to the idea of an educational innovation fair (EIF), an initiative that would identify and document relevant teacher-driven experiences, and display them in an exhibition. These experiences could then be converted into material for dissemination or use in teacher training. Each of the 26 STTIs identified two staff members (lecturers) who would be responsible for the activity. The academic institution held four consultations with these staff members in the first half of 2015. A concluding workshop in September 2015 generated a consensus on two aspects needing change: the weak exposure of the STTIs to good school-level, teacher-generated educational practices; and teacher-trainer attitudes that ignored the good work of many teachers. A design for the EIF was also developed. The first step would involve each STTI reaching out to the schools in its jurisdiction, and identifying about 40 successful teacher-generated practices using a framework that IIMA had developed (described later). It would then invite the teachers to display their work in a two-day 'fair' or exhibition at its premises; it would also invite one teacher from every school to visit the fair and rate the displayed innovations. After the fair ended, the STTI would compile the displays into books and distribute them to schools. The three most highly rated displays in each STTI would then be selected for a province-level exhibition. This proposal was discussed by CERT with the administrative leadership of the province, which approved an annual budget of 16.6 million Indian rupees (approximately US\$0.24 million) for two years. This was a minuscule fraction of the approximately US\$620 million that was allotted to the entire elementary education sector in the province, but it was a significant breakthrough since it indicated commitment to the idea of valorizing teacher-driven innovations.

Teacher-generated practices and workplace innovation

The theme that held the design phase (the series of consultations and the September 2015 workshop) together was valorization of teacher-driven innovations. The discussions on this theme were led by the academic partner and drew on the procedures developed by IIMA in its work with innovative teachers in another project (Chand, 2014; Chand and Amin-Choudhury, 2006; www.inshodh.org). Teacher innovative behaviour has been seen as 'a self-initiated, three-stage process: (a) intentional idea generation, (b) idea promotion, and (c) idea realization' (Thurlings *et al.*, 2015: 442). Consistent with

this, Chand (2014: 62) presented innovative behaviour as reflected in a self-initiated action of a teacher that could be 'a classroom method, a teaching-learning aid, or an extra-school education-related action – that is a "step change" (Hartley, 2008: 199) from previous practice and has resulted in the achievement of certain contextually relevant educational goals of the teacher developing the innovation', and showed 'a stage of initial development by the teacher, followed by a stage of trial and monitoring (implementation); an evaluation, followed by continuation or modification; and finally, a set of results which constitute an improvement'. The method followed to identify work that was consistent with this understanding is summarized briefly here, since it provided a template for the work of the STTIs.

An open invitation to all government elementary schools was sent in early 2013, inviting teachers to submit work that met the criteria listed above, and describing how their submissions would be verified through visits by the project team members or functionaries from the state's education department. About 10,000 teachers responded, and an expert committee of eight members screened these submissions for adherence to the prescribed criteria; the submissions were then verified through visits by project staff and other invited teachers and administrators from the state's education system. Finally, of the 10,000 submissions, 5,650 were deemed to have met the specified criteria. The 5,650 practices were then rated by the expert committee for innovativeness, using the following criteria: novelty, severity of the school's context, scope and complexity of the work reported, and the effect of the work on neighbouring schools. The criteria adopted were in line with the characterization of workplace innovations in public services (Patterson, 2002; Hartley, 2008). The method followed was the 'consensual method' (Amabile, 1982; Zhou and Shalley, 2003) that has been extensively used and is easy to implement. In this approach, the judges, once they are familiar with the criteria and its application, rate the innovations independently, and then a mean score is generated for each innovation. By the middle of 2015, the work had resulted in a repository of teacher-generated innovative practices.

The repository had many easy-to-borrow ideas. For example, when a Grade 4 teacher realized that her students had poor reading skills, but were not using the school library effectively, she 'decentred' the library by generating 'mobile home libraries', each one being an aluminium box with a set of books of graded difficulty bought from the market, given to a student for a month. At the end of one month, students were required to give a short talk on their learning and exchange the boxes among themselves. Another teacher found his students lacking in confidence, and he designed opportunities for them to express themselves during morning assembly to improve their self-confidence. Other teacher-generated innovations have focused on health of adolescent female students, regularizing class attendance, improving self-confidence and ability to speak, and a wide range of student outcomes.

Although this work was not part of the action research under discussion, it provided the basis for the discussions between the academic institution and the 26 STTIs. These centred around the following topics: the conceptualization of a workplace innovation as work that combined idea generation, implementation and assessment of outcomes; the criteria that could be used to characterize a teacher's work as innovative; and the methods that could be used to help teachers undertake documentation and analysis of their work (through 'writing workshops' to which identified teachers would be invited, and during which the teachers would share their work with their peers and finalize their documents). The September 2015 workshop also provided an opportunity to discuss the ethical research guidelines followed by the academic institution, which were based on BERA's (2011) *Ethical Guidelines for Educational Research*, and to

develop procedures for obtaining informed consent of the participating teachers, studying their experiences while ensuring transparency and authenticity, and ensuring credit to the teachers through full disclosure of their names and contact details. It was also decided that the compilations would be freely available to anyone who wanted to use them.

Implementing educational innovation fairs: The pilot and the first fair

The 26 STTIs then organized a pilot in December 2015 in one of the STTIs. The methodology to identify and screen teacher-generated innovations, and shortlist about 40 was tried out over a period of one month. The academic partner was not involved in this exercise. The experience enabled the STTIs to get an idea of the common problems on which teachers were working: access to education; deficits in physical infrastructure from which state schools suffer; community factors that affected equity; keeping children in school for a certain number of years and avoiding the problem of 'dropout'; quality of education; building on local knowledge of children; and building an enabling environment for schooling. The STTIs realized that although quality of education was the focus with which they began, a broader focus would respond to teacher concerns better. After this experience, each STTI constituted an evaluation committee, which included teachers, to screen the innovations that it would identify in its area. The first province-wide EIF was planned for February 2016. Given the paucity of time, the STTIs decided to identify the teachers for the first EIF from the repository that had been created by the academic partner. Each STTI identified about 40 teachers from the schools under its jurisdiction. The first EIF was held over two days in February 2016. Each selected teacher was given a stall to display their work. Digital content could also be displayed if the teacher had a personal laptop. One teacher from each of the roughly 1,200 schools in the STTI's jurisdiction was invited to attend. These visiting teachers had to rate the innovations displayed in the exhibition.

The decision to ask the visiting teachers to rate the displays in the EIF was an important one in the context of how work is evaluated in the public system. The idea emerged in the workshop of September 2015, during a discussion of how the IIMA repository had rated the innovations and the pros and cons of asking a teacher to assess another teacher's work (Topping, 1998; Woolhouse, 1999; Rada and Hu, 2002). Once it was decided that peer rating would be adopted, a simple set of guidelines was developed. The visitors would be asked to examine two features of each display, novelty and relevance, and give a score out of 50. Relevance was treated as a combination of usefulness or applicability to one's own context, and impact or the result that was mentioned in the display. Of course, the teacher displaying her work would be there to answer any questions. The mean ratings given by the visiting teachers were used to identify the three highest-rated innovations in each STTI. Once the STTIs had identified the best innovations, and accounting for ties and for work done by teachers in urban areas with severely marginalized and migrant communities, 108 practices were identified for presentation at the provincial capital. This exhibition was held in March 2016, and it was attended by the minister of education and other senior provincial government officials.

The first round of EIFs was well received in general. In all, there were 1,299 displays, about 50 per STTI. All the STTIs prepared compilations of the innovations displayed and distributed copies to the schools under their jurisdiction or used them as case studies in their training. (An analysis of the books is presented in Table 1.)

Table 1: Type of innovation displayed in STTIs for 2016 and 2017

Category	2016	2017	Total	%
1 Language (including reading and writing)	208	205	413	23.8
2 Mathematics	63	86	149	8.6
3 Science	35	36	71	4.1
4 Social science	28	23	51	2.9
5 Social science and environment	35	46	81	4.7
6 Use of ICT	35	38	73	4.2
7 Integrated development of students	237	231	468	27.0
8 Health and cleanliness	45	43	88	5.1
9 Testing and evaluation	22	32	54	3.1
10 Value education	15	41	56	3.2
11 Regularizing student attendance	70	43	113	6.5
12 Differently abled children	6	4	10	0.6
13 Special focus on girls	8	2	10	0.6
14 Parental monitoring of student learning	4	10	14	0.8
15 School–community relationships	36	4	40	2.3
16 School development	31	12	43	2.5
Total	878	856	1,734	100.0
Information incomplete	7	3	10	
Grand total	885	859	1,744	
Number of STTI-prepared books analysed	19	17		

Source: Authors, 2020.

Second educational innovation fair

The second year (2017) saw some changes. The broad-based approach to teacher-driven educational innovation was retained, but the STTIs took sole responsibility for the identification and screening of the teacher-driven initiatives. The definition of innovation and the criteria to assess innovativeness were retained. The academic partner had no direct role in the selection of the innovations in the second round. This phase provided the teacher-educators with a chance to engage in a type of research that was new to them: developing case studies of teachers who had something to offer, and conducting ‘writing workshops’ for the identified teachers.

A second modification made by the STTIs on their own was in the selection process and in the peer-assessment rubric. Each STTI targeted 60 innovations, but at least 60 per cent of these had to be from teachers who had not been selected for the first EIF. The peer assessment that was used to identify the best three displays for the province-level fair was also modified. Expert assessment by a small committee made up of STTI teacher-educators was added. For teachers displaying their work for the first time, and for teachers displaying entirely new work not displayed in the first fair, the peer ratings carried a weight of 50 per cent and the expert ratings 50 per cent. Novelty and relevance continued to be the guidelines, for both the visitors and experts. If the innovations happened to be significant improvements over prior work displayed in the first EIF, peer ratings had a weight of 50 per cent, expert ratings 30 per cent, and the value of the improvement as assessed by the expert team, carried the remaining 20 per cent. To facilitate this assessment, the innovations that were improvements on prior work were displayed in a separate corner of the STTI. A third

change, in which the academic partner was involved, was in rotating the venue for the province-level fair to a small town – the provincial capital city did not host the second province-level fair. As in the first year, each STTI compiled its displays in book form for distribution to the schools under its jurisdiction. An analysis of the books prepared by the STTIs is presented (along with the 2016 output) in Tables 1 and 2. Language teaching and activities to ensure integrated development of the children (usually focusing on non-cognitive outcomes) accounted for half of the displays. Regularizing attendance of children was another concern that was reflected in the displays.

With the completion of the second EIF, the partnership between the academic institution and the teacher education institutes ended. However, the CERT and STTIs decided to make the fairs an annual event, to be organized and managed on their own, and obtained the necessary state funding for the activity. Fairs were held in 2018, 2019 and 2020, with one important change – each fair had a theme; thus, the 2018 fair focused on innovations in the use of ICT in classrooms, the 2019 fair on teaching-learning methods at the lower stages of the school cycle, and the 2020 fair dealt with promoting learning outcomes. These EIFs are not discussed in this article since the academic partner was not involved in their organization.

Use of outputs of educational innovation fairs

The EIF had aimed to enable STTIs to identify problem-solving innovations of teachers in government schools, document and validate them, and then convert them into material that could be disseminated or used in training. Thus, the books that each STTI brought out constituted the main physical outputs of the fairs. In addition, teachers who visited the fairs might have adopted some of the experiments displayed in the fairs. Unfortunately, tracking of what the teachers did after they visited the fairs was not part of the partners' agenda. However, an online professional development programme for teachers that was launched in August 2019 by the provincial government and the academic partner afforded an opportunity to reach out to those teachers who might have attended the two fairs in 2016 and 2017. About 50,000 teachers had registered for the programme when an online survey was launched to understand what teachers might have done after their visits. The number of teachers who responded was 5,472 (about 11 per cent, randomly distributed across the province). Their responses are analysed in Tables 3, 4 and 5. In spite of the limitations of the survey (open-ended invitation to a subset of the total teacher population, low response rate), the results provide an indication of the diffusion that may have happened: 67 per cent of those who had personally attended the EIFs were able to provide some evidence of what they had borrowed from the EIFs; 11 per cent of those who had not attended had been influenced by those who had attended to try out some of the practices. The results also provide some tentative indications of adoption behaviour: the proportion of language, mathematics and ICT innovations in the practices reported by the visitors surveyed is much higher than in the displays. On the other hand, the adoption of 'integrated development of students', which relates to what is usually termed 'all-round' development or non-cognitive development, is much lower, possibly because these innovations are likely to be more context specific. Those who did not visit, but were influenced by the visitors, report borrowing techniques that then seem to have been adapted to more subjects than intended by the innovating teachers. These patterns need further exploration.

Table 2: Brief descriptions of the categories of innovation

Category	Description
Language (including reading and writing)	This category includes many initiatives to teach reading and writing, and to improve language skills such as the local language, the official all-India language and English. Many of them would involve teacher-generated learning material such as bilingual workbooks, dictionaries, movement from the home language to the language of the school, writing practice, poems and stories prepared by the teacher, play and other activities that involve word and alphabet recognition, and remedial activities for grammar and vocabulary.
Mathematics	A variety of initiatives are included in this category, but a typical easy-to-use activity would be based on differentiated instruction that enables students to learn at their own pace. A teacher prepares a set of problems that are displayed in a public place, and the classroom has a 'math box'. Students solve the problems in their free time and deposit the answers in the box whenever they finish. The teacher then checks the answers and works with those still making errors. As the proficiency increases, difficulty levels also rise.
Science	Many innovations would be designed to help students conduct experiments on their own in a teacher-designed laboratory. For instance, a teacher might first prepare a detailed list of experiments to be done throughout the year, based on the textbooks and other reference materials, and then organizes the required equipment and materials. Two students each from Grade 5, 6 and 7 ('science assistants') would be involved in the setting up and the monitoring of the activity. The teacher would be in charge of explaining the principles and then monitoring the children as they did their experiments. At the end of the year, a science exhibition would be a chance for the students to demonstrate what they had learned.
Social science	Many innovations would try to link textbook knowledge with the students' own experiences. An example would be asking students to understand the history of their village through a study of the 'hero stones' or some archaeological feature, carried out through interviews with old people or other written material, and make a presentation to the village education committee.
Social science and environment	This would include a variety of easy-to-adapt projects such as designing a vegetable garden for the school, waste and pollution control, and a study of the prevalence of disease through group work.
Use of ICT	A variety of projects that would involve use of open-source material adapted to classroom use, use of technology (such as Plicker or Google Class) to monitor learning, creation of e-libraries from local language material or leveraging the access to mobile phones that some children may have.
Integrated development of students	Innovations in this group show a wide variety – most of them would focus on developing certain non-cognitive outcomes (such as self-confidence, motivation to learn, self-regulated learning and so on) through a range of student-centred off-class activities and group projects.
Health and cleanliness	Many of the innovations focus on novel ways of supplementing the midday meal that the school provides – malnourishment is a problem for many children – through vegetable supplements managed by the students, and monitoring by the teacher, or on cleanliness and hygiene.
Testing and evaluation	These would include a number of tests designed by students on a variety of lessons, and would specify how these are to be administered, and how interpretation is to be done.

Category	Description
Value education	These would focus more on school discipline and ensuring that the school climate is improved through activities that would typically call for children to work together on some school-level issue.
Regularizing student attendance	Given the seriousness of this problem, many teachers have devised a variety of incentives for regular attendance, for example rewarding the student who shows the greatest improvement during a month and the student who has the highest attendance, or appointing volunteer monitors from among the students to mentor the irregular students.
Differently abled children	These would include actions designed to bring children with some form of disability to school and create conditions for 'inclusive education of the disabled' – for example, through creating darkened study spaces for children with specific visual impairment.
Special focus on girls	Innovations to address the problem of girls' attendance would be relevant in villages dominated by communities with a poor record in women's education.
Parental monitoring of student learning	This is a recent trend with teachers devising various mobile phone-based or other mechanisms to involve parents, most of whom would be engaged in agriculture or daily labour, in monitoring the progress of their children.
School–community relationships	Initiatives in this category would be within the framework of the policy-mandated school management committees, but designed to enlist the support of the community in monitoring learning, attendance and other school development activities.
School development	These would mostly deal with innovative ways of mobilizing resources for the school and educational activities, such as laboratories and student tours.

Source: Authors, 2020.

Table 3: What teachers did after educational innovation fairs, online survey of 5,472 teachers

Teachers who had attended	Number	Teachers who had not attended	Number
Of those who responded, number who had attended the fairs	1,684	Number of teachers who had not attended the fairs	3,788
Number of teachers who were able to identify ideas that could possibly be adapted to their schools	1,574	Of these, number of teachers whose colleagues had attended	1,045
Number of teachers who actually tried out some of the ideas (adopted or contextualized to their schools)	1,476	Of these, number of teachers reporting sharing of observations by the colleagues who had attended	731
<i>Of these, descriptions made available by the respondents (see Table 4)</i>	<i>1,131 (67% of those who attended)</i>	After the sharing by colleagues, number of teachers who adapted the ideas to their practice	606
		<i>Of these, descriptions made available by the respondents (see Table 5)</i>	<i>420 (11% of those who did not attend)</i>

Source: Authors, 2020.

Table 4: Activities of teachers after visiting educational innovation fairs, descriptions of 1,131 teachers

Description	Number	%
Language	366	32.36
Mathematics	132	11.67
Science	45	3.98
Social science	52	4.60
Social science and environment	5	0.44
Use of ICT	168	14.85
Integrated development of students	85	7.52
Health and cleanliness	34	3.01
Testing and evaluation	6	0.53
Value education	10	0.88
Regularizing attendance	99	8.75
Differently abled children	3	0.27
Parental monitoring of student learning	7	0.62
School–community relationships	6	0.53
School development	62	5.48
Others (Preparation of teaching-learning material suitable for many subjects)	51	4.51
Total	1,131	100.0

Notes: (1) Due to limitations of the online survey, the teachers described the most effective of the practices they had adopted. Hence, the number of innovations actually adopted may be slightly more than the number reported above, although in many cases, teachers had taken only one idea from the EIFs they attended.

(2) The books sent by the STTIs seem to have been used only as reference material; the triggers for adoption or adaptation were reported to be personal visits to the EI fairs.

Source: Authors, 2020.

Table 5: Activities borrowed from teachers who had visited educational innovation fairs, descriptions of 420 teachers

Description	Number	%
Language	81	19.29
Mathematics	68	16.19
Science	20	4.76
Social science	6	1.43
Social science and environment	11	2.62
Use of ICT	19	4.52
Integrated development of students	25	5.95
Health and cleanliness	12	2.86
Testing and evaluation	6	1.43
Value education	16	3.81
Regularizing attendance	29	6.90
School–community relationships	2	0.48
School development	26	6.19
Others (Various educational methods, projects applicable to many subjects)	99	23.57
Total	420	100.0

Notes: (1) Due to limitations of the online survey, the teachers described the most effective of the practices they had adopted. Hence, the number of innovations actually adopted may be slightly more than the number reported above.

(2) The books sent by the STTIs seem to have been used only as reference material; the triggers for adoption or adaptation are clearly descriptions given by colleagues who had attended the fairs.

Source: Authors, 2020.

Discussion

We reflect on the EIF experience reported above by drawing on two useful teacher–academic collaborative action research frameworks discussed by Lofthouse *et al.* (2016) and Bevins and Price (2014). Bevins and Price (2014: 270) note that the collaboration between teachers and academics can be of three types, ‘client-supplier, coercive relationship, or collaborative relationship’, with successful collaboration being contingent upon adequate time for engagement, appropriate distribution of workload, and effective management of group dynamics. The first two elements focus on the task element (‘task support’) and the third on ‘team support’. High levels of both task and team support lead to successful collaboration. The ‘group dynamics’ element has three parts – skill set (interpersonal communication for better understanding of mutual expectations), mutuality (control over the agenda – that is, neither group dictates the agenda but engages in knowledge sharing) and cohesion (valuing the group experience). High levels of all three are necessary.

Lofthouse *et al.* (2016), noting that Bevins and Price (2014) focus more on the static aspects of a collaborative enterprise, add an ‘activity zone’ to capture the process of interaction. This zone operates before, during, and after the collaboration. In the ‘before the collaboration’ stage, the partners work fairly independently on a common purpose (‘zone of proximal activity’) and set aside dedicated time slots for the collaboration. In the ‘during collaboration’ stage, the partners actively move towards collaborative work. The partners carry out tasks at an individual level (‘zone of contributory activity’), but create a ‘zone of collaborative activity’, which, if it builds on reciprocity (that is, the quality of the contributory activity adding to the quality of the collaborative activity, and vice versa) and reliability, flourishes and results in the achievement of the common goal. The ‘zone of proximal activity’ (independent work by the partners) that follows the end of the collaboration is contingent upon the outcomes achieved. Lofthouse *et al.* (2016: 531) note that although the ‘two zones of collaborative and contributory activity could be said to define the action research’, they are influenced by what is brought to the collaboration by the partners, and influence what follows in the ‘after collaboration’ stage. The latter point is important, for, as they note, it is this ‘expansion of activities’ that makes the collaboration educational research or educative (*ibid.*: 531). In the following discussion, we analyse the EIF experience using these frameworks (see Figure 1).

Setting the context for the zones of ‘proximal’ and ‘contributory’ activity

The EIF experience indicates that, at least for action research on a large scale in the public system of education, the influence of context in determining the directions that the before-collaboration stage takes is crucial. Setting up a favourable policy and academic context for the EIF was crucial for the smooth functioning of the partners in the before- and during-collaboration phases. The initial conference held in February 2014, by providing an idea of the potential of the work of outstanding teachers to serve as motivators for the rest, opened the ‘window of opportunity’ (Kingdon, 2003) necessary for educational change. The hosting of this conference by the CERT, itself a government agency, ensured better coupling of the political concern about poor quality, administrative awareness of the problem, and the policy solution suggested (teacher-generated innovations), thus ensuring political and administrative commitment to the action research. The second part of the context, the academic, was ensured by the

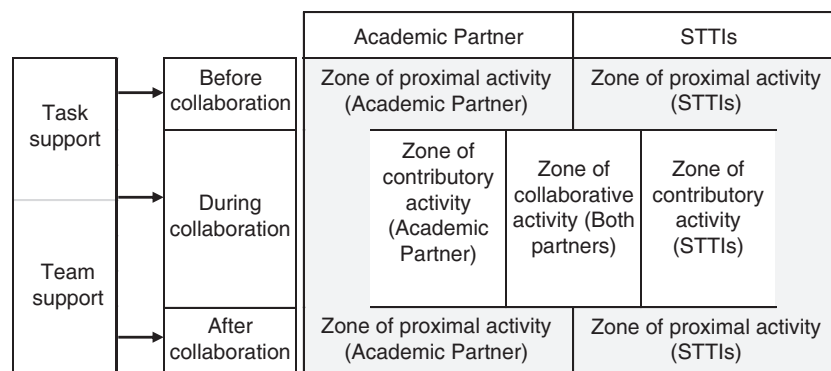


Figure 1: Framework for analysis

Source: Based on Bevins and Price (2014) and Lofthouse *et al.* (2016)

perspective on teacher education reform brought in by the academic partner. The EIF idea drew its theoretical inspiration from not just the national teacher education policy, which exhorted teacher-educators to draw on teachers' experiences, but from a broader attempt of the academic partner to develop a 'third space' curriculum for teacher development, built on effective problem-solving practices of teachers and theoretical content from teacher-educators (Kuril, 2019). The concept of third space or hybridity has been used by Bhabha (1990) in postcolonial contexts as a lens to understand the tensions in the identities arising because of the cultural differences that 'contingently and conflictually touch' (Bhabha, 1994: 296; see also Forgasz *et al.*, 2018). In contrast, Soja (1996) has used 'third space' to provide a third option as a response to binaries, as has Gutiérrez *et al.* (1999), who stress dialogue as a way to address power differentials. Forgasz *et al.* (2018) note that while using 'third space', popularized in the context of teacher education by Zeichner (2010), one needs to appreciate the differences among these three senses in which the concept is used. Our approach is closer to Soja (1996), in which 'thirding-as-Othering' is a response to the binaries of expert-practitioner, teacher-educator and teacher, expert-novice, and trainer-trainee.

This perspective might be expected to provoke opposite reactions from the political and the administrative systems, with the former favouring the grass roots, and the latter seeing 'third space' as a threat to the well-entrenched expert-driven training approach. To avoid these issues, the collaboration was framed by the state's declared aim of improving outcomes in the public system and by the focus of action research on creating a third space located in a social situation in which the quality of action has to be improved (Elliott, 1991; Cochran-Smith and Lytle, 1993). The latter was supplemented by discussions on the need to reduce the distance between theoretical knowledge and the practical knowledge developed and implemented by teachers (Gore and Gitlin, 2004; Feiman-Nemser, 2001; Willegems *et al.*, 2017). The implication is that 'schools of education need to embrace unapologetically the worlds of both practice and scholarship' (Ball and Forzani, 2007: 537). Messages along these lines during the initial stages led to dialogue with the CERT and STTI teacher-educators, similar to the process described by Maurer and Githens (2010), in which 'dialogic' action research allows examination of critical issues in subtle ways, in small spaces within traditional hierarchies, while targeting transformation. Regardless of the type of action research taken up, processes such as reflection and dialogue are common to all approaches that seek effective collaboration (Bevins and Price, 2014; Ponte, 2002). The first outcome of this reflection and dialogue was the consensus on two aspects needing change: the lack of exposure of the STTIs to good teacher-generated practices, and teacher-trainer

attitudes that ignored the good work of many teachers. In brief, in any large-scale action research of this kind, setting the political context and academic context is a strategic task for at least one of the partners with the necessary credibility and communication skills, if the partners are to develop a clear understanding of how they would like to shape their individual contributions in the zone of contributory activity in the during-collaboration stage.

Norms regarding tolerable deviations as important elements of 'team support'

The investment in setting the context for the action research was perhaps crucial in ensuring the necessary task support and team support during the piloting of the idea and the subsequent implementation of the EIFs. The 'task support' was facilitated by the fact that the action research had implicitly received political support through the funding it had attracted. Hence, the time engagement and workload aspects were not problematic. The clear distribution of roles – for example, the non-involvement of the academic partner in the pilot – conveyed the principles of mutuality, trust and cohesion, which helped in preparing for the first EIF. As mentioned earlier, each partner was engaged in its own zone of contributory activity; for example, the academic partner supplying the peer-evaluation formats or preparing formats for the screening of the identified innovations, and the STTIs dealing with the identification of the teachers and preparing for the displays. Cohesion was ensured through regular communication, with mobile phone discussions playing a key role in sharing knowledge about the developing activity. Thus, on the whole, both 'task support' and 'team support' were managed well, contributing to the smooth functioning of the collaborative activity. However, the need to monitor adherence to the norms developed by the partners was sharply felt on a few occasions; the 26 STTIs constituted a heterogeneous set of bodies, and some of them took decisions that were contrary to those prescribed for the entire group. For example, five of the STTIs made modifications to the scoring template because, given the number of people visiting their EIFs, they decided to ask the visitors to pick out only the best five and not to rate each display. This required the partners to engage in some reflection on the identification, and communication, of those elements of the collaboration that were non-negotiable, and those in which some deviation could be tolerated. For instance, the screening and validation processes were non-negotiable; this principle was intuitively understood by most STTIs. This is an important principle in implementing public policy that is often neglected; teachers or implementers are expected to ensure both fidelity and compliance while implementing innovations or policies, but recontextualization or mutual adaptation is usually a feature of successful implementation of policies (Anderson, 2010). Communicating to all the STTIs the norms regarding the non-negotiables and the tolerable deviations was a responsibility about which the main partners (CERT and the academic partner) had to be especially concerned. In other words, the group dynamics element of task support needs not only to establish working norms but also to develop a shared understanding of the deviations that are tolerable.

Democratic professionalism leading to more critical examination of teachers' work

The collaborative activity, more specifically the zone of collaborative activity in which joint action for the common purpose had to be undertaken, made explicit

the implicit status that had been accorded to someone who should have been the formal third partner, the innovative teacher. The action research had up to that time been presented (and funded) as an initiative between two partners, namely the academic institution and CERT. However, the philosophical underpinnings of the design rested on valorizing the problem-solving innovative work of teachers. This perspective echoed Lofthouse (2014: 17), who sees teachers as critical figures who can take 'informed intentional actions'. With teachers willing to participate in the EIFs, and STTIs facilitating the process, the EIFs provided teachers with a neutral space in which their own practices could be exposed, subject to peer assessment, and perhaps opened up to further co-construction. That is, when teacher practices are screened and displayed, and considered worthy of being used as case studies in training, a culture of democratic professionalism rather than managerial professionalism (Sachs, 2001) is encouraged. The longer-term impact that such an attempt to change a dominant culture in a bureaucratic system might have is yet to be assessed. However, two developments would be desirable. First, teacher-driven innovations getting opened up for more rigorous scrutiny for their impact on outcomes, and for their replicability. This would be a welcome development, since such work, no doubt problem-solving work in highly localized contexts, has remained invisible and thus not available for careful study and inspection – the collaboration between the teacher-educators and teachers has been limited to developing case studies, but the scope for a sharper research focus based on theories of individual innovation or organizational innovation exists. Second, specific research partnerships between the teacher-educators and the teachers, focused on issues of quality in the public schooling system, should emerge from the EIF experience. It must be acknowledged that these possible directions were not discussed in the during-collaboration stage.

Post-collaboration 'zone of proximal activity' to be planned in the during-collaboration stage

The EIF began with the idea of valorizing teacher-generated innovative problem-solving work, treating it as a complement to centrally driven educational reform. The initial objective was to convert such work into material that could be used in training or distributed to the schools. Very early on in the collaboration, two issues were identified: the exposure of STTIs to such work had to increase, and teacher-trainers' attitude to teacher-generated work had to change towards greater acceptance. The EIFs have been fairly successful on these counts. The books that resulted from the EIFs and their distribution to schools has made the work of many teachers visible. The analysis of the STTIs' books presented earlier identifies the school-level issues that have provoked the most interesting teacher responses. The changed attitude of the teacher-educators is evident in the enthusiasm with which the STTIs have continued with the EIFs after the exit of the academic partner. This perhaps indicates that the EIFs may have come to be seen as a professional-knowledge-creating process (Lofthouse *et al.*, 2010), benefiting both the teachers and the trainers.

However, the during-collaboration stage could have paid more attention to how the STTIs could independently develop their own 'zones of proximal activity' in the post-collaboration stage. First, no thought was given to how teachers would be tracked after their visits to the EIFs. The survey carried out in 2019, in spite of its limitations, indicated certain significant spillover effects of the EIFs. An opportunity to study diffusion of innovations was perhaps missed. Second, the opening up of teacher-driven innovations to more rigorous scrutiny should have helped in more research on

workplace innovations, including their impact on children's cognitive and non-cognitive outcomes. The academic partner has been able to benefit from the collaboration, since it has added its EIF experience to its other work to develop content for an ongoing online professional development programme for teachers. The STTIs, however, require more support in undertaking research. Third, specific research partnerships between the teacher-educators and the teachers are yet to be developed. In the context under discussion, teacher-educators do not play a supervisory role and limit themselves to institution-based in-service training. This might have limited the scope for developing research partnerships.

Conclusion

The EIF experience highlights certain lessons for any large-scale collaborative action research project in the public system of education, especially in developing countries: the importance of setting the context, the need for a shared understanding of both the norms related to the functioning of a partnership and the deviations that might be tolerated, and the usefulness of bringing teachers back into teacher education (Darling-Hammond, 2006; Zeichner *et al.*, 2015) – in this case, by valorizing teacher-driven innovations. However, the most important lesson for action research projects is the need to visualize the partners' 'zones of proximal activity' in the post-collaboration stage, while the during-collaboration stage is still on. This visualization should revolve around the future cycles of research that are likely to take shape. In the present case, the use of teachers' work as case studies in training, interacting with the good teachers in the system while organizing the exhibitions and inviting some of them as trainers are all good outcomes, but they carry the risk of becoming routine activities if they are not embedded in an evolving research agenda aimed at continuous improvement. Following up the outcomes of the action research – in this case, workplace innovations, diffusion of educational innovations and their impact on classroom practice, and the impact of the teachers' work on their students – calls for more sophisticated research skills and ideas that may not be easily available within teacher-education systems in most developing countries. Thus, establishing new formal research arrangements with competent academic institutions becomes an important follow-up task for the teacher-educator partner. This might lead to new partnerships and new kinds of research, the 'expansion of activities' that makes one particular action research project 'educative'.

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Notes on the contributors

Vijaya Sherry Chand is Professor at the Ravi J. Matthai Centre for Educational Innovation, Indian Institute of Management Ahmedabad, India. His research focuses on the innovative work performance of teachers, leveraging technology for large-scale teacher professional development and management of education systems.

Samvet Kuril is Assistant Professor, Management and Organization, Amrut Mody School of Management, Ahmedabad University. His research interests are teacher education, teacher innovation, student engagement and school principal leadership.

Anurag Shukla is a doctoral student (innovation and management in education), Indian Institute of Management Ahmedabad, India. His research interests include standardized assessments, inclusive curriculum and the application of technology in the classroom.

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