

QUALITY IN EDUCATION

TEACHER EDUCATION AND PROFESSIONAL DEVELOPMENT



Four case studies

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UDDANNELSES

N E T V Æ R K E T



Introduction

This short paper is intended as a supplement to the Danish Education Network's report *Teacher education and professional development: a literature review*. Its aim is to present practical experience, good ideas and examples of best practice as to how NGOs tackle the challenges faced in the process of supporting the development of high quality teacher education and constructive school/local community relationships.

The selected cases all illustrate the need, as described in *Teacher education and professional development: a literature review*, for teacher professional development that is based firmly within the context in which teachers work and two of them also focus on the important role played by the local community in ensuring the quality of the education that their children receive.

Four project examples from four different organisations have been chosen:

1. **AXIS**: a project on bilingual, intercultural education in rural schools in the Andes mountains in Peru, with a focus on school-based professional development of teachers and the use of mentors and support groups in teacher development processes.
2. **CICED**: a rural school development project in Mongolia, with a focus on in-school professional teacher development and the involvement of the local community in school development.
3. **The Ghana Friendship Groups (GV)**: a project for the complementary education of out-of-school children, with a focus on the pre- and in-service training of voluntary, untrained teachers and on community involvement in the management of the education programme.
4. **IBIS**: an environmental education support pilot project in two regions of South Africa, supporting curriculum development and piloting models for in-service teacher capacity building within the field of environmental learning.

All four project descriptions are organised according to the same structure. There is a short general introduction to the organisation, an explanation of the background context in which the project concerned works, a presentation of the aspects of each project described above, and a brief summary of important results of the projects.

AXIS – Bilingual, intercultural teacher education in Peru

Introduction to AXIS

Founded in 1995, AXIS works in both the formal and non-formal education sectors in Latin America and West Africa. Current projects focus mainly on the areas of bilingual intercultural education for rural indigenous population groups, sex education and sexual and reproductive rights, citizenship and democracy in schools, and organic agriculture and human rights for indigenous women farmers. Most of AXIS' work is based on voluntary participation and all projects are carried out in collaboration with local civil society organisations.

Background

Peru ratified the ILO's Convention No. 169 concerning the rights of indigenous and tribal peoples in 1989 and it was written into the Peruvian constitution in 1993, guaranteeing among other things the right to bilingual, intercultural education. However, despite this constitutional change, bilingual,

intercultural education has yet to be fully implemented, both because of a lack of political will on the part of national and regional education authorities and because of insufficient knowledge as to how this type of education should be developed and carried out.

Since 2002, laws on decentralisation have delegated some powers previously reserved for the state to regional and provincial level, democratising governmental bodies and thereby giving civil society more influence on policies and development plans, including in the field of education. This process of democratisation and decentralisation of the education system has led to a greater awareness of indigenous people's educational needs and means that, in many regions of the country, indigenous organisations and parents have an active influence on regional and local education policies through institutionalised, participatory fora.

In this political and educational environment, AXIS has two projects in Peru that work directly with the development of relevant bilingual, intercultural education at primary school level. The project described here is located in the southern Andes region of Cusco and aims to improve the quality of learning in rural, marginalised schools through participatory teaching that takes as its starting point the daily lives, culture and language of the children. AXIS' partner organisation Pachatusan has developed an approach called the 'Moray Model', which is built on the concept of school allotments that are maintained according to local, sustainable cultivation methods. These allotments, in which teachers and pupils grow vegetables and raise small animals such as guinea pigs, hens and in some cases fish, provide content and material for the teaching of conventional school subjects. This brings school learning closer to students' everyday life, culture and language, gives knowledge of sustainable small farming and, in addition, helps improve pupils' nutritional standards.

Moray Model

Two key aspects of teacher professional development in this project are:

1. Collegial supervision
2. Teacher/school 'cluster' groups (GIAs = Grupos de Interaprendizaje)

As the number of schools joining the project increased, it became logistically impossible for Pachatusan's project staff to supervise all teachers themselves. Therefore, and in order to improve potential sustainability, one person at each school was appointed as a 'core teacher' (often the head teacher as he/she was more likely to remain at the school). A volunteer from AXIS trained these core teachers and the Pachatusan project team in collegial supervision through workshops over a period of about two years. These workshops involved both input and intensive practice in carrying out collegial supervision. The job of the core teachers is to support colleagues at their own schools in the implementation of the Moray Model's methodology, concerning both the inclusion of the school allotments in teaching and the application of participatory teaching strategies. Through the respectful questioning techniques and self-reflection involved in collegial supervision, the objective has been to empower teachers to think about their own work in the context in which they do it and, with the help of colleagues, to develop their teaching in directions that they themselves find appropriate. The concept of collegial supervision among equal partners as a means to do this was new for all project teachers, who are otherwise accustomed to the 'vertical' supervision applied by education authorities, which involves external assessment, often direct criticism and little opportunity for dialogue or reflection.

The school/teacher 'cluster' groups also developed out of the need to find a constructive way for the teachers to support each other without making unrealistic demands on their time and effort. Pachatusan had had the experience that the central meetings to which they called all 'core' teachers in the city of Cusco were not always very well attended, and the teachers seemed passive without much initiative as to dialogue and reflection. As a response to this situation, the core teachers were divided into groups or clusters according to the areas where they work. Within these groups, the teachers take turns to be 'host' at their school for a meeting with the rest of the group. At these meetings, the host presents the school allotment, including recent work, challenges and solutions, and then gives a demonstration lesson in which it is a requirement that he/she both involves the allotment in some way and makes use of at least one of the participatory teaching activities that they have learned through the project. The other teachers observe the lesson. This is followed by a session of collegial supervision in which one of the visiting teachers takes on the role of supervisor. Finally, there is a more open, informal exchange and discussion of the recent teaching experiences of the members of the group as a whole.

The development of cluster groups has had several benefits, the most obvious of which are that attendance at meetings has improved and that the teacher activity level is much higher at the cluster group meetings than it was at the central meetings that were held previously. While one of the reasons for better attendance is no doubt shorter transport time to a local school rather than to Cusco, Pachatusan's own explanation is that the cluster group meetings are more motivating. They take their starting point in the context in which the teachers work, and therefore in successes and challenges that they can all identify with, and offer the teachers the opportunity to go home from meetings with ideas that are immediately applicable to their own teaching in their own schools. The fact that the meetings are held at different schools means that each core teacher both has opportunities to observe colleagues' teaching and learn from their example and reflection processes, and to present their own teaching and ideas to others and develop their classroom practice with the support of these colleagues. Their knowledge of the techniques of collegial supervision ensures a respectful climate for these sessions of reflection and exchange. The regularity of the meetings (approximately every second month) means that this is not one-off input but a recurring stimulus to reflection and change that encourages increasing involvement not only in each teacher's own development processes but also in those of their colleagues. In this sense, this approach to teacher development resembles the 'Spiral Model' described below in connection with IBIS' 'Education for Sustainability project.

Challenges

Core teachers have had success in supporting each other in cluster groups but collegial supervision has proved to be both a difficult concept to communicate and a difficult method to put into practice in the Peruvian context. As mentioned above, teachers are accustomed to a much more hierarchical approach to supervision, which in the specific context takes the form of a kind of external assessment. In principle, they accept the need for a more horizontal approach in order to achieve the respectful, equal dialogue that can support the reflection and changes that are necessary to develop their teaching in the direction of a participatory and culturally appropriate methodology. This acceptance supports the group processes of the cluster approach. In practice, however, it is extremely difficult for them to break with the traditional supervision that they are used to. For example, in the supervisory role, they find it a challenge to ask questions in a neutral manner that will draw the observed teacher's

own thoughts out; they have a tendency instead to pass judgement (positive or negative) in a monologue on the teaching they have observed, thereby closing the conversation almost before it has started. The observed teachers in the role of 'supervisee' have difficulty describing and explaining their own teaching, almost preferring to have someone criticise them and tell them how to do things differently. This has proved to be a very challenging nut to crack over the last few years of the project's activity.

Results

The participatory approach of the Moray Model, with its starting point in school allotments, has improved the academic performance of children in the project schools as compared to other schools. It has also changed student and community attitudes to their own local language and culture, helping create a greater acceptance of their own identity and convincing them that an intercultural bilingual education is a better preparation for the future than traditional schooling. Furthermore, the project has ensured better nutrition for students.

Interaction between the school and community has meant that some parents have learned more sustainable methods of cultivation and thereby improved both the nutrition and financial situation of their families.

The demonstrable success of the Moray Model, supplemented by advocacy organised by AXIS' partner Pachatusan, has meant that the method has been accepted and adopted by other schools and is in the process of being officially integrated into regional education policies.

CICED – Rural School Development Project, 2000-2010, Mongolia

Introduction to CICED

Since the early 1990s, CICED has worked in education sector reform in Mongolia and a range of other countries, including Afghanistan, China/Tibet Autonomous Region, Eritrea, India/Tibetans-in-Exile and Nepal, becoming an independent civil society organisation in 2010. The Rural School Development Project focused on the professional development of Mongolian teachers in rural schools in remote communities with very little access to state or regional support in terms of resources, materials and in-service training.

Background

Until 1990, the Mongolian education system was under strong Soviet influence. This influence, which resulted in a 95% literacy rate in the population, included extensive economic support, five-year education plans for teacher professional development and a detailed curriculum with accompanying textbooks and methodology. In contrast to other Asian countries, there was a well-established national teacher training system: a three-year pre-service education for primary school teachers and four years for teachers of 6th grade and above. There were trained teachers in almost all schools in the entire country, despite its enormous size, extreme climate and dispersed population in remote areas, where schools are often 100-250km from provincial centres. There were well-resourced regional pedagogical support centres and trained specialists in all school subjects. All teachers received a week's in-service training every summer, followed by in-school supervision, and a month's university-based professional

development in Ulan Bator according to a rotation system within the five-year plan. Teachers were highly respected as representatives of knowledge and culture and were relatively well paid.

With the collapse of the Soviet Union and thereby also of its subsidy of the Mongolian state in 1990, this system disappeared virtually overnight. In the public sector, a neo-liberal political agenda in which freedom and effectivity were emphasised took over, leading to cut-backs and the end of the collective system as it had been known. There was increasing unemployment, inflation rates rose, wages fell and 23% of children dropped out of school as their labour was required in the now privatised herding system.

In the new paradigm, where business was the buzzword and education was no longer respected in the same way, teachers were now among the poor and many of them, especially the good ones, left the profession in order to take advantage of new earning opportunities. Local communities fell apart, schools – especially rural schools – got a bad reputation, books were not printed and those that were, were not transported to the places where they were needed. “Western” teaching methods were seen as desirable but there were no resources or support to implement them. Very unusually, grandparents were better educated than their grandchildren.

In the 1990s, Danish support to the Mongolian education system consisted of a partnership between the Danish University of Education (at that time Lærerhøjskolen) and the Mongolian State Pedagogical University. This partnership included curriculum and textbook development and the professional development of teachers, school management and pedagogical consultants, with a focus on building bridges between theory and practice, and between national curriculum and local context. One inspiration for the emphasis on local context was the pedagogical development projects that had taken place in hundreds of Danish schools in the 1980s, where none of the projects fulfilled their expected goals. The lesson learned was that respect for the local context in which change or development is taking place is absolutely essential for project success. In Mongolia, this meant humility on the part of the Danish partner regarding the possibly limited relevance of Danish knowledge and experience, and an awareness of the importance of involving local communities in the development of their schools.

Rural School Development Project

The Rural School Development Project that started in 2000 had the following main points of departure:

1. Learning is a social activity;
2. Teachers matter more to student achievement than any other aspect of schooling;
3. Constructive relationships are essential in school development.

The project built on (among others) Vygotsky’s theory of learning as a social activity. While knowledge is usually shared in social and professional networks, in practice teachers often work in solitary, sometimes isolated, environments. CISED’s collaboration with key Mongolian educational actors sought to establish support structures in which teachers could learn in interaction between theory and practice by reflecting on their own teaching experience in collaboration with colleagues.

The project identified action research (re-named ‘learning through action’ in order to be meaningful in the Mongolian context) as the central focus of teacher development. Learning through action, by its

very nature, respects local context in the sense that it takes its starting point in the identification of a problem/challenge in classroom practice, leading to the formulation of a possible solution, which is then tested in practice. Observation (either self-observation or by a third party) of this action-in-practice results in individual or collective reflection on the experience and a phase of learning-in-practice that then feeds back into a new cycle of learning through action.

The choice of learning through action as the primary method for teacher professional development was also based on the above-mentioned experience from the Danish projects of the 1980s, which resulted in the acknowledgement of the fact that learning outcomes are not always those expected from the start. Furthermore, in the Mongolian context of huge distances, with remote communities and schools where asking an external expert for advice or information is simply not an option, teacher professional development has to be based in local teaching practice and in opportunities for reflection alone or with immediate colleagues.

In order to ensure the knowledge and skills necessary to achieve this, intensive workshops and courses in social learning, learning through action and collegial supervision were held, collaborative fora were established at schools for the exchange of ideas, and methods for documenting the children's progress were put in place.

An important element of the Rural School Development Project was the assumption that the development of high-quality schooling not only involves schools, teachers and education authorities, but also very much concerns other local community actors such as parents. The project focussed on opening schools towards local communities instead of isolating them, a central principle being that everyone in the community should benefit from school development, over and above the students themselves. An example of this is the establishment of a cultural centre in a room at the school, with a television and a satellite dish to see the news, and library services for both children and adults.

The potential of the local community was also used to fight poverty. To begin with, for example, the poorest children did not come to school. However, local communities were able to mobilise collective resources to combat this challenge. In some cases, the community established a school bakery from which bread was sold to villagers, and profits were used to provide children with necessary winter clothes.

Challenges

The project experienced a challenge in terms of the terminology used in its approach. As explained above, action research was a central element and functioned very well. However, in Mongolia, the term 'research' has specific connotations linked to a strictly quantitative approach, which does not match the spirit of the method, and the word 'action' as a practical and goal-oriented pedagogical activity does not easily translate to Mongolian. The solution was not to find a new method but to re-name the method 'Learning through action'. This illustrates once again (see the description of AXIS' project above) how important the communication of ideas and the common understanding of central concepts are to the success of a project.

Results

When the project began, all 80 involved schools lay at the bottom of the league tables that were determined by exam results in their respective districts. By the end of the project, all of them were in the top ten and many in the top five in their districts. Many of the schools became model schools for their provinces, thus puncturing the myth that rural schools and teachers were always of bad quality.

There was an improved relationship between teachers and the district school inspector. The inspector's role ceased to be as authoritarian as was previously the case and developed into one of supportive supervision instead.

Action research or learning through action has now become one of the major strategies for teacher professional development in Mongolia.

Ghana Venskabsgrupperne/The Ghana Friendship Groups – School for Life

Introduction to GV

The Ghana Friendship Groups (GV) were founded in 1979 to develop friendship and cooperation between the peoples of Denmark and northern Ghana. Their Empowerment for Life programme, based on 25 years of project experience, aims to improve the life circumstances of impoverished and marginalised population groups in northern Ghana through participatory development and mobilisation. The programme has three main components: quality basic education, youth empowerment and food security. The focus in this paper will be on the quality basic education component: GV's and partner Ghana Developing Communities Association's (GDCA) successful School for Life project. This project has since 1995 promoted the right to education of children aged 8-14 who have missed out on the chance to go to school, by offering an alternative framework and methodology to the official school system.

Background

Almost half of Ghana's most deprived districts are to be found in the northern region of the country and the Ghana Living Standards Survey of 2000 revealed that rates of poverty were actually increasing. One aspect of this deprivation is the fact that educational levels in this part of Ghana fell well below those of the rest of the country. According to the survey, almost two million children in the 6 to 12-year-old age group were out of school in Ghana as a whole and 20% of these lived in northern Ghana. Furthermore, the educational attainment of the children who do attend school is lower in northern Ghana than in the south and much lower among poor than wealthy children within northern Ghana itself, and children in northern Ghana are much more likely to drop out of school than their counterparts in the southern regions of the country.

It was against this educational background that the Ghana Friendship Groups and the GDCA started the School for Life (SfL) programme, developing a successful model to provide functional literacy to out-of-school children in the 8-14 age group in rural areas. The programme does not offer a complete alternative to primary school education. Its aim is that, through a nine-month literacy cycle in the mother tongue, children will achieve sufficiently functional basic literacy skills to enable them to be (re-)integrated into the formal school system and complete their education there.

School for Life

School for Life uses voluntary, untrained teachers, who are known as facilitators. They are recruited directly from the communities in which they will work, as this makes it more likely that they will feel committed to the project, especially in rural areas where it can be difficult to attract formally trained teachers. As facilitators are nominated by the communities themselves rather than by outsiders, they are people in whom local communities have confidence. The recruitment of local facilitators makes it more likely that the learning environment will be safe, that absenteeism will be low and that teaching can be offered in a local language that children can understand and speak.

The volunteer facilitators go through an intensive initial programme of training. This takes the form of three weeks of in-house pre-service teacher training, followed by refresher courses at district centres every three months. The teacher trainers are educated in the School for Life approach and teach in the language of the volunteers. The School for Life methodology in which the facilitators are trained comprises the following key components: (1) teaching in the mother tongue; (2) a functional curriculum adapted to the needs of the community; (3) a child-centred and non-authoritarian pedagogy; and (4) interactive supervision and monitoring of classroom practice.

The volunteer facilitators in School for Life receive frequent supervision at classroom level in order to ensure the quality of their teaching. At least once a month, District Supervisors visit the facilitators, observe their classroom practice and give them supervision and on-the-spot training to reinforce new skills. This regular in-service training renews the commitment not only of the facilitators themselves but also of the students and the local community because it communicates the message that education is important and that standards should be maintained. Furthermore, facilitators and classes feel less isolated, even in areas that are remote both geographically speaking and in terms of attention and resources. As a result, absenteeism among both facilitators and students is reduced. Additionally, problems, frustrations and conflicts between school and community are not permitted to build up over long periods of time, which increases the likelihood of supportive, constructive relationships between facilitators, parents and students. As District Supervisors have responsibility for about 25 classes each and receive regular coaching from a District Coordinator, there are extensive opportunities for the exchange of best-practice experiences over entire school districts.

Facilitators receive no salary for their work, only a small amount every month as 'soap money' and a symbolic annual incentive but, after some years of service, they may be offered support to continue their training as teachers, e.g. by taking formal teaching qualifications at a recognised teacher training institution.

School for Life has in recent years expanded its field of influence by offering primary school teachers from grades 1-3 in the official education system training in the SfL methodology. This training was provided in particular to strengthen teaching in local languages and to introduce SfL's approach to teaching literacy. Evaluations indicate that this initiative has improved levels of attainment in students at the receiving schools.

When a community applies to have a School for Life class, certain criteria are used to ensure commitment to the programme. The population is informed of the importance of education for

individual and community development and of the SfL approach. The community is then required to appoint their own volunteer facilitator and to form a SfL committee consisting of three women and two men. The local committee makes the formal application for a School for Life class and assumes responsibility for the day-to-day supervision of teaching activities and decisions about the class, the attendance of the students, organisation of community support of the facilitator etc.

The enforcement of these criteria has several advantages for the School for Life project and for the local community itself. Firstly, the self-governing nature of class organisation ensures a sense of ownership in the community and thereby increases the potential sustainability of the process. Secondly, communities are more likely to make and sustain any necessary changes of attitude towards education when the motivation to do so comes from within the community itself rather than being imposed from outside. Thirdly, self-governance at local level means that there is close supervision of school activities and of teacher and student attendance. Fourthly, the overrepresentation of women in the SfL committees makes it more likely that girls' education will be prioritised. Finally, the establishment of local committees with responsibility and decision-making powers increases the leadership and mobilisation skills of community members and their confidence in their own ability to make a difference, also in other aspects of the life of the community.

Challenges

There is a tendency for some parents to assume that their children's education problems will be solved if they just attend the SfL programme. However, SfL is not a complete education programme and there are challenges in the connection between SfL and the mainstream school system into which it aims to (re)integrate the students. For example, there are often so few teachers in the regular schools that the admission of graduates of the SfL programme can actually compromise the quality of the schooling students receive there because the system is overstretched.

Results

The School for Life programme has given out-of-school children an alternative to completely dropping out of (or possibly never entering in the first place) the education system. The most significant achievement of SfL is the rate at which large numbers of out-of-school children have become and remained literate and entered higher levels of formal education. Levels of retention are also higher. About 80% of School for Life graduates enter the formal education system. This in turn has changed the attitude of entire communities to school attendance, making it more likely that future generations of children will be sent to school and supported in their education by their families and communities.

The School for Life Impact Assessment from 2007 demonstrates that the programme has had significant effects on the lives of the students, families and facilitators who have been involved. Students have not only improved their academic achievements (including relevant skills such as knowledge of environmental management, prevention of malaria and the dangers of drug abuse); they also feel that they are more empowered and self-confident, with a more respected position in their families and communities. At the family and community level, reported results include more awareness of the importance of education, including girls' education, better care of children, more awareness of family planning, higher general levels of literacy, and improved management of the environment, water and sanitation. The impact of the programme on facilitators has mainly been an

encouragement to continue into formal higher education, often teacher education, and to take on leadership responsibilities in their communities.

The School for Life programme is described in UNESCO's GMR 2013/14 (p.283).

IBIS – Learning for Sustainability

Introduction to IBIS

IBIS, one of Denmark's largest development organisations, works in nine countries in Africa and Latin America. For example, it has played a role in the transformation of the education systems of Namibia and South Africa after the fall of Apartheid. In Latin America, IBIS works with bilingual, intercultural education for indigenous peoples. The emphasis in all IBIS' work is on education for change, helping the poorest and most marginalised people to educate themselves to a level where they can exert an influence on the political decisions that affect their lives. To this end, IBIS also works directly with civil society partners and government at different levels to ensure good governance.

Background

The *Learning for Sustainability* project, developed in 1996 by the Danish Ministry of the Environment in collaboration with the South African Ministry of Education, ran from 1997-2000 and aimed to promote environmental learning in South African schools. At this time, as a natural consequence of the enormous changes taking place in South African society after the ending of the Apartheid regime and the resulting demands on the education system, a new education framework known as Curriculum 2005 was in the process of being introduced in South Africa. This was an outcomes-based, learner-centred and constructivist framework where, for the first time ever, teachers had an active role in developing the curriculum. Their responsibility was to ensure that the curriculum was based on learners' individual needs, abilities and contexts and that learning outcomes were relevant both to learners' own lives and to the economic and social development of the country. This implied a decentralization of curriculum content and learning materials, including the development of materials that took their starting point in the local environment.

Traditional models for teacher development proved to be inadequate to meet the demands that these changes brought about. Teachers needed new kinds of support to help them develop, for example, skills of critical reflection on the learning environments in which their teaching took place and the ability to take responsibility for decisions and actions resulting from their reflection. The *Learning for Sustainability* project provided one possible alternative model for teacher development: the Spiral Model.

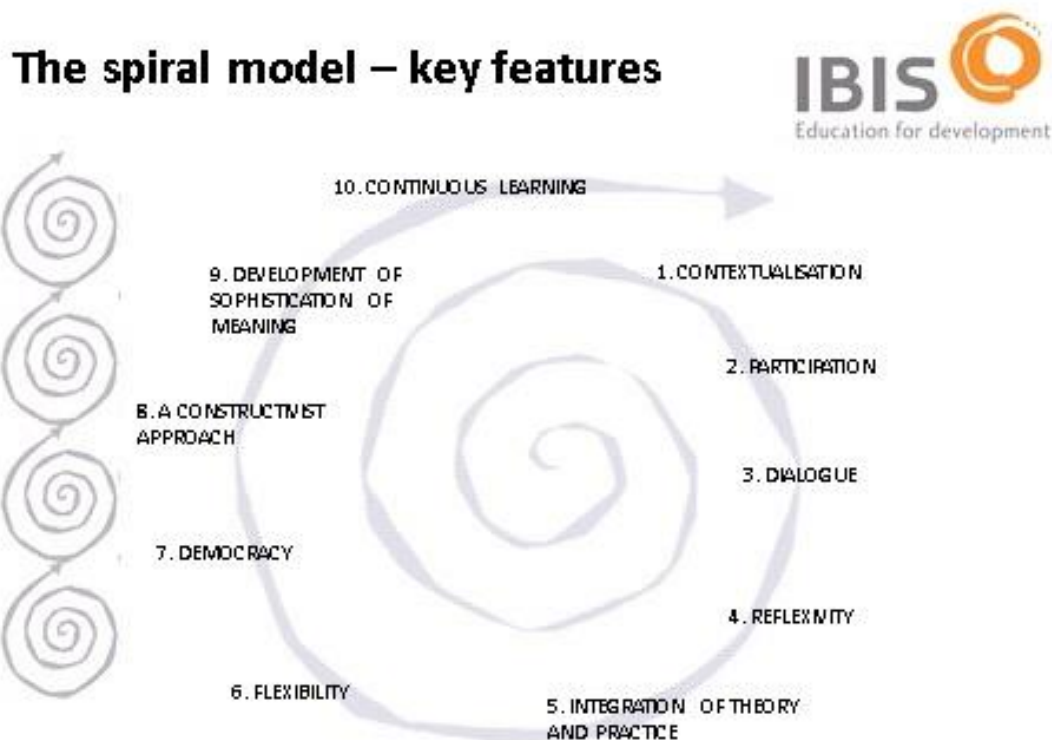
Learning for Sustainability

The *Learning for Sustainability* project sought to introduce the concept of sustainability into the South African school curriculum through a three-pronged approach, consisting of teacher professional development, curriculum development and resource materials development. As the project advanced, it became apparent that curriculum development and, in particular, resource materials development would play a lesser role, and that the main focus would be on teacher professional development.

From a social constructivist point of view, learning is not about simply absorbing knowledge that other people provide; it is about understanding complex sets of meanings, and negotiating and constructing new knowledge in interaction with others in the particular context in which learning is taking place. For this reason, the teacher professional development model that the project adopted had the following guiding principles:

- An enquiry-based approach that meant teachers regarded their own classroom practice from a critical, reflexive perspective;
- It was participatory and practice-based in order to ground teacher development in the context of the work that teachers actually do;
- A critical perspective to ensure teachers' conscious awareness of the values and assumptions underlying both education policies and their own classroom practice, and to allow them to develop their own teaching/learning principles;
- The context-specific nature of both environmental and educational issues meant that the model was community-based;
- A collaborative focus that offered support to teaching colleagues both in the development of their own classroom practice and in addressing political forces within and outside the school.

The main elements in the teacher professional development model promoted by *Learning for Sustainability* were the 'Spiral Model' and the 'Cluster Approach', which offered teachers the prospect of continual professional development over long periods of time instead of more traditional isolated courses or workshops.



The Spiral Model emphasises the process of learning over time through cycles of action and reflection and, in principle, it does not have a pre-defined end point or conclusion. It has 10 key features:

1. Contextualisation
2. Participation
3. Dialogue

4. Reflexivity
5. Integration of theory and practice
6. Flexibility
7. Democracy
8. A constructivist approach
9. Development of sophistication of meaning
10. Continuous learning

Learning for Sustainability put these features of the Spiral Model into practice through the Cluster Approach. A cluster was a group of between eight and 20 teachers who met on a regular basis, with the support of a facilitator, to share experiences from their classrooms and other aspects of their work, and collaborate on the advancement of their own professional development. The rhythm of a cluster was determined by its two modes of work: 'work together' and 'work away'. While cluster meetings ('work together') were essential for the mediation of professional development, most of the work done by cluster teachers actually took place during 'work away' between cluster meetings. This was when teachers might, during the course of their daily activities, for example put suggestions from cluster meetings into practice, experiment with new methodologies in their teaching, read relevant texts, engage in reflective activities etc. The experiences thus gained would be shared at the next cluster meeting, where collaborative reflection among teachers would analyse the experiences, possibly relate them to principles and theories of learning and teaching, and help plan for improvements in future practice.

This combination of classroom practice and reflection in the teacher's own work context, supplemented by constructive collaborative analysis and planning in the company of work colleagues and peers, thus fulfilled the above-listed 10 requirements of the Spiral Model, and enabled teachers to develop their classroom practice in ways that were relevant for the students they were teaching.

Challenges

One of the challenges encountered by the *Learning for Sustainability* project was to find the right balance within various practical aspects of the Spiral Model. For example, it was important to find a cluster size where there were sufficient teachers for interaction to be dynamic but not so many that participation was not possible for all.

Another challenge was the intensive nature of the Spiral Model which, especially at the start, was demanding on the resources of the professional facilitators, making it difficult to include all teachers from all the schools in a cluster – it was a question of finding the optimal balance between quantity and quality. In connection with this, it could be mentioned that it was also a challenge to find suitable facilitators and train them for the job.

A major challenge proved to be the development of teachers' reflective skills and their ability to construct new knowledge for application in their classrooms instead of simply reusing what they already knew or being told exactly what they needed to know. Previous ways of thinking were firmly ingrained, underlining both the long-term nature of the professional development process and the necessity for long-term commitment on the part of teachers, facilitators and education authorities.

Results

While it was certainly a challenge for participating teachers to build up the skills necessary for collaborative, constructive reflection and analysis in a cluster group, results showed that teachers reacted positively to the opportunities the clusters provided for expressing their views and opinions. They felt more empowered than before to deal with issues that they would not previously have considered tackling.

As a result of the Learning for Sustainability project, the South African and Danish governments agreed on a massive national project, the National Environmental Education Project (NEEP), where the Spiral Model and Cluster Model continued as important elements in the project. This project lasted from 2001 to 2007. 'Professional development processes have been set up and these processes have been adopted by the national department and at least one provincial department in the training of officials and teachers in preparation for the implementation of the Revised National Curriculum Statement (RNCS).'¹ Unfortunately, the project was stopped by the then Danish government before time, but it has nevertheless impacted on the ways professional development of teachers can be carried out.

Conclusion

The four cases described here involve organisations who work in different parts of the world with projects that have varying points of focus. Nevertheless, they all have in common elements of teacher education and professional development and, in some cases, the involvement of local communities. As is perhaps typical for the majority of NGOs working in these fields, there is more involvement in teacher professional development than in official pre-service training, although more than one of the projects described offer some degree of pre-service training to unqualified teachers.

Within the field of teacher professional development, all four projects have adopted approaches that are school-based and participatory. Whether we focus on the Spiral Model, action research or the supervision of inexperienced volunteer teachers, the development activities described all involve collaboration and sharing of experiences and ideas in the work context and a cyclical, experiential concept of progress towards improved classroom practice.

Other organisations who wish to take advantage of the experiences of the four projects will need to consider the following general points:

- The main emphasis in these projects is on teachers and facilitators as an essential element in quality education;
- However, the main long-term objective is to improve the quality of the education offered to children and young people;
- The starting point is the specific teaching context in which teachers work – this is what teachers can relate to and what motivates them, and it is the knowledge base into which they can integrate new ideas;
- The use of mentors as a support and motivation system for teachers in the process of professional development ensures that the momentum of change continues even as teachers might feel tempted to stick to what they know or simply get 'bogged down' in their everyday

¹ Building sustainability into the system: mainstreaming and deepening learnings from the NEEP-GET project' May 2004

school tasks – mentors provide new knowledge, support reflection processes and give encouragement in situations where teachers working in isolation might choose to give up;

- Collaboration with established education authorities is an important condition for the sustainability of these types of projects – without the support of local, regional and national education establishments, most reforms will not move beyond the specific individuals, schools or communities into which they were introduced;
- Collaboration with local communities – reforms to the school system at any level will generally have most long-term effect if parents and other local stakeholders feel that they have a constructive influence on school policies and school and teacher evaluation;
- Quality teacher development takes time and projects of this kind will generally stretch over many years and possibly several phases – the cycles of action, reflection and planning that school-based training involves are time-consuming in any context but especially so in environments where communication and transport are not highly developed and where traditional approaches to teaching are firmly entrenched.