Bridge Maths and Science
Learner Support
Community for Effective Practice
Meeting Report

8 May 2013
Participation

The second Maths and Science Learner Support community meeting of 2013 was hosted by St Stithians Boys Preparatory School on 8 May 2013. Pat Sullivan facilitated this meeting with support from Barbara Dale-Jones, Carlene Gonzo, Kaley Le Mottee and Zanele Twala of Bridge. The meeting focused on practical aspects of teacher development funding and programme implementation. 43 education stakeholders attended meeting and their names are detailed in the contact list attached.

Community of practice activities

The community learnt about activities that had occurred since the last community meeting, which was held on 26 February 2013. Barbara explained that the focus of this community meeting is a follow up of discussions on the teacher development matrix created by the community and presentations made by the Matthew Goniwe School of Leadership and Governance and the ETDP SETA. She highlighted that the community had expressed interested in researching the funding of teacher development and describing the reach of teacher development initiatives.

In addition, Barbara gave the group a summary of discussions that had taken place in each of the focus groups:

- The tertiary access focus group had carried out a review of the tertiary access chain, planned for engagement with government, mapping, monitoring and evaluation – particularly in relation to reach, media, cross-cutting themes, etc.
- The monitoring and evaluation focus group had held a colloquium on the Learner Profiler, an assessment tool relevant for our South African context.
- A colloquium had been held in the Saturday schools focus group on the Nedbank primary Saturday School with learners from Zenzeleni Primary School in Alexandra.
- The learner selection focus group conducted a colloquium on the Student Equity and Talent Management Unit from Wit University.

In this community meeting, the aim was to deepen practice through reflection and to engage with resources. In addition, representatives of donor organisations were asked to describe the successes and challenges of their funding of maths and science learner support and teacher development interventions as well as the strategic priorities for the funding of these in the future; and Sci-Bono was asked to reflect on the practice of teacher development in Maths and Science in Gauteng Department of Education.

Bridge had sent a number of key articles to the community between the first and second quarter meetings of the community. In this meeting, Pat gave a brief review of the articles, which focused on language policy issues as well as contextually-relevant applications of communities of practice and professional learning communities. The articles were:
1. *Bridge’s communities of practice for school principals – A driver of innovation in South African education.* This article was written by Barbara Dale-Jones for the March 2013 edition of FOCUS, Journal of the Helen Suzman Foundation.

2. *Tongue tied on language policy.* This article was written by Barbara Dale-Jones, it appeared Mail & Guardian on 22nd March 2013.


**Teacher development – Donor Perspectives**

*Tshikululu Social Investments*

Tshikululu Social Investments manages grant-making funds and trusts for large and medium-sized businesses. Ms Tracey Henry, CEO of Tshikululu, joined the community to share her organisation’s view and learnings on funding teacher development. In her presentation, she reflected on this issue at three levels:

- Teacher training and induction (degree study and entry, support for new teachers within their new working environments in schools);
- Teacher development (individual development through various programmes); and
- Professional development of teachers (a holistic approach that looks at how the training work impacts on the learner and the system).

Tracey asked “What does business hope to achieve?” She made reference to the National Development Plan and Vision 2030 and the fact that the National Planning Commission recognises the fundamental role that education will play in South Africa’s development. Teacher development activities are a key part of the goals noted in this and other government documents. Ultimately, the major goal is to “Improve learner outcomes by improving the skills and knowledge of teachers.”

Business experiences a tension between supporting systemic vs. programmatic interventions. Systemic interventions are complex because they require complicated partnerships, take long periods to implement and require substantial financial investment. These reasons make such programmes challenging prospects for support. Programmatic interventions give donors the opportunity to work in small pockets that can show significant change in the short term. In both cases, it is important to align programmes to the work of the national departments.

Among key learnings that Tshikululu highlighted include the fact that comprehensive monitoring and evaluation is essential. So far it was noted that reporting is limited to attendance and experience of training data and not on training’s impact on learning. In addition, Tracey encouraged the use of various intervention models, including coaching and mentoring, communities of practice, district strengthening and supporting innovation against a background of constructive engagement with government.

*Sasol Inzalo Foundation*
The Sasol Inzalo Foundation (SaIF) describes itself as an operational foundation that runs rather than funds programmes; their programmes provide individual benefit, piloting projects for replication and systems impact.

Dr Marietjie Vosloo, Programme Director at this foundation, joined the community to share its approach to teacher development. Marietjie emphasised that the school-based programmes that SaIF runs require good teachers and she went on to highlight the gaps in the system using a diagram that shows vulnerabilities in the career paths of educators. The key challenges included:

- The absence of induction programmes for new educators;
- In-service development that has limited effectiveness; and
- A small proportion of educators graduate each year (14.5%) and high numbers leave the profession within the first five years (40%).

Sasol Inzalo Foundation tries to add more good teachers to the system, particularly in the STEM-related subjects, by building on programmes that address these vulnerabilities in the system. SaIF considers mentoring and coaching key to developing the type of teachers who can overcome real world challenges, develop others and act as change agents in their schools.

---

**Zenex Foundation**

The Zenex Foundation is a donor agency aimed at improving learner performance in mathematics, science and language through programme interventions, research and evaluation in school improvement, teacher development and learner support. Dr Fatima Adam, Communication and Research Manager at the foundation, weighed in on the teacher development aspect of their work.
Fatima explained that they work on the assumption that socio-economic factors account for 30 - 40% of learner performance. The other two factors that have significant impact on learner performance are school management and teachers. It is widely agreed that teachers are critical for educational transformation and so a great deal of CSI and donor funding is dedicated to teacher development work. Unfortunately, the current programmes are not translating into learner performance.

She then went on to share learnings from the Zenex Foundation programmes. These programmes use a dual approach with stand-alone programmes and interventions integrated with school development work, pre-service and in-service initiatives which are either accredited or non-accredited. Some of the lessons also came from research and innovation work the foundation is doing, and include:

- Transfer between teacher development and learner performance is complex – takes time, requires intensive and sustained support strategies
- A potential model has been developed which indicates that successful interventions work with a critical mass of teachers in a school, should include classroom support components and should be targeted for specific areas.
- There was no difference in learner impact noted when accredited and non-accredited programmes where compared.

The Zenex Foundation has some suggestions for content that should be included in teacher development programmes:

- Focus on subject knowledge /pedagogy, curriculum management and planning (routines);
- Focus on parts of the curriculum that present learners with the greatest difficulty;
- Develop teachers assessment practices: learners are not assessed at appropriate grade level and higher order skills are not sufficiently assessed;
- Take into account cumulative backlog of learners;
- Provide structured guidance on improving the frequency and quality of learner activities in class (learners must write three times a week); and
- Clearly demonstrate and support teachers' use of resources.

That said, the programmes should be designed with an explicit theory of change and logic model from the onset and there should also be a monitoring and evaluation framework from the outset of the programme.

**Teacher Development – A Practitioner Perspective**

David Kramer is CEO of the Sci-Bono Discovery Centre, which plays an active role in implementing teacher professional development programmes within Gauteng province. David shared lessons learnt in programmes Sci-Bono has run for teachers, most of which focused on STEM subjects.

Although the provincial policy on teacher development is sound, its implementation in practice is fraught with challenges. The policy rests on four key pillars:
1. Pre-service education and training
2. In-service education and training
3. Communities of practice
4. Teacher development through circuit teams and teacher development centres.

In theory, programme managers design a system whereby training is planned, executed, monitored and measured. In practice, it has been easier to plan programmes around educator or school needs than it has been to arrange programmes, communicate with potential participants, manage the logistical arrangements and run the development activities. In addition, although a debrief session is carried out after many sessions, monitoring and evaluation of these interventions is not taking place. There are no plans in place to follow up with schools. This is a weak point because such feedback should close the loop by informing the future development needs of educators. It is difficult to quantify the effect of these provincial interventions; using the Kirkpatrick levels as a base, educators are able to provide reactions to the training, i.e. did they like the training, and express whether they learned anything as a result. Beyond that it is complex to discern if there has been skill transfer that will carry to the classes or whether the training worked.

In the GDE MST Teacher Training programmes, the most impactful programmes included:

- Five-day holiday training for teachers in ICTs and their content areas. This was particularly successful with CAT and Life Science teachers.
- Relief teacher training has been very successful but quite expensive. In this intervention, Sci-Bono provides intensive training to 30 educators at a time over 15 days, relief teachers are deployed in the schools.
- Resource provision including lesson plans for MST at GET and FET phases for each day. Although there is evidence of positive results, the evidence is inconclusive.

There is little evidence of the impact of ACE training, afternoon and weekend training. The latter two programmes categories were plagued by erratic attendance.

The teacher training component of the Gauteng Primary Language and Maths Strategy (GPLMS) is a second key intervention taking place in the province. Training sessions for between three and five days noted good attendance numbers and focuses on lesson preparation and delivery. Communities of practices were noted as worth the effort but worked best with maths educators and less so with language teachers. School-based coaching has generally been considered useful but there are other factors that may influence its effectiveness. GPLMS is also considering the use of DVD training materials and satellite broadcasts as training methods.

The key lesson that David Kramer shared with the group is the fact that success in teacher development is not a simple linear process but rather a complex convoluted process. He urged the community to consider a number of factors including when and where it is best to train educators, to strike a delicate balance between the actual demand for training and supply of the same and whether training should be mandatory or voluntary. A lot of attention needs to be paid to training and trainer quality, which should aid quality assurance and impact measurement of initiatives. Once the training is concluded, it is crucial to provide post training support to educators and monitor impact of the interventions.
Pat Sullivan then led the group through a facilitated discussion which compelled the community to reflect on the presentations that were shared in this meeting. In groups of eight to ten individuals the community reflected on two key questions:

i. What have we learnt?
ii. Where do we go from here?

Although there was no opportunity for plenary feedback on the day, all the group discussions were captured in the on flip charts that were transcribed by the Bridge team. This feedback will be used to inform future conversations in the community, and key questions to reflect on are:

- How do we keep our good teachers in the system?
- How do we make teaching a sustainable profession?
- How do we equip teachers with the skills to deal with psychosocial problems?
- What should dosage be – when, how, what, how long?
- What should the community of practice focus on: mapping, models, competencies?

**Community outcomes**

The maths and science learner support community aims to contribute to a greater number of Maths and Science graduates for critical skills areas of the economy. Working with communities for effective practice, Bridge has the following objectives:

- The contribution of the community to the whole system;
- Creating common purpose, peer support and trust among stakeholders;
- The maximising of resources by the community;
- The spread of effective practice within the community and its associated stakeholders (horizontal integration); and
- The vertical integration of policy and practice.

In this community meeting, the community dealt with a the funder and implementer perspectives of teacher professional development work in South Africa in a manner that links with Bridge’s community objectives.

This meeting included stakeholders representing important groups within the education sector. Four key organisations shared their work and thinking around teacher professional development. This input from Tshikululu Social Investments, Sasol Inzalo Foundation, the Zenex Foundation and Sci-Bono was thought-provoking and dealt with the practical aspects of development work. Open sharing and multistakeholder participation is indicative of common purpose, peer support and trust.

The spread of effective practice is often noted when important learnings are shared within a community. In this meeting the group took particular note of the assertion that there is no direct correlation between teacher training and learner performance, once-off teacher professional
development initiatives have a limited impact on educators and communities of practice, mentorship and coaching are promising avenues for teacher development work.

The community urged Bridge to continue pursuing the mapping of teacher development initiatives in South Africa because this could represent a real contribution to the system that will enable the maximising of resources by all stakeholders with an interest in Teacher Development.

Best wishes

The Bridge Team

July 2013