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A model to increase teacher self-efficacy

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This article outlines an attempt to help teachers to become more effective role models and instructors of life skills via the development of a self-efficacy model. The model is founded on the premise that teachers first have to believe in their own ability to effectively cope with life's challenges before they can teach learners to do so. Based on a theory-generative research design, the model proposes to promote teachers' self-efficacy by initiating and facilitating four simultaneous processes within the framework of continuous reflective practice, namely intrinsic growth, the development of an internal locus of control, and interaction with the environment.

'n Model om die selfbevoegdheid van onderwysers te verhoog

Die artikel bied die hooftrekke van 'n poging om onderwysers te help om meer effektiewe rolmodelle en onderrigters van lewensvaardighede te word, by wyse van die ontwikkeling van 'n selfbevoegdheidsmodel. Die model is gebaseer op die aanname dat onderwysers eers moet glo in hulle eie vermoë om lewensuitdagings die hoof te kan bied, voordat hulle leerders kan leer om dit te doen. Met teoriegenerering as navorsingsontwerp en deur die inisiëring en fasilitering van drie gelyktydige prosesse — naamlik intrinsieke groei, die ontwikkeling van 'n innerlike lokus van beheer, en interaksie met die omgewing, binne die raamwerk van volgehoue reflektiewe praktyk — wil die model onderwysers se selfprobaatheid ontwikkel.

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The teaching of life skills is recognised by leading international role-players in education as a priority in preparing school-leavers for the demands of life after school, whether they are continuing their education, or entering the labour market (Kimberg 2002). The promotion of life skills was also one of the four main undertakings by governments at the World Education Forum in Dakar in 2000 (UNESCO 2000). The critical and developmental outcomes cited in the 2001 Draft Revised National Curriculum Statement of the South African Department of Education support this undertaking (DoE 2001a). These outcomes form the basis of the South African education policy and create the profile of a learner equipped to cope with life and be a responsible citizen after completing Grade 9 (the end of compulsory schooling).

The Draft Revised National Curriculum Statement also mentions that schools and teachers themselves must take responsibility for the development and detailing of learning programmes to attain these and other subject-specific learning outcomes (DoE 2001a: 5). According to the Government, there has been a decline in the values that would underpin the attainment of the qualities described above. In the *Manifesto on values, education and democracy* (DoE 2001b: 5), the Government refers to the key aim of education as stated in the Constitution:

to free the potential of learners [...] by imparting to them the knowledge, skills and values that will make them effective, productive and responsible citizens,

while warning that the present education system is unlikely to produce learners comparable with the “ideal” profile.

In her evaluation of the Department of Education’s Interim Core Syllabus for Guidance, Marais (1998: 144-9) indicated that, although the syllabus met the needs of matriculants in theory, in practice it was not being implemented as envisaged. Differences in content were found among the provinces; often the syllabus was not being implemented at all. Marais (1998: 148) concluded that priority should be given to preparing school-leavers for life and that such preparation should be adapted to suit the school and its community. She also recommended that teachers be adequately empowered to teach life preparation skills.

The problem is: how are these admirable outcomes and goals of the education system to be attained? All the role-players — government, school principals, teachers, parents and learners — need to take responsibility for their part in creating the “ideal” school-leaver. This is a daunting task for educators, given the legacies of the discriminatory and dysfunctional education system that prevailed in South Africa prior to 1994. Many schools were subject to decades of systematic neglect and had been notoriously under-funded during the apartheid regime.

However, educators do not have to contend only with the generally poor conditions at such schools (for instance lack of equipment and structural defects), but also with the after-effects of the social and economic havoc wreaked by the apartheid system, which entrenched unemployment, illiteracy and poverty among the country’s marginalised populations. The mandate to educators to prepare learners for life after school is particularly daunting in schools located in areas where generally poor socio-economic conditions still prevail (Mda 1995: 219). No other learners have a greater need for effective tuition in life skills.

It would therefore appear that while the importance of the acquisition of life skills — by teachers and students alike — is accepted in educational policy-making circles, the implementation of courses teaching such skills presents problems.

1. Research problem

If the aim of teaching life skills is to help learners develop into responsible citizens who can make a positive contribution to society, as well as to prepare them adequately for the demands of higher education or the labour market (Rooth 1997: 2, Von Horsten 1993: 1), teachers need to possess and model these skills themselves in order to inculcate them in learners (Olivier *et al* 1997: 26).

Mathematics teachers, for instance, must possess a degree or other formal education in the subject. They are also required to prepare school-leavers for life after school, although they themselves may not have received any formal training in teaching life skills and may

not even possess the competencies they are endeavouring to impart to the learners. In addition to their lack of formal training, many teachers work under stressful conditions and have to contend with problematic issues in their own lives, which inhibit hamper their coping mechanisms and may have a negative impact on their ability to be suitable role models (Niehaus *et al* 1996: 96).

In the light of this, the research problem was formulated as follows: How can teachers be empowered to prepare learners for life after school?

2. Research design

A qualitative, theory-generative design was adopted, based *inter alia* on the work of Chinn & Kramer (1995), Walker & Avant (1995), and the grounded theory of Strauss & Corbin (1998), with the aim of developing a model to empower teachers to equip school-leavers better for life after school. The research was conducted in five stages.

- Stage 1: Concept identification by means of a qualitative exploration of teachers' experience of preparing school-leavers for life after school. This was done by means of individual interviews with teachers in the field. The data analysis yielded a key concept for further refinement.
- Stage 2: Concept definition and classification. Together with Stage 1, this completed the concept analysis. The concepts identified in Step 1 were defined and classified so that they could be described in the context of the study. The procedure used followed the guidelines of Wandelt & Stewart (1975: 65-7) and Copi (1986: 180-96). The survey list of Dickoff *et al* (1968: 422-3) was also used to classify the concepts.
- Stage 3: Construction of relationship statements. The concepts analysed in Stages 1 and 2 were correlated. This served to elaborate on them, connect them and make them less abstract, so that they were easier to understand and more relevant to the context of the study. This procedure was based on Strauss & Corbin's (1998: 145) guidelines for forming inter-relational statements.
- Stage 4: Description and evaluation of the model. The model was described in terms of its key concepts and statements as

well as its structure and process (Mouton 1996: 195-201). Chinn & Kramer's (1995: 134-7) criteria for evaluation of the model were employed, and propositions between concepts were made and validated against the data (Strauss & Corbin 1998: 143-61).

- Stage 5: Guidelines for operationalisation of the model in the field. These were provided and recommendations made for implementation in teacher training, at both pre-service (PRESET) and in-service (INSET) levels. These guidelines were deduced from the relational statements formed from correlations between the main and the related concepts.

3. Research method

The method used to develop the model will now be discussed, following the steps of the theory-generative design.

Step 1: Identification of the key concept

This section of the research has been described in depth in a separate article (Olivier & Wood 2007) and will only be briefly dealt with here. When the findings of the qualitative study were summarised, the overriding theme that emerged was that the respondent teachers were not coping with the demands placed on them in their environment. As a result, they experienced low self-esteem, feelings of dependency, apathy, hopelessness and lack of purpose.

From a study of the literature and an analysis of the qualitative data findings, the development of self-efficacy was identified as a suitable concept to address the teachers' problems. Self-efficacy may be described as 'the teacher's belief in his or her capability to organize and execute a course of action required to successfully accomplish a specific teaching task in a particular context' (Tschannen-Moran *et al* 1998: 233). Viewed from the perspective of the study, the participating teachers did not believe that they could successfully teach life skills and prepare learners for life after school, because of the mutually disempowering conditions from which they had little hope of escaping — in other words, they displayed low levels of self-efficacy.

Self-efficacy is positively related to teacher behaviour in the classroom, the effort that teachers invest in teaching, and their commitment to it. Teachers with a high sense of self-efficacy are more open to change and to trying out new ideas, as well as more persistent in difficult circumstances (Milner & Woolfolk Hoy 2002: 4). They are also more enthusiastic about teaching (Allinder 1994: 87), exhibit lower levels of absenteeism (Imants & Van Zoelen 1995: 84), and are better able to manage stress (Bliss & Finneran 1991: 4), and avoid burnout (Evers *et al* 2002: 230).

If a teacher possesses a high level of self-efficacy, the learners benefit in terms of higher achievement and motivation, increased self-esteem and pro-social attitudes (Bailey 1999: 360). The school environment also benefits in that it is more effective (Hoy & Woolfolk 1993: 358) and programme implementation is more likely to be successful (Guskey 1988: 67).

In terms of the aim of the study, namely to empower teachers to be more effective in equipping school-leavers with life skills in order to prepare them for life after school, it is clear that the development of self-efficacy in teachers is a vital prerequisite in enabling them to display the necessary kinds of knowledge, skills, attitudes and behaviour to be effective role models for school-leavers. Without a strong sense of self-efficacy, teachers will not be able to cope in their own work environment or to overcome the many obstacles facing them in under-resourced schools. However, because of the negative impact of the environment on teachers, self-efficacy cannot be developed in a vacuum and must be placed in context.

Step 2: Concept definition

Each word of the key concept, namely development of self-efficacy, was defined by means of general and subject-related definitions. All the attributes were listed, before being reduced to essential and related criteria.¹ Four essential criteria were found to be necessary to the concept of the development of self-efficacy, namely intrinsic

1 Essential criteria are those considered vital, without which the concept would not exist; related criteria further explain and elaborated on them.

growth, an internal locus of control, interaction with the environment, and reflective practice. A theoretical definition of the concept of the development of self-efficacy was then created, using the essential and related criteria identified, as follows:

Self-efficacy consists of three interdependent processes, which should be simultaneously facilitated. Ongoing intrinsic growth, on an affective, cognitive and behavioural level, is accompanied by the development of an internal locus of control, the individual belief in personal power and the ability to influence events and attain desired outcomes. Interaction with the environment, via the formation of relationships and the mobilisation of resources, positively influences changes in attitude, performance, culture and roles, making the teacher more effective in dealing with adverse environmental circumstances. The teacher is continuously facilitated in employing reflective practice to analyse the experiences generated by these three processes, with a view to adapting behaviour in order to maximise the chances of effective goal attainment within the social and physical environment.

Step 3: Construction of relational statements

Relationships between concepts form the “skeleton of the theory” and “show how concepts hang together” (Walker & Avant 1995: 82). Relationships can be associational or causal and must be identified in order to organise the concepts into a theoretical system. They provide links between concepts (Chinn & Kramer 1995: 111) and can be formed by clarifying which concepts stand alone and which occur together. It is important that theoretical relationships be perceived within the specific context of the model — in this case the development of self-efficacy in teachers at under-resourced schools — in order to empower them to equip school-leavers with life skills. The relational statements are based on the theoretical definition presented above.

The following table explains how these criteria relate in order to create the concept “development of self-efficacy”.

Table 1: The development of self-efficacy in teachers

Inadequately equipped teachers with low self-efficacy facilitated to develop ...		
Criterion	Process	Outcome
Intrinsic growth	Acquisition of personal life skills and self-knowledge	Realisation of potential and high level of personal functioning on behavioural, cognitive and affective levels
Internal locus of control	Development of belief in personal power and ability to influence events and attain desired outcomes	Confidence in ability to handle problems and persistence towards goal attainment in adverse environmental circumstances
Interaction with the environment	Formation of relationships and utilisation of physical resources	Support for goal attainment in collaborative environment
Reflective practice comprising ...		
continual, conscious processing of own experiences, thoughts, feelings and attitudes and subsequent adaptation of these to reach desired end condition		
Ongoing, self-sustained development of these criteria resulting in ...		
adequately equipped teachers with high self-efficacy		

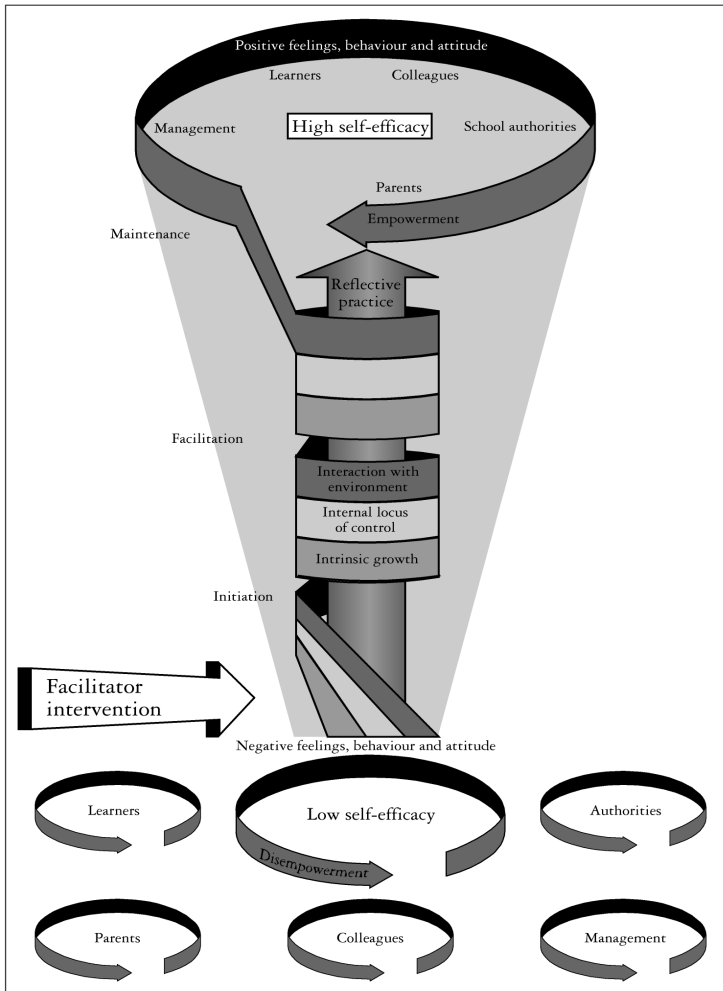
Step 4: Description and evaluation of the model

A model was created, based on the relational statements, as a starting-point for the design of a training intervention to develop self-efficacy in teachers. The model was described under the following headings: overview, purpose, assumptions, context, theoretical definitions of context, relational statements, structure and process (Chinn & Kramer 1995: 106-19). The model was also evaluated by a team of experts in the fields of theory-generative design and education, who found the research process to be rigorous and the findings to be sound and valuable.

For the purposes of this article, only the structural description of the model illustrated in Figure 1 will be discussed.²

2 The diagram was designed in full colour, but only a black-and-white representation is possible here.

Figure 1: A self-efficacy model to empower teachers to equip school-leavers with life skills



Starting from the bottom of the diagram, the point of departure for teachers is low self-efficacy. They are caught in a circle of disempowerment and display negative feelings, behaviour and attitudes. Their perception that they are not equipped to prepare learners for life after school is based on various factors, including under-resourced school environments, a lack of training and support, and perceived pressure from school managements and the Department of Education. Interaction with the role-players in the school system (namely learners, parents, colleagues, management and the school authorities) is at best sporadic. They are caught in their own spheres, with little interaction or co-operation among them. At this point the various role-players are not collaborating to reach the mutual goal of preparing learners for life after school, but operating in isolation from one another, which leads to friction, competition and negative relationships.

The next structure in the diagram is that of the facilitator, the arrow pointing at the foot of the funnel, which represents the teacher. The facilitator will intervene to enable the teacher to break free from the circle of disempowerment. As a professional, with insight based on research, the facilitator will initiate contact with the school and recruit teachers for further development. This will be the initiation phase, facilitating the development of self-efficacy in teachers, initially assuming a leading role but with a gradually diminishing involvement as the teachers learn to maintain the process themselves. A relationship with the teachers will be built by means of experiential learning techniques within group settings, thereby facilitating the development of intrinsic growth, an internal locus of control, positive interaction with the environment, and reflective practice.

The main concept in this model — the teacher — is placed in the centre of the diagram, represented by the funnel shape. The teacher is the heart of the school, and the rationale behind the model is that if teachers are facilitated to change and develop self-efficacy, this will have a positive effect on the entire school system. This phase is characterised by intense facilitation.

In order for the teacher to develop self-efficacy, four separate but overlapping and interdependent processes need to be facilitated. The

processes of intrinsic growth, the development of an internal locus of control, positive interaction with the environment, and reflective practice must be developed in the teacher in order for self-efficacy to ensue. The first three are represented by the three interwoven strands twisted around the central pillar of reflective practice.

First, intrinsic growth will entail the acquisition of life skills, including the formation of a healthy self-concept, on the part of the teacher. The teacher will realise that she needs to possess good life skills in order to be able to teach them to learners. She will be shown that strong life skills will prove helpful in dealing with environmental obstacles to teaching. It will be made clear that, in order to inculcate a love of learning in learners, the teacher has to become a lifelong learner who continually strives for personal and professional self-improvement.

Secondly, as the teacher develops personal skills and a healthy self-concept, she should start to take personal responsibility for her actions and to feel more in control of their outcomes (Woolfolk-Hoy & Milner 2003: 273). Environmental obstacles may be viewed less as insurmountable problems, and more as challenges to be overcome. Failures could be regarded as learning experiences and, due to this perspective, motivation should be increased and sustained. The strand which represents the development of an internal locus of control intertwines with the strands representing intrinsic growth and interaction with the environment. These processes are interdependent and must occur simultaneously.

The third strand represents the process of interaction with the environment. The teacher will also be helped to identify and analyse how she interacts with the infrastructure and environment of the school, specifically in terms of her relationships with learners, colleagues, management and parents, with whom she will be encouraged to form collaborative links in order to gain support in the goal of preparing learners for life. The teacher will also reflect on his/her relationships with learners and identify ways to improve and use these in order to attain her teaching goals. By collaborating with other stakeholders, ways will be sought to overcome the lack of material resources in the schools, and to mobilise those resources that do exist.

Collaboration within a supportive environment has been shown to increase self-efficacy among teachers (Henson 2001: 830).

This process overlaps with the process of intrinsic growth, in that the development and exercise of communication, conflict resolution and problem-solving skills, for example, will aid in the formation of positive relationships with others, resulting in constructive interaction. A supportive environmental network in which the teacher receives positive feedback will also encourage ongoing growth.

The strand representing interaction with the environment is also intertwined with that representing the internal locus of control, since positive interaction will lead the teacher to attain the desired outcomes. This in turn will give her more control over what is happening in the environment. The teacher will feel that she can influence other factors and that she has a choice in the way she responds.

The three strands representing the essential criteria of self-efficacy are all intertwined, implying that all three processes must occur before self-efficacy can be said to exist. As has been explained, they need to develop simultaneously, as each process strengthens the others; they are interdependent.

These three processes will be developed and maintained within the framework of reflective practice. This will help the teacher to develop awareness and analyse experiences so that she may learn from them. As such, positive changes may be identified and applied in teaching practice and professional interaction. In the diagram the process of reflective practice is represented by the thick, vertical arrow around which the other processes are twisted.

Under continually changing circumstances, a teacher needs to develop a habit of constantly reflecting on her teaching practice. At first, the facilitator will play a major role in helping her do this, but as she develops in the four processes the facilitator will become increasingly redundant. The teacher will gradually develop the skills to carry on with the processes without facilitation. Reflective practice is, therefore, integral to the other three processes. The teacher needs to reflect on her own personal behaviour, skills and attitude (intrinsic growth); on how changes can be made in order to control outcomes

(an internal locus of control), and on how human and physical environmental factors can be utilised and mobilised (interaction with the environment) in order to reach identified goals (Yost 2002: 196).

The development of the four processes eventually results in the teacher's attainment of high self-efficacy (top of Figure 1). The four processes merge to form a circle of empowerment, with the teacher now displaying positive feelings, behaviours and attitudes. In contrast to the isolated circles at the bottom of the diagram, the other role-players in the school system are now seen to be within the same circle as the teacher. This indicates that high self-efficacy in the teacher will have a positive effect on the entire school system, namely learners, colleagues, management, parents and the school authorities, and will encourage collaboration towards the attainment of mutual goals. The teacher will benefit in the following ways: increased motivation, persistence in goal attainment, strong life skills, reduced incidence of 'burnout', an enhanced self concept, better relationships with learners and others in the environment, and a 'lifelong learner' approach (Evers *et al* 1997: 74).

These results of self-efficacy will in turn benefit other role-players in the school system with whom the teacher is in daily contact. Studies have confirmed that the development of teacher self-efficacy has a positive effect on learner achievement (Linnenbrink & Pintrich 2003: 134, Parker *et al* 2002: 937), educational reform (Wheatley 2002: 18), and school management (Bandura 1997: 247). It also improves relationships with parents and other community members (Bandura 1997: 244). The circle of disempowerment at the bottom of the diagram has now been replaced by a circle of empowerment. The development of self-efficacy is not a finite process: it needs to be developed on an ongoing basis by the teacher, both individually and in collaboration with her colleagues.

A teacher with self-efficacy will become an agent for positive change in the organisation and contribute towards creating an environment conducive to the preparation of learners for life after school. The teacher will regard herself, and be regarded by others, as effective, competent and capable. In short, she will feel and be empowered to serve as a good role model to learners and others. Such an organisation

will provide an ideal environment for the preparation of learners for life after school and for the maintenance of self-efficacy in teachers.

Senge (1999: 38) emphasises that a learning organisation requires its employees to undergo a mind-shift. This involves a change,

... from seeing ourselves as separate from the world to connecting with the world, from seeing problems as caused by someone or something 'out there' to seeing how our own actions create the problems we experience. A learning organisation is a place where people are continually discovering how they create their reality. And how they can change it.

This quotation sums up the way in which a teacher with self-efficacy should ideally operate within the school environment in order to be equipped to prepare school-leavers for life after school. Such a mindset puts a teacher back in control of her teaching, restores her pride and dignity, and gives her a sense of purpose. The cycle of negativity which clearly emerged from the qualitative data analysis in Step 1 is broken and replaced by a positive cycle, which permits the teacher to continue to learn and grow, adapting to the demands of the environment. By doing this, she is modelling precisely the kind of behaviour and attitudes that learners need in order to be prepared for life after school.

Step 5: Guidelines for operationalisation of the model

The model is designed to be operationalised in practice, and guidelines for doing so have to be carefully developed. It is not within the scope of this article to discuss these or the development of the training programme for the implementation of the model. The authors are currently involved with further development and implementation of the model.

4. Conclusion

This article has described the generation of a model to develop self-efficacy in teachers in order to empower them to equip school-leavers with life skills. The model is based on the premise that, in order to be effective modellers and instructors of life skills, teachers first have to develop their own capabilities in this field. The development of self-efficacy in teachers will not only enable them to prepare school-leavers for life after school, but also to benefit them in all aspects of their teaching and have a positive impact on the school as a whole.

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