Creating Sustainable Learning Environments through Frequent Monitoring of Students’ Progress

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Abstract

Although the grade 12 pass rate of the past few years has shown an improvement in South African schools in general, the performance of students in crucial subjects such as accounting, mathematics and the sciences has not been satisfactory. In an attempt to contribute towards the creation of sustainable learning environments in selected schools in the Free State Province, the researchers engaged in a research project aimed at promoting in these schools, one of the correlates of effective schools, as identified by research namely, frequent monitoring of students’ progress. Data were collected from secondary school administrators using focus group interviews. Participants included seven (7) principals, nine (9) deputy principals and two (2) heads of department. The data collected related to the concept ‘frequent monitoring of students’ progress’, its implementation in their respective schools, as well as threats to its successful implementation. An analysis of the data revealed that the concept of ‘frequent monitoring of students’ learning was not well understood and consequently, was not effectively implemented in the schools concerned. It also became clear that there were many factors threatening its successful implementation. Based on these findings, the researchers and participants jointly engaged in an implementation framework.

Keywords: assessment, correlates of effective schools, effective schools, school improvement, student progress monitoring.

1. Introduction

A scrutiny of the grade 12 results of the past two years in South Africa and in the Free State Province in particular, has shown that many secondary schools especially previously disadvantaged ones, are not performing well in crucial subjects such as accounting, mathematics and the sciences. Attempts are being made by the province to address this problem. It seems however, that the solutions being implemented rely heavily on assistance from outside the schools with little input from the role-players who are directly involved in the teaching and learning process. Research has identified certain characteristics which are linked to high performing schools and are controlled by the schools themselves. These characteristics are referred to as correlates of high performing schools. This study seeks to implement one of the correlates of effective schools, namely the frequent monitoring of students’ progress in selected schools in the Free State Province. It is hoped that this will contribute towards the creation of sustainable learning environments in these schools, because the proposed improvement strategies are based on research findings, as well as inputs and participation by the role-players who are directly involved in the teaching and learning processes in these schools.

The theoretical section of this research explains what frequent monitoring is, the benefits of progress monitoring and the challenges experienced by implementers of the correlate. The empirical study, inter alia, collects and analyses data according to a set of questions discussed with participants and makes recommendations therefrom.

2. Background to this Study

Many secondary schools in the Free State province of South Africa, especially rural and previously disadvantaged ones are not performing well in crucial grade 12 subjects such as the sciences, mathematics and accounting. This is evident
from the following grade 12 results of the years 2010 and 2011.

Table 1:

| Subject     | Total Wrote | Percentage Achieved | Average % Mark |
|-------------|-------------|---------------------|----------------|
|             | 2010        | 2010                | 2010           | 2011        | 2011        |
| Accounting  | 9 644       | 54.16%              | 60.23%         | 34.14%      | 36.89%      |
| Economics   | 7 949       | 74.5%               | 61.63%         | 38.01%      | 34.23%      |
| Life Sciences | 12 813     | 85.23%              | 84.83%         | 46.55%      | 45.25%      |
| Mathematics | 11 003      | 48.36%              | 53.94%         | 32.61%      | 34.47%      |
| Physical Sciences | 10 592 | 43.96%              | 55.21%         | 32.13%      | 35.53%      |

(From State Department of Education (FSDoE), 2011)

Further analysis of the 2011 results reveals that approximately 22% of the 101 secondary schools whose pass rate is above 90% are formerly disadvantaged schools and that the majority of the so-called dysfunctional schools are also formerly disadvantaged ones. It would therefore be fair to conclude that these schools contributed significantly to the unsatisfactory results in the province and that most of the intervention strategies should be directed there.

The FSDoE was perturbed by this kind of performance and four ‘Key Thrusts’ for the grade 12 improvement plan were adopted namely: Teacher capacity and practices, Access to high quality learning materials, Direct Learner support and Tracking Progress (Makgoe, 2011). A scrutiny of the detailed description of these strategies reveals that all of them are externally based with responsible persons being outside the schools. Responsible persons include: provincial subject coordinators; examiners, the FSDoE, the Universities of the Free State, and South Africa. These interventions would be more effective if supplemented by other internally initiated and controlled strategies. We agree with The Center for Comprehensive School Reform and Improvement (CCSRI), (2009) which opines:

*If a plan is to become a key resource and guide for school improvement, then it must be crafted and owned by all of the stakeholders; teachers, support staff, school leaders, students, families, district officials, community members, and business organizations.*

In light of the above, this study seeks to search for research based, time-tested and mostly school controlled strategies that can be implemented in these schools with the purpose of creating sustainable effective learning environments.

Research conducted in America, has shown that there are some public high-performing schools, where all students learn more than similar students in other schools and that these schools are capable of educating students from disadvantaged backgrounds while others fail. Extensive research in this field, especially by the Effective Schools Movement led to the important conclusions summarized below (Bullard and Taylor, 1993; Barker and Robinson, 2001).

Public schools including those comprising students from poverty-stricken backgrounds can make a difference. This implies that children from poor backgrounds can learn at high levels as a result of effective teaching in schools. This research further revealed that there are unique characteristics and processes common to schools where all children learn, regardless of family background. Since these characteristics found in schools where all students learn, are correlated with student success, they are called correlates of effective schools. Seven of these correlates were identified, namely a clear School Mission; high expectations of success; instructional leadership; the opportunity to learn and time on the task; a safe and orderly environment; positive home-school relations; and the frequent monitoring of student progress.

Work conducted independently in America, Britain and Canada identified similar characteristics which are associated with high performing schools (Calman, 2010). Recent studies conducted by the CCSRI (2009) have come up with similar characteristics.

Further research has also revealed that in chronically struggling schools, where most students or very large subgroups of students are failing, many of these elements are missing. In some cases, it is not a matter of not knowing about them, but rather one of not implementing them (Hassel et al., 2009). The above-mentioned research has been replicated in different types of schools and communities and its findings suggest that adherence to these correlates could be one of the means towards achieving high and sustainable levels of student learning (Barker and Robinson, 2001).

In attempting to diagnose the problem in the Free State schools described earlier with the above research findings in mind, one is tempted to believe that a lack of knowledge of the effect of the above-mentioned correlates or failure to
implement them could be one of the reasons why these schools are struggling to educate their students. The fact that these schools are formerly disadvantaged and that they mostly serve students from poor socio-economic backgrounds should not be regarded as a valid excuse for poor performance. The above cited research has shown that schools in which the correlates are implemented are capable of educating students irrespective of their socio-economic backgrounds.

It is the intention of this study to find out if the selected schools have knowledge of the correlates and whether they are being implemented. The study also intends to work collaboratively with the concerned stakeholders to ensure the effective implementation of the correlates. Investigating the implementation of seven correlates simultaneously, would be a mammoth task and not easy to carry out. It is therefore our intention to investigate them one after another. This study will be geared towards an investigation into the extent of the implementation the frequent monitoring of students’ progress. This investigation will be three-fold: to investigate the extent to which students’ progress is being monitored, to identify threats to successful students’ progress monitoring and to providing a framework for frequent monitoring of students’ progress.

3. Literature Review

3.1 What is Frequent Monitoring of Students’ Progress?

The frequent monitoring of students’ progress has been defined as the frequent and ongoing measurement of student knowledge and skills and the examination of student data to evaluate instruction (Luckner and Bowen, 2010). According to this correlate, students’ progress over the essential objectives are frequently measured and monitored. The results of the two processes are used to improve individual student behaviours and performances, as well as to improve the curriculum as a whole (Lezotte, 2001). Progress monitoring is a scientifically based practice that is used to assess students’ academic performance and evaluate the effectiveness of teaching and learning. Progress monitoring can be implemented with individual students or an entire class (National Center on Student Progress Monitoring (NCSPM), 2012).

This means more than just regional or national testing; it is the ongoing review of student work accompanied by timely corrective feedback. It is believed that schools can transform into proactive, learner-centred educational communities by using authentic forms of assessment that translate into higher student achievement (Lezotte and Pepperl, 1990). Frequent monitoring of students’ progress may be seen as a practice that helps teachers use student performance data to continually evaluate the effectiveness of their teaching and make more informed instructional decisions (Safer and Fleischman, 2005). It differs from normal assessment in that it focuses on student performance on a few critical skills using repeatable weekly or bi-weekly and brief probes (Luckner and Bowen, 2010:)

The above description of frequent students’ progress monitoring suggests that the process is not only carried out for the purpose of making summative decisions, but also to ensure that the student achieves pre-set objectives. This is achieved by keeping the student and teacher informed of progress towards the achievement of the objective and giving teachers an opportunity to adjust their teaching and students to adjust their learning.

3.2 Implementation

Monitoring of students’ progress is implemented in different ways. Generally, it involves determining the students’ current levels of performance; identifying goals for learning that will take place over time (weekly or monthly); measuring progress towards meeting the goals by comparing expected and actual rates of learning; and adjusting teaching based on the measurements to meet the student/s’ needs. Implementation often involves a series of steps which may involve a decision on the level of implementation (individual student, small group, classroom or grade). These are determined by the student’s current performance level on skills that the student will be learning during a particular year; identifying achievement goals that the student must reach by the end of the year; establishing the rate of progress to be made to reach the goals; measuring the student’s academic progress regularly using probes which sample the entire range of skills to be learnt by the end of the year. The above steps supply important data which are then used to adjust instruction to improve a student’s learning if the rate at which the skills are being learnt seems insufficient, as well as to communicate progress to the student, parents and colleagues. (Luckner and Brown, 2010; Safer and Fleischman, 2005).

The above—mentioned steps may be supplemented by the use of technology which will permit teachers to do a better job of monitoring. The same technology will also allow students to monitor their learning and, where necessary,
adjust their behaviour. The use of computerized practice tests, the ability to get immediate results on homework, and the ability to see correct solutions developed on the screen are a few of the available tools for assuring student learning (Lezotte, 2001).

Another form of progress monitoring is Curriculum Based Measurement (CBM). It is a method of monitoring student progress through direct assessment of academic skills. CBM can be used to measure basic skills in reading, mathematics, spelling, and written expression. It can also be used to monitor readiness skills. When using CBM, the teacher administers tests to students that last one to five minutes. The teacher calculates the student’s score by counting the number of correct and incorrect responses made in the allocated time. The score is plotted on a graph and compared to the expected performance on the content of the year. The teacher, parent and student are able to see from the graph how the student is progressing towards the expected performance. The teacher also decides on the basis of the scores whether to continue instruction in the same way or to change it if the student’s rate of progress is lower than required to meet the goal of the year (Mc Lane, 2009).

This method was originally developed as a metric to examine the rates of growth in students participating in special education; its current applications have broadened to both formative and summative assessments of student skill acquisition. Research provides solid validation for CBM’s role in monitoring student progress and making subsequent educational decisions about instructional content and strategies.

In addition to the above, the CCSRI (2009) also recommends implementation through the use of indicators such as attendance rates, course completion rates, grade sand discipline records which are considered equally important in clarifying student needs and in evaluating success. This category of indicators of performance is useful for identifying struggling students and targeting interventions to meet their needs.

Since there are different ways of monitoring students’ progress, it follows that these should be brought to the attention of teachers and other stakeholders to enable them to select what would be best for and their unique school situation. This may necessitate support through professional development programmes which should assist in helping make teachers aware of the benefits of students’ progress monitoring.

3.3 Benefits

Several benefits have been found to be associated with the frequent monitoring of students’ progress. They relate to the students, teachers and the instructional programme of the school.

According to Safer and Fleischman (2005), when teachers frequently monitor their students’ progress, students learn more, teacher decision making improves and students become more aware of their performance. Similarly, the NCSPM (2012) asserts that when progress monitoring is implemented correctly, the benefits are obvious for everyone involved. Some benefits include: accelerated learning, because students are receiving more appropriate instruction; more informed instructional decisions; the documentation of student progress for accountability purposes; more efficient communication with families and other professionals about students’ progress; and higher expectations for students by teachers. Summaries of research supporting the efficacy of progress monitoring also suggest that progress monitoring results in more efficient and appropriately targeted instructional techniques and goals, which together, move students to faster attainment of important standards of achievement (Luckner and Bowen, 2010).

A study conducted by Bowen (2010) on teachers’ perceptions of students’ progress monitoring found that according to the teachers surveyed, one of the greatest benefits was to the students. Because progress monitoring is student centred, the students become involved in documenting and charting their own progress and thus, are more motivated to achieve their goals and to see their own progress. Teachers also reported that the primary benefits for them were that progress monitoring helped them to define instruction, to monitor the effectiveness of interventions, and to ‘fill in the gaps’.

These benefits make it imperative for the process to be pursued and explain why it was included among the correlates of effective schools. Beneficial as it may be, progress monitoring does have some limitations.

3.4 Limitations

There are many challenges faced by teachers regarding progress monitoring. They mostly relate to individual differences and lack of information and support.

According to (Jenkins et al, 2007), individual differences, especially regarding reading, require different kinds of instructions at different times. It becomes a challenge for the teacher to know ahead of time which instructional approach
will lead to the greatest success during ongoing assessment. Teachers are also faced with the challenge of determining how to deliver and monitor interventions for struggling students (Jung and Swan, 2011).

Other limitations faced by students’ progress monitoring mentioned by the Midwest Petroleum and Convenience Tradeshow (2011), include information needed by educators and families regarding the effectiveness of students’ progress monitoring that would encourage them to adopt the practice; support teachers and other practitioners in translating students’ progress monitoring research into easily implemented usable strategies; provide technical assistance on students’ progress monitoring that should transfer knowledge in ways that accommodate differences in background, training and beliefs, as well as differences in the nature and philosophy of instructional programmes and practices already in place; and finally, information dissemination that should take place in a variety of formats in useable forms, and at different levels of specificity. These limitations bring to light the fact that even in countries where the process has been on-going for a number of years there is still room for research and improvement. The limitations also mean that those who wish to implement the process in South African schools should not expect it to be without setbacks.

4. Design and Methodology

The study is anchored in the principles of qualitative research involving focus group discussions. A focus group is a form of qualitative research in which a group of people are asked about their perceptions, opinions, beliefs, and attitudes towards a product, service, concept, advertisement, idea, or packaging. Questions are asked in an interactive group setting where participants are free to talk with other group members (Henderson, 2009). The intention of this approach in this study is to promote and sustain social communication regarding school improvement between university personnel, school management teams, teachers and later, parents and students. This communication should lead to joint problem identification and solving, as well as to the implementation of solutions.

4.1 Participants

Initially, participants in this study were eighteen secondary school principals, deputy principals and departmental heads who were enrolled in the University Advanced Certificate in Education (ACE): School Leadership programme. Finally there were 7 principals, 9 deputy principals and 2 heads of department. They were selected for their convenient accessibility and proximity to the researchers who are lecturers at the same university and involved in the ACE: School Leadership Programme. The conversations were initiated with this group in the hope that once they had bought into the idea, they would facilitate the inclusion of other stakeholders in the team.

4.2 Data Collection and Analysis

Data were collected from the participants through focus group discussions. Discussions were guided by the ten questions listed below. Participants were also requested to comment on possible hindrances and solutions associated with each of the aspects raised in the questions. The conversations were tape recorded with the permission of the participants. The recorded conversations were analyzed in line with the participants’ responses to the questions.

4.2.1 What is progress monitoring?

For the majority of the participants, progress monitoring was synonymous with pencil and paper tests which are given to students as prescribed by the Department of Education. Some of the participants referred to assignments and projects. End-of-year examinations were also mentioned by some of the participants. Identified hindrances included too many learners in classrooms, a lack of specialisation by teachers, with each teacher being responsible for more than two subjects or for teaching different subjects in different grades. According to some of the participants, teachers felt that progress monitoring requires too much time, resulting in reduced teaching time. It was deduced from the responses that the participants’ understanding of students’ progress monitoring was different from that found in the literature.

4.2.2 How often do your schools monitor students’ performance?

Most of the participants (61%) were of the opinion that students’ progress is monitored regularly. For these participants, ‘regularly’ meant something between weekly, monthly and quarterly. Some of the participants were of the opinion that
progress is not monitored regularly, while others were not sure, since according to them, the issue was dependent on the subject teachers concerned. Possible hindrances included large class sizes and poor supervision by heads of department.

4.2.3 How do your schools monitor student performance?

Sixty-seven percent of the participants were of the opinion that students’ performance is monitored in different ways. Several ways of monitoring students’ progress were mentioned. These included: written tests, examinations, classwork, portfolios and homework. The most common hindrance among the participants was the time it takes to mark these pieces of work. This results in teachers designing tasks which are easy to mark, but hardly serve the purpose for which they are meant.

4.2.4 Do teachers use technology to monitor the progress of students?

Fifty-six percent of the participants indicated that they do not have computer facilities; thus, it was not possible for them to use computer-based assessment. Those who have computers were using them for purposes such as the calculation and recording of assessment marks. The biggest hindrance in this regard was a lack of computers, relevant computer programmes, electricity and teachers with the required skills. Suggested solutions relate to the supply of computers and equipping teachers with the necessary skills.

4.2.5 Do students use technology in order to be empowered in their own learning?

Discussion of this issue was similar to the above. The biggest hindrance to schools that have computer facilities was the absence of relevant computer software.

4.2.6 Do teachers use assessment data to focus more attention on the improvement of their teaching?

Very few of the participants (39%) agreed that assessment data are being used to improve their teaching. Further discussion of the issue revealed that data were mainly used to address students’ difficulties, to correct their mistakes and hardly ever used to adjust teachers’ approaches to teaching or to revise the school’s programme. A lack of skill in the best use of assessment data was cited as one of the hindrances of this aspect.

4.2.7 How often is student progress reported to parents?

Seventy-eight percent of the participants agreed that student progress is regularly reported to parents in the form of reports which are posted or sent to parents through their children. Those participants who did not report regularly to parents were prevented from doing so by delays in the completion of marking. Teacher–parent consultations did not take place mainly because of parents’ reluctance to attend them and teachers’ reluctance to organise them. It became clear from this discussion that there was no two-way communication between parents and teachers regarding learners’ progress.

4.2.8 Are students regularly informed of their progress?

Seventy-two percent of the participants agreed that students are informed of the results of the tests that they have written. The biggest hindrance was the lapse in time between the writing of the tests and their return to the students. This problem is caused by the large number of students in classes and the many subjects for which teachers are responsible.

4.2.9 Do school management teams and educators jointly analyse learners’ learning (classroom assessment, portfolios and so forth)?

Sixty-one percent of the participants agreed that school management teams and teachers jointly analyse assessment data. Further discussion revealed that in most schools this was done haphazardly and was not of much assistance, mainly because of a lack of time on the part of school management teams who also have classes to teach.
4.2.10 Are the attendance regularly reviewed, follow-up contacts with home initiated, and progress recorded?

Fifty-six percent of the participants agreed that attendance data were regularly reviewed and follow-up with parents initiated. Further discussion revealed that attendance data were obtained from attendance registers which were marked once a day. In a few cases, attendance was also monitored during each period. Some of the teachers indicated that they regarded poor school/class attendance as an indicator of possible unsatisfactory student progress.

5. Findings

From the above discussions the following could be deduced:

5.1 The extent to which the selected secondary schools monitor the progress of their students:

The study has revealed that in a significantly high number of the selected schools in the Free State province students’ progress is not being monitored as effectively as suggested by the reviewed literature. This is evident from the lack of consensus regarding the meaning of ‘frequently’ and the methods of assessment being used such as homework, examinations and other similar methods. Additionally supporting this view is the fact that crucial practices such as the joint analysis of assessment data by school management teams and teachers, the use of assessment data for the purpose of improving teaching and learning, as well as the provision of feedback to learners and parents, are not receiving sufficient attention. Finally, technology which has the potential to ease the burden on teachers and arouse the interest of students is not being used effectively. It can therefore be concluded that the potential of students’ progress monitoring to improve the school’s performance is not being fully implemented. This suggests that intervention is necessary in this regard.

5.2 The identification of possible threats towards successful students’ progress monitoring

There are several school-related aspects which are likely to threaten the effective implementation of students’ progress monitoring. Firstly, many teachers perceive student progress monitoring as a waste of valuable teaching and learning time. Students’ progress monitoring is therefore not regarded as an integral part of teaching and learning, but as a separate entity requiring its own separate time. Secondly, there is a lack of sufficient knowledge regarding the latest trends in students’ progress monitoring. The participants seem not to be familiar with processes such as Curriculum Based Measurement, the use of probes, and the use of assessment data to improve instruction and student behaviour. Thirdly, there is a lack of equipment needed for computer-based assessment, thereby denying teachers the opportunity of using time-saving and reliable resources. Lastly, insufficient involvement of parents in students’ progress monitoring and large class sizes are not helping to ease the burden on overloaded teachers. These hindrances need to be attended to as a matter of urgency if the schools are to succeed in implementing the correlate effectively.

5.3 Providing a Framework for the implementation of the Frequent Monitoring of Students’ Progress in the selected schools

In light of the theoretical and empirical study conducted, as well as the analysis and discussion thereof with the participants, it is proposed that three of the selected schools commence with the implementation of the correlate. It would be easier to start with the implementation in a few schools, rather than involve all schools simultaneously. The implementation should follow a series of three steps, as suggested below:

5.3.1 Step 1

Information workshops should be jointly planned and run by representatives of the university, school management teams, teachers, students and parents from the three schools. The workshops should focus on the needs as identified through the conversations and the literature review. These include the concept of students’ progress monitoring; the benefits of students’ progress monitoring; the implementation strategies of students’ progress monitoring; computer-based assessment; the involvement of all stakeholders such as parents in students’ progress monitoring; assessment strategies for large classes; and the use of assessment data to improve instruction and students’ behaviour.
5.3.2 Step 2

All participants should be involved in designing implementation plans (framework), taking the unique conditions of each school into consideration.

5.3.3 Step 3

The framework should be tried and tested in the three schools, with the purpose of implementing it in the rest of the schools.

6. Conclusion

The school improvement strategy proposed in this study is based on only one of the correlates of effective schools namely, the frequent monitoring of students' progress. The authors are aware that the implementation of one of more than seven research identified correlates cannot result in immediate school improvement. We are also aware that implementation takes time and therefore, the results will not be immediately visible. Nonetheless, we have to start somewhere. We agree with Lawrence Lezotte in that:

...research and knowledge of the best practices do not give all the answers… There remains much to be done, but it is true that research tells us that some things do tend to work better than others, and they represent a place to begin the improvement journey (Myron, 1992).

The successful implementation of this correlate will hopefully encourage the school improvement teams to enthusiastically investigate and implement the other correlates.

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