

Teacher training by means of a school-based model

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The purpose of the study was to explore how a school-based training model (SBTM) could help to address the shortage of teachers. This model also allows, among other aspects, for poor and disadvantaged students to study while they gain experience. This article reports on the results of the SBTM implemented by a South African university, whereby student teachers are appointed at schools as assistant teachers. A mixed method study was preferred in order to explore the effectiveness of the model. The findings of the research indicate that the majority of teachers, lecturers, students and members of school managements involved were positive regarding the SBTM, and that the advantages of the model outweighed the challenges. It is therefore recommended that the model be implemented as an alternative teacher training programme for the special conditions prevailing in South Africa, as well as other countries that experience a teacher shortage.

Keywords: assistant teachers; blended learning; mentors in schools; professional training schools; school-based training; teacher shortage; teacher training; university-school partnerships; workplace learning

The Demand for Teachers

There is a teacher shortage in South Africa (SA), particularly in rural areas (Department of Education (DoE), Republic of South Africa, 2005:46; Pretorius, 2008:173; SACE, 2010:12). The 26 higher education institutions (HEIs) in SA are primarily responsible for the training of teachers, and together with a number of private institutions, they currently deliver only approximately 13,000 new teachers annually, while the demand is for around 18,000 teachers, and growing year by year (Masinga, 2013). A UNESCO Press (2013) study shows that the teacher shortage is a worldwide phenomenon, where 1,6 million additional teachers will be required in primary education alone by 2015, and that this number will rise to $\pm 5,1$ million by 2030. The study also shows that the situation in Sub-Saharan Africa is the worst, with nearly one third of the countries with a teacher shortage are situated here. The fact that the number of school-age children in the region is growing explains why more teachers need to be trained in this region.

One of the effects of the shortage of teachers in schools is that the learner numbers in classes are high. To help address the shortage of teachers and to ensure smaller learner numbers in classes, the implementation of assistant teachers has become an option (Local Government National Training Organisation (LGNTO), 2001). According to Ori (2013:vi), this type of model has been practised in countries around the world, such as England and the Netherlands, to name but two.

To meet the demand for more teachers in South African schools, more teachers need to be trained, which has resulted in a growing enrolment of prospective teachers at HEIs. The accommodation of more students puts pressure on the existing infrastructure, as well as on the staff component of HEIs. In SA, as in other countries, there is pressure on universities to widen access by utilising technology and other measures, such as the implementation of online and/or blended learning (Jones & Lau, 2010:205).

To expand accessibility for prospective teachers in SA, a relatively large South African university introduced a SBTM for the training of teachers, and embarked on implementing this model in 2003. The SBTM is aimed at students being trained as teachers, while at the same time, affording them practical exposure as assistant teachers in a school. Gaining experience in the workplace is known as work-based learning (Department of Higher Education & Training, Republic of South Africa, 2011:8), which is an important training method in various professions, as well as trades like the medical profession.

A comprehensive evaluation of this model and its implementation was done, firstly, for the purpose of quality assurance, and secondly, to identify its advantages and challenges.

The aim of the investigation, as set out below, was to describe the nature and implementation of the SBTM, to discover its advantages, as well as the challenges that need to be addressed. The purpose of this article is to report on the findings of the investigation. The remainder of the article has therefore been structured as follows: the next section contains the conceptual and theoretical framework on which the empirical investigation was based. This is followed by an outline of the latter, a report on the findings, and a discussion thereof. The article concludes with a few recommendations.

Conceptual and Theoretical Framework

Ori (2013:vi) states that there is often a mismatch between the output of institutions and the expectations of the workplace. This mismatch, according to Ori (2013), is minimised when students acquire the opportunity to gain experience while they are studying. The guide of the Council on Higher Education (CHE, 2011) as well as The

Green Paper for Post-School Education and Training (Department of Higher Education & Training, Republic of South Africa, 2012:14) in SA emphasise the responsibility of higher and further education and training institutions to ensure that the education and training they deliver meet the needs of the economy, thereby implying that graduates should be as “employable” as possible. Taylor and Govender (2013:21) elaborate on the employability mentioned in the two documents above when they state that if workplace and work-readiness skills are obtained prior to employment, they will ensure successful entry into the workplace.

In the case of the SBTM, student teachers get hands-on experience in the workplace, where they develop teaching skills and gain practical experience, both being regarded just as important as theoretical knowledge (Republic of South Africa, 1998). The importance of practical experience for student teachers is also emphasised in the Minimum Requirements for Teacher Education Qualifications (Department of Higher Education & Training, Republic of South Africa, 2011:8), which states that student teachers are to be exposed to practical learning as part of their training. This entails learning from, as well as learning in practice. In the SBTM, students are expected to spend part of the workday on school-related matters as assistant teachers, and the rest of the workday on their studies.

Boeve-de Pauw (2011:52) confirms that students learn best when they are allowed to construct personal understanding based on experiences and reflecting upon these experiences.

The School-Based Training Model

The SBTM entails that selected students enrolled for a four-year degree (Baccalaureus Educationist (BEd)) or a one-year post-graduate certificate in teaching (PGCE), are placed in schools (referred to as partnership schools or professional training schools in the remainder of the article) to work as assistant teachers, while being trained as teachers by means of blended or online learning. The instructional design and delivery of the SBTM programme are the products of new developments in learning and distance education, planning, implementation, analysis, review, modifications and improvement across the total delivery of SBTM over several years. These developments followed from discussions with school principals, questionnaires sent to students, a SWOT (Strengths, Weaknesses, Opportunities and Treats) analysis, the proceedings of two international conferences on this mode of delivery, and in-depth analysis of the teaching and learning quality of students in this delivery mode.

In view of all of the above evidence (Boeve-de Pauw, 2011:52; CHE, 2011; De Wet, 2003; Jones & Lau, 2010:205) that teacher education

could be offered effectively via blended or online learning, together with the emphasis on constructivism and self-regulated learning, the above-mentioned university embarked on the development of this mode of delivery (Simonson, Smaldino, Albright & Zvacek, 2013).

The academic training of SBTM students occurs by means of blended learning. For the purpose of this article, blended learning is seen as a learning method that appropriately combines online instructional resources and face-to-face facilitated activities (University of the Free State (UFS), 2013:5). This implies that students attend scheduled contact sessions at the university at certain times of the year, but that they also make use of e-learning while they are at schools working as assistant teachers. Interaction between the lecturer and the student is managed on an electronic platform of the university. The benefits of online learning, as described by Angelino and Natvig, 2010; Angiello, 2010; Beck, 2010; Crawford-Ferre and Wiets, 2012; Garbett, 2011 and Tee and Karney, 2010, are thus utilised.

Student teachers in the third or fourth year of their BEd studies, or those wanting to do a PGCE, apply (at the SBTM office) to do their studies by means of the SBTM. A screening process then takes place to make sure that the applicants have the ability and correct attitude to complete their studies successfully by means of this model. The following are the criteria with which applicants ought to comply. They should:

- have demonstrated that they will be able to manage their own learning by passing more than 90% of their first- and/or third-year modules in the case of the BEd, or of their initial degree in the case of the PGCE. In effect students are not allowed to have more than two outstanding modules of their first two years (BEd) of study or their degree, in the case of the PGCE;
- be computer literate and have access to the internet; and
- have access to a computer equipped with software that has the capacity to utilise the electronic platform of the university.

If and when a prospective school-based training (SBT) student has been found suitable to complete his/her studies by means of the SBTM, he/she finds a suitable school of his/her choice that is willing to accommodate him/her. A suitable school entails that the school should be willing to serve as a professional training or partnership school of the university. These schools must comply with the criteria as set out below to accommodate SBT students. Schools should:

- identify senior staff to act as mentors for the SBT student/s;
- these mentors must participate in the mentor training programme of the university;
- be willing to be involved with the evaluation of the students in cooperation with the staff of the university;

- be willing to allow coordinators (appointed by the university) to visit the schools;
- not utilise students for more than 40% of normal working hours;
- grant students the necessary leave for contact sessions and study leave to write examinations; and
- be able to accommodate the student in his/her specialist subjects and phase.

Once all the above is in place, a memorandum of understanding (MOU) between the school and the university and the student in question is drawn up and signed by the three parties, and the school becomes a partner in the training of SBT students. In the MOU, the duties and responsibilities of the three parties are stipulated. The MOU also stipulates that the student may receive some remuneration from the partnership school, usually decided on and paid for by the governing body of the school or other organisations like the Skills Education Training Authorities (SETAs).

Once students have been approved to study by means of the SBTM, and have found suitable schools, the tasks they would be responsible for are respectively negotiated between themselves and the school principals. Particular tasks include teaching under supervision of a mentor, administrative tasks, and extramural activities in the area located to the SBT students.

During the course of the year, the SBT students attend at least two week-long contact sessions at the university, which are compulsory. Students who take subjects with practical components are required to attend extra contact sessions in order to do their practical work. These sessions ensure that personal contact between the student and lecturers is maintained. To ensure that students are able to visit the university on a regular basis, schools are restricted to a radius of 350 km from the university. This restriction makes it possible for lecturers and/or other university staff, such as coordinators, to pay regular visits to SBT students.

At the school, students are placed under the supervision of a mentor, or sometimes more than one mentor, appointed by the school principal. This could be a general mentor (usually the deputy-principal of the school) who coordinates the tasks of students and a subject/phase, or a specialist mentor (usually an experienced teacher) for the subject or phase in which the student specialises. A short course for the training of mentors has been developed by the Faculty and registered with the SETAs in South Africa. The aim of the short course is to prepare appointed mentors for their tasks.

Mentors not only act as role-models for the students regarding teaching and other professional matters, but also provide assistance if and where necessary. They are responsible for assessing a certain number of lessons that the students present. Criteria for these assessments are covered in the short course for mentors mentioned above.

Research by Glazer and Hannafin (2006), Mawoyo and Robinson (2005:111) and Wilmot (2004:156) stresses that mentoring is mutually beneficial for students and mentors; students are exposed to examples of good teaching while mentors are exposed to new and fresh ideas regarding teaching.

Additional to the mentors, the university appoints coordinators who visit the students at the schools on a monthly basis. To be considered for appointment as a coordinator, one needs to be a well-experienced educator and have qualified as a mentor of the university. Currently, the majority of coordinators are retired school principals. The task of these coordinators is to assist the students and school mentors with either the school-related and/or study-related problems that they might experience. Coordinators also assist with the supervision and assessment of the Work Integrated Learning (WIL) of the SBT students, and in the process, help to strengthen the link between student, lecturer, school and the university.

The university has also established a unit consisting of well-trained administrative staff to exclusively support SBT students. They conduct the selection of students and schools to participate in the SBTM; manage the submission of assignments; arrange and coordinate the contact sessions; assist with the appointment of regional coordinators and the coordination of their activities; help with the drafting of the memorandum of understanding between the schools, the university and the students; supply relevant information to all involved parties; draw up rosters and distribute them to involved parties; coordinate mentor training; and serve as a desk for general complaints and enquiries regarding the SBTM.

Empirical Investigation

As the aim of the investigation was to determine the advantages and the challenges of the SBTM, the research was structured as follows:

Research Method

A mixed method (both quantitative and qualitative research methods, mutually determining/influencing each other) was used for evaluating the model. In the study, it was necessary to compare quantitative and qualitative data, and therefore the convergent parallel design was utilised. According to Creswell and Plano Clark (2011:69-71), the convergent design allows the researcher to use the quantitative and qualitative strands concurrently during the same phase of the research process. Both methods are prioritised equally, and both strands are kept independently during analysis, while during the overall interpretation, the results are mixed.

Data Collection

The method of data collection included questionnaires (with Likert-type and open questions) as well as focus group interviews (semi-structured interviews). To determine which respondents reacted positively to a question the last two items ('to a large extent' and 'to a very large extent') were combined and converted to a percentage. With the convergent parallel design quantitative data were collected and analysed, as was done with the qualitative data. Interviews were conducted in Afrikaans (one of South Africa's eleven official languages)

and the answers were translated verbatim into English. In the text, the original Afrikaans version has been italicised and placed in brackets. The quantitative and qualitative data were then compared and interpreted (Creswell & Plano Clark, 2011:69). The qualitative data were used to triangulate the quantitative data.

Processes of analysing, comparing, and verifying data led to comprehensive and holistic results from which the advantages and challenges of the model could be identified.

Table 1 Data collection methods

Involved Party	Rationale	Methods
Lecturers involved in teaching SBTM students ($n = 49$)	To establish how the lecturers experience the SBTM model and how they experience the students and their progress. To verify the data obtained from the questionnaires and explore issues in more depth.	49 questionnaires Three semi-structured interviews in focus groups, involving 14 lecturers
Students being trained by means of the SBTM model ($n = 144$)	To establish how students experience being trained in this manner and compare with the lecturers' experiences. To verify the data obtained from the questionnaires and clarify uncertainties.	144 questionnaires Three semi-structured interviews in focus groups, involving 19 students and 10 individual interviews
Principals of the partnership schools ($n = 78$)	To obtain information regarding the value that principals attach to this delivery method.	78 questionnaires
Mentors of the SBTM students ($n = 85$)	To obtain what importance mentors assign to various aspects of the SBTM model.	85 questionnaires
Regional coordinators ($n = 9$)	To establish how coordinators experience their tasks and to evaluate the model from their perspective.	Nine questionnaires
Practising teachers who were trained by means of the SBTM model ($n = 3$)	To capture the feedback of practising teachers regarding the value of the training.	Three individual interviews

Because of the different roles that the various parties play in the SBTM, it was neither possible to give them identical questionnaires to complete, nor to conduct interviews based on identical questions. The items on both the questionnaires and the interviews were derived from queries and problems determined by analysing relevant documents, previous research done regarding the SBTM (De Wet, 2003), informal conversations with the school principal in which the model resides and lecturers.

Sampling

Different parties (see Table 1) were involved in the process of evaluating the model, namely:

- the lecturers teaching the SBT students (49 questionnaires and three semi-structured interviews in focus groups, involving 14 lecturers);
- all the students being trained by this model (144 questionnaires and three semi-structured interviews in focus groups, involving 19 students, as well as 10 individual interviews);
- the principals of the partnership schools (78 questionnaires);
- the mentors of the SBT students (85 questionnaires);
- the coordinators (nine questionnaires); and

- practising teachers who had been trained by means of the SBTM (three individual interviews).

Results

As indicated, in the research method a convergent parallel design was used. The figure shows that:

- Seventy-six percent of lecturers indicated that they were positive about this model of training. Although some problems were pointed out by the participating lecturers, the majority was still positive. The positive attitude of lecturers may be summarised by quoting the following remark from the interviews:

It is one of the most creative models of training that the Faculty has embarked on. If we succeed in managing this correctly, it could make a huge contribution to addressing the shortage of teachers in the country (Dit is een van die mees kreatiewe modelle van opleiding waarmee die Fakulteit begin het. As ons daarin slaag om dit korrek te bestuur, kan dit 'n groot bydrae lewer om die tekort aan onderwysers in die land aan te spreek).

According to lecturers, the main reason for any negativity among them was that they found that SBT students did not have enough time to spend on their studies and therefore did not obtain the same

academic depth as full-time contact students. Lecturers also experienced that handling SBT students increased their work load, which was already quite heavy. Students indicated that they enjoyed certain aspects of their work at the schools, e.g. extra-curricular activities pertaining to sport or culture, to such an extent that they participated in the activities voluntarily.

- Ninety-four percent of participating students were positive regarding the SBTM. A statement in one of the interviews with students that affirm this, is:
Things now make sense - it isn't only book knowledge. (*Dinge maak nou sin - dit is nie net boeke kennis nie*).
- Ninety-nine percent of principals of partnership schools expressed positive attitudes towards the SBTM model. A principal made the following remark during the interview:
Students develop as human beings, and mature soon. They also learn to think on their feet (*Studente ontwikkel as mense, en word gou volwasse. Hulle leer ook om op hulle voete te dink*).
- Ninety-nine percent of mentors were positive regarding the SBTM. They emphasized the fact that these students gained hands-on experience and soon realized what the demands of the teaching practice were.
- One hundred percent of the appointed coordinators also indicated that they were positive about the model.

Although the coordinators experienced some diffi-

culties while being trained, such as a heavy work load, they were generally positive concerning the model. One of them commented:

- The knowledge I gained concerning teaching practice is invaluable (*Die kennis met betrekking tot praktiese onderwys wat ek opgedoen het, is van onskatbare waarde*).

The next aspect reported on is how the various parties felt regarding the professional preparedness of SBT students.

Interestingly, only 41% of lecturers thought that SBTM students were professionally better prepared than full-time contact students. One of the main reasons put forward for this was that SBT students seemingly conformed to the set ways of mentoring teachers, and did not have the opportunity to test new ideas in the classes they conducted. The following remark was made by one of the participating lecturers:

They are taught to say 'yes sir', 'no sir' and not much more (*Hulle word geleer om te sê 'ja meneer', 'nee meneer', en nie veel meer nie*).

In contrast, 91% of the participating students were of the opinion that they were professionally better prepared than full-time contact students. The following remark was made:

Because I work with the learners for a longer period, I learn to maintain discipline more easily (*Omdat ek vir 'n langer tyd met leerders gewerk het, het ek geleer om dissipline makliker te handhaaf*).

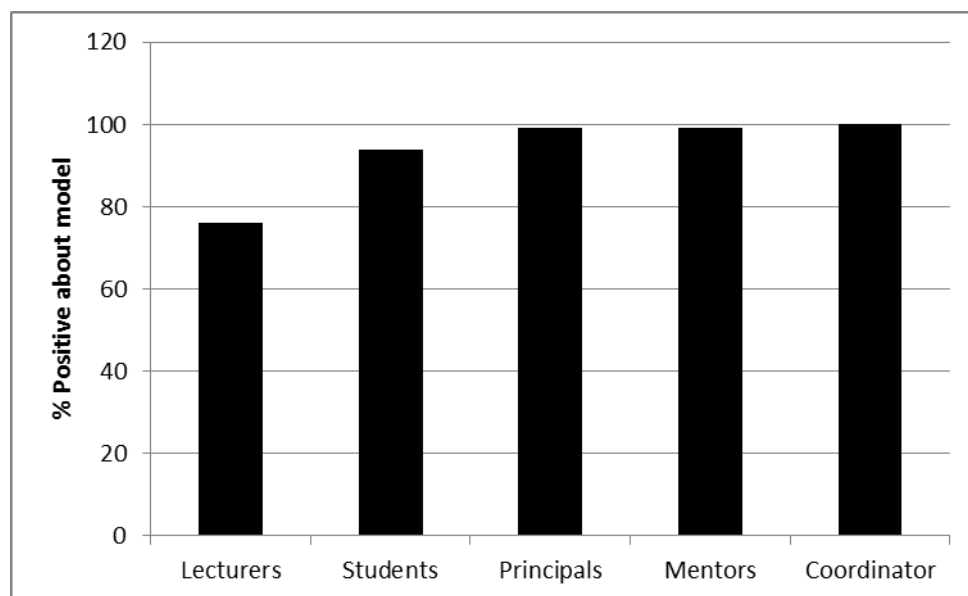


Figure 1 Involved parties' attitude towards SBET model

Ninety-seven percent of principals of partnership schools were of the opinion that SBT students were better prepared professionally than full-time contact students. The comment of one principal reads:

After having qualified as teachers they could be given a full teaching load immediately (*Nadat hulle as onderwysers gekwalifiseer het kon 'n volle onderriglading onmiddellik aan hulle gegee word*).

Ninety-nine percent of mentors at partnership

schools held the opinion that SBT students were professionally better prepared than full-time contact students. They pointed out that SBT students soon grasped what the organisation and administration at schools entailed.

Seventy-eight percent of appointed coordinators indicated that they were positive regarding the SBT. According to them, students mastered professional skills sooner than full-time contact students.

The Advantages of the School-Based Training Model (SBTM)

The advantages of the SBTM, as derived from the research, are summarised as follows:

Students trained by means of the SBTM get the best of both worlds. They do a small amount of teaching (and perform related tasks) under the supervision of an experienced mentor teacher, and thus gain invaluable practical experience. This hands-on experience enhances their employability, makes integration of theory and practice easier and minimises practice shock. The fact that they are exposed to blended learning (contact sessions and e-learning) means that they reap the benefits of both these modes of delivery. Cost-wise students also benefit, for they are usually placed at a school near their hometowns and receive some remuneration from the governing bodies of schools or SETAs while employed as assistant teachers.

The research also proved that the university and participating schools benefit by implementing the SBTM. Schools become partners in delivering qualified teachers and cooperation between schools, and the university narrows the gap between theory and practice.

The research confirms that once appointed as assistant teachers, the students in the SBTM learn in and from practice simultaneously. It also confirms that they observe teachers on a continuous basis (learning from practice) and also present lessons under the supervision of mentors (learning in practice), while they are busy with their studies. It also confirms that the assistant teachers are allowed to construct personal understanding based on experiences and reflect upon these experiences, and that by utilising a combination of teaching along with blended learning, a basis is formed that underpins learning in and from practice.

The study also proved that because SBTM students are exposed to the practice of teaching for a longer period than full-time contact students are, they will acquire hands-on teaching skills sooner than full-time contact students, and that the integration of theory and practice will be easier for them than it will be for full-time contact students.

The SBTM also provides an educational opportunity for students who don't stay near a university or experience financial constraints. Students in the model are more dependent on one

another, and this contributes to greater collaboration between them.

Challenges of the Model

The SBTM brings along its own challenges. Here and there principals of partnership schools tend to expect students to do more work than is allowed, thus taking up more than the 40% of students' working day.

Some students experience difficulty in making a mind-shift when it comes to e-learning. They tend to rely on lecturers for information that is available online.

Another challenge is that clarification is needed regarding how schools, students and the university can and must manage risks in the school. Measures also need to be implemented to ensure that students themselves are responsible for the assignments they submit. The e-learning platform of the university must be utilised better to enhance the training of students. It was also remarked that the SBT students' academic loads are too heavy. Both schools and lecturers pointed out that poor schools cannot afford to pay the assistants.

Schools indicated that because the students write their university exams during the same time slot as learners write their exams at school, they are not available to assist teachers during exam time.

Conclusion

The research indicated that the majority of involved parties hold a positive attitude towards the SBTM. According to them, students trained by means of this model are professionally better prepared than are full-time contact students. Literature furthermore points out that e-learning has certain advantages, such as flexibility in terms of time, space and affordability, which, together with scheduled contact sessions, are utilised in the model.

It is clear that the advantages of the SBTM, as implemented by this particular university, outweigh the challenges and downsides thereof. The model has potential as an alternative to full-time contact teacher training. If, apart from partnership schools and funding institutions like SETAs, other stakeholders could come on board regarding the remuneration of SBT students, this would help to meet the dire need for new teachers, not only in SA but also in other countries that experience a teacher shortage.

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