

The Implications of Teacher Effectiveness Requirements for Initial Teacher Education Reform

Pretorius, S.G.

Department of Teacher Education, College of Education,
University of South Africa, P O Box 392, Pretoria, 0003, South Africa

Abstract: Problem statement: School effectiveness research shows that teacher effectiveness is the single most important school-based factor in student success. The effects of poor teaching linger and can be measured for at least three years after students have left the classroom. It is too late to wait until secondary school level for backlogs to be eradicated. Education systems, such as the South African system, which grapple with large numbers of dysfunctional schools, should look anew at teacher effectiveness in all school phases. The urgent need for highly effective teachers in every classroom requires that education systems develop a comprehensive definition of teacher effectiveness and create training programmes to develop it. Thus, the problem investigated is: What are the characteristics, skills, attitudes and behaviors associated with effective teachers and what is the best way in which schools of education can adapt initial teacher education to meet the challenges of today's classrooms?

Approach: A mixed method approach was adopted. In addition to an in-depth literature review, open-ended questionnaires, probing perceptions of teacher effectiveness issues were distributed to teachers, school principals, policy officials and teacher educators. Interviews were conducted with a variety of educational experts. Classroom observations of experienced and novice teachers were conducted in a variety of contexts using open-ended classroom observation checklists. **Results:** Based on the findings of the research a synthesis of the characteristics, knowledge, skills, attitudes and behaviors associated with effective teachers was developed. **Conclusion:** If teachers are to be effective their initial training will have to be effective. This study has identified the characteristics and behaviours associated with effective teachers. These indicators are broad guidelines for schools of education to stimulate teacher education reform. Covering the curriculum, structuring of content, appropriate pacing and alignment, clear goal setting, clarity of content and presentation, are a few requirements for effective teachers which have direct implications for teacher education.

Key words: School Effectiveness Research (SER), effectiveness issues, appropriate pacing, training programmes, multiple challenges, neglected primary

INTRODUCTION

This study focuses on teacher effectiveness. School Effectiveness Research (SER) shows that teacher effectiveness is the single most important school-based factor in student success. Teachers, not schools, make the difference in student learning (Wyatt, 1996; Townsend, 2001). The effects of poor teaching and, conversely, good teaching, linger and can be measured for at least three years after the students have left the classroom (Wendel, 2000). It is too late to wait until secondary school level for backlogs built up during years of neglected primary school education to be eradicated.

However, teaching in contemporary societies is an extremely multi-faceted and specialized task. We are living in a rapidly changing world. Teachers are faced with multiple challenges. In this age of rapid change in

the economic and technological fields and the impact thereof on the world of work, great demands are being made on education systems to provide high quality education to raise the standards of achievement.

If teacher effectiveness in this complex era is the single most important school-based factor in student achievement, education reform movements should look anew at teacher effectiveness in all school phases and the factors contributing to effective teaching. The training that teachers receive is most surely one of the critical factors contributing to whether they would be effective or not. Teacher success is inevitably linked to good and effective training.

In South Africa, now almost 18 years after the end of apartheid, it is claimed that between 80 and 90% of all schools "can be labeled as dysfunctional" (Cohen and Seria, 2010). The pass rate for the final school year

dropped for five consecutive years, falling to 62, 2% in 2008 from 73, 3% in 2003 (Cohen and Seria, 2010). A recent SACMEQ (2010) showed that grade 6 learners' reading and mathematics scores in standardized tests ranked ninth among the fifteen countries participated in the study. Only 21% of learners achieved the basic requirements in mathematics (level 3) and only 29% in reading (level 3). After national assessments in February of this year, it was announced by the Minister of Basic Education that grade 3 and grade 6 learners scored on average 35 and 28% for literacy respectively and 28 and 30% for numeracy. According to the World Economic Forum (Schussler, 2011) South Africa is ranked 137 out of 139 countries in terms of mathematics and science education. This is in spite of the fact that education gets the biggest share of the country's budget and is spending far more per learner as in any other African country.

This state of affairs is ascribed to poor teacher education as one of the main reasons for teachers' ineffectiveness in the classroom (Coetzee in Rademeyer, 2011). Although South African teacher education has undergone various reforms since 1994 a recent Higher Education Quality Committee review found: "The quality of a substantial proportion of teacher education programmes is questionable, with few meeting minimum standards in the areas of programme organisation, design, coordination and work-based learning." It is further stated: "Many students, especially in PGCE programmes, are not given sufficient opportunity to engage in practice learning and this problem is compounded by weak institutional-school relationships, poor communication, few and inadequate supervision and mentorship arrangements and sometimes no deliberate student placement policies" (DHET, 2010).

Thus, the aim of this research was to identify the attributes of effective teachers and reflect on how these findings could help shape future teacher education programmes in South Africa.

Research problem: The urgent need for highly effective teachers in every classroom requires that an education system develops a comprehensive definition of teacher effectiveness and create training programmes and professional development support to maintain and develop it. Thus, the problem being investigated in this research is: What are the characteristics, skills, attitudes and behaviours associated with effective teachers and what is the best way in which schools of education can adapt the initial training of teachers to meet the challenges of today's classrooms?

MATERIALS AND METHODS

An in-depth review of the existing literature has been conducted. SER, within which parameters teacher effectiveness studies could be placed, has produced a voluminous amount of studies and findings in terms of school effectiveness over the last three decades. According to Sammons (2006) the key features of SER methodology is that it is mainly quantitative. Due to a call for more qualitative research from the side of the critics of SER, case studies and mixed methods approaches are increasing in importance (Wyatt, 1996; Teddlie and Reynolds, 2001). This study adopted a mixed method approach. In addition to the literature review, open-ended questionnaires, probing perceptions of teacher effectiveness issues were distributed to teachers, school principals, policy officials at education departments and teacher educators. Interviews were conducted with a variety of educational experts. Furthermore, classroom observations of both experienced and novice teachers were conducted in a variety of contexts using open-ended classroom observation checklists.

Teacher effectiveness: a review of the literature:

The critical importance of effective teachers in all classrooms: Research consistently shows that teachers have the greatest potential to influence children's education (Muijs and Reynolds, 2001). "Teacher quality matters. In fact, it is the most important school-related factor influencing student achievement" (Rice, 2003). School effectiveness research has shown that teachers and the learning level are three to four times more powerful than the school level (Reynolds, 1998). In examining longitudinal achievement of students, Sanders (Wendel, 2000), maintains: "The single largest factor affecting academic growth of student populations is differences in effectiveness of individual classroom teachers."

In view of a myriad of reforms to improve schools in recent years, Darling-Hammond (2010a; 2010b) highlights an important lesson from these efforts, namely "the repeated finding that teachers are the fulcrum that determines whether any school initiative tips towards success or failure".

Muijs and Reynolds (2002a), citing Sanders and Rivers, indicate that students taught by ineffective teachers for consecutive years do significantly worse in both gains and achievement compared to their peers assigned to effective teachers for consecutive years. "Students who have highly effective teachers for three years in a row will score 50% points higher on achievement tests than students who have less effective teachers three years in a row" (Sanders and Rivers as

cited (Varlas, 2009). Furthermore, high quality teachers can make up for the typical deficits in the preparation of learners from disadvantaged areas (Varlas, 2009).

If then so that teachers make the difference in student learning, more so than school-based factors such as class size, what makes an affective teacher?

Teacher effectiveness an elusive concept: Despite general agreement in the literature that teacher effectiveness is of critical importance, Coggshall (2007) states: “Not only are there a multiplicity of perspectives on what makes teachers ‘good’, there are deeply held personal and professional beliefs and values surrounding what ‘good’ is and how to gauge it in a meaningful way.

From a policy perspective, Rice (2003) points out that the literature on teacher quality and qualifications has been viewed as inconsistent and inconclusive. “In the absence of a strong, robust and deep body of research, the debate in this field is largely ideological. From a UK context it is claimed: “Our ignorance in the area of teacher effectiveness is virtually total” (Reynolds 1998).

Furthermore, teacher effectiveness is strongly influenced by the context of instruction and the conditions under which teachers work. Highly effective teachers in affluent areas with well-resourced schools may not be equally effective in high-needs schools in high poverty areas (Darling-Hammond, 2010a).

Perspectives on teacher effectiveness: In defining teacher effectiveness, scientists would approach it from different perspectives. Some would emphasise the characteristics of effective teachers, while others will study the qualities, behaviours, attitudes, dispositions, personality traits, activities and strategies of effective teachers. Others will distinguish between the inputs, the processes and output factors, while others will define it from a value-added perspective.

Despite the elusiveness of the concept and the many orientations, Wong and Wong (2011) argue that effective teaching is not a mystery. “Effectiveness is identifiable, teachable and implementable.”

Coggshall (2007) uses the term teacher quality as a catch-all term encompassing many aspects of what makes teachers ‘good’ at what they do. It includes concepts such as teacher effectiveness but also teacher qualifications, expertise, capacity, performance and more. Teacher effectiveness is more narrowly defined with a focus on teachers’ contributions to student outcomes.

Goe *et al.* (2008), referring to the ongoing debate about what an effective teacher is and does, assert that judging teachers could be approached from three

different but related angles, namely from an *input*, *process* or *output* perspective. *Inputs* are what a teacher brings to his or her position in terms of background, beliefs, expectations, experience, pedagogical and content knowledge, certification and licensure and educational attainment. In the literature these measures are often referred to as “teacher quality”. The processes angle refers to the interaction that occurs in a classroom between teachers and students. Outputs represent the results of classroom processes such as the impact on student achievement, graduation rates, student behavior, attitudes, social-emotional well-being and more. According to these authors, outputs can be referred to as teacher effectiveness. However, teacher effectiveness as used in the research literature is often limited to mean impact on student achievement specifically.

Darling-Hammond (2010a) builds on above-mentioned distinction in describing teacher quality as the bundle of personal traits and understandings an individual brings to teaching, including dispositions to behave in certain ways. She refers to research which has found that more effective teachers generally possess the following qualities:

- Strong general intelligence and verbal ability that help them organize and explain ideas and observe and think diagnostically
- Strong content knowledge in the fields they teach
- Knowledge of how to teach others in that field, in particular how to develop higher order thinking skills
- An understanding of learners and their learning and development, of how to assess learning and support students with learning differences or difficulties as well as those learning the language of instruction
- Adaptive expertise that will allow them to make judgments about what is likely to work in a given context in response to students’ needs

After a review of the teacher effectiveness literature, Sammons (2006) concludes that effective teachers are associated with the following characteristics:

- They teach the class as a whole
- They present information or skills clearly and animatedly
- They keep the sessions task-orientated
- They are non-evaluative and keep instruction relaxed
- They have high expectations for achievement and give more homework, pace lessons faster and create alertness
- They relate comfortably to students and in such reducing behavior problems

Sammons (2006) further provides a list of teacher behaviors which promote achievement and which stresses similar aspects:

- Emphasise academic goals
- Make goals explicit and expect students to be able to master the curriculum
- Organize and sequence the curriculum carefully
- Use clear explanations and illustrate what students are to learn
- Ask direct and specific questions to monitor students' progress and understanding
- Provide students with ample opportunities to practice
- Give prompts and feedback to ensure success
- Correct mistakes and allow students to use a skill until it becomes automatic
- Review work regularly and hold students accountable for their work

In an extensive review of effectiveness literature Reynolds (1996) highlights important teaching variables associated with effectiveness in the classroom, including the following:

- Structured lessons-students do better when their school day is structured with teachers organizing student work ensuring that there is plenty for them to do
- Intellectually challenging teaching-student progress is faster when teachers stimulate them using problem-solving and higher order questioning and statements
- A work-centered environment-this is associated with a high level of student time on task with students enjoying their work and demonstrating an eagerness to begin new tasks; noise levels are low; and movement around the classroom is minimal and work-related
- Limited focus in sessions-students do better when teachers focus on one or two subject areas within the same classroom activity
- Maximum communication between teacher and students-the more communication between teacher and students the better students learn; communication to individual students is less effective than teachers using opportunities to talk to the whole class
- Record-keeping-this is essential, not only for the principal but also the teacher as it is used in planning and other assessment activities

Goe *et al.* (2008) consider the following five point definition of teacher effectiveness which is formulated

on the basis of an evaluation of discussions of the topic in the literature. These are the following:

- Effective teachers have high expectations for all students and help students learn, as measured by value-added or alternative growth measures
- Effective teachers contribute to positive academic, attitudinal and social outcomes for students such as regular attendance, on-time promotion, self efficacy and cooperative behavior
- Effective teachers use diverse resources to plan and structure engaging learning opportunities; monitor student progress formatively, adapting instruction as needed and evaluating achievement using multiple sources of evidence
- Effective teachers contribute to the development of classrooms and schools that value diversity and civic-mindedness
- Effective teachers collaborate with their peers, administrators, parents and education professionals to ensure student success, in particular those with special needs and at risk of failure

In their extensive research Muijs and Reynolds (2002a) work towards a more comprehensive definition. Teacher effectiveness research has led to the identification of a range of behaviors that are positively related to student achievement in basic skills. A consistent finding is that effective teachers emphasize academic instruction as their main classroom goal; they have an academic orientation and create a business-like, task-orientated environment. They spend classroom time on academic activities rather than socializing. They are good classroom and behavior managers and clearly instruct students on proper behavior procedures.

Students learn more in classes where they spend most of their time being taught, rather than working on their own. Teacher-led discussion as opposed to individual seatwork dominates. Therefore, effective teachers take an active role rather than just facilitating students' learning. In avoiding students remaining passive during a lesson, effective teachers ask a lot of questions, a mix of low-level and higher level questions.

Although the above behaviorist teacher effectiveness strand has been challenged by the 'connectionist' or 'constructivist' paradigm, teacher behaviors have been the most significant predictor of student progress over time (Muijs and Reynolds 2002b).

RESULTS

Based on the findings of the literature review as well as the methods indicated under methodology, a synthesis of the knowledge, skills, attitudes and

behaviors associated with effective teachers have been identified:

- Effective teachers have strong personalities. They command respect. They are intelligent, full of confidence, positive, enthusiastic, friendly and genuinely care for their students
- Effective teachers believe all students can succeed and have high expectations of them.
- Effective teachers create an inviting environment in their classrooms displaying appropriate learning support materials which stimulate students' interest and are changed often
- Effective teachers have an academic orientation. They create a businesslike and task-oriented atmosphere influencing high students' time on task. They spend classroom time on academic activities.
- Effective teachers display a deep knowledge and understanding of the subject or discipline they teach, the salient concepts thereof, the relations among concepts and how to apply discipline knowledge.
- Effective teachers continue learning in order to stay abreast of changing demands and the rapid increase in knowledge in most disciplines. They are active researchers
- Effective teachers know how to teach their subjects effectively. Different subjects have different epistemologies and the implicit prescriptions and proscriptions are known to effective teachers (cf Clarke and Walsh, 2002)
- Effective teachers are flexible. They apply a variety of strategies and teaching approaches to ensure the best possible mastery of different aspects of the subject content
- Effective teachers have the skills to utilize technology to the fullest, not only in their classrooms but also as a valuable source of new information.
- Effective teachers are excellent communicators. They communicate subject knowledge actively, clearly and in a structured way
- Effective teachers teach the class as a whole because communication to individual students is less effective than teachers using opportunities to talk to the whole class
- Effective teachers have an in-depth knowledge of the curriculum, the outcomes and assessment practices required and the particular contents to be taught in the relevant phase of learning
- Effective teachers cover the curriculum thoroughly. They organize and sequence the curriculum carefully.
- Effective teachers know the child, the developmental phases and the learning needs of the various phases
- Effective teachers know how to support students with learning differences or difficulties as well as those learning the language of instruction
- Effective teachers understand diversity and teach in a manner that includes all the diverse needs of students from different ethnic, religious and social groups
- Effective teachers come to their classrooms well-prepared. The three most important words to a teacher are: preparation, preparation, preparation.
- Effective teachers initiate lessons from a striking angle immediately catching all students' interest.
- Effective teachers' lessons progress in a structured way by linking work with students' prior knowledge, stating clear objectives, outlining content, giving attention to key points, explaining the relations between concepts and other sections of the subject content and reviewing main ideas at the end of the lesson. Lessons proceed at a brisk pace
- Effective teachers have a limited focus in sessions because they know students do better when teachers focus on one or two curriculum areas within the same classroom activity
- Effective teachers ensure that students are actively involved in lessons in various ways. The teacher asks a lot of well-planned and challenging questions and constantly monitors students' progress and understanding. Students take part in the discussions, in problem-solving and well-planned group work
- Effective teachers incorporate regular, well-planned and challenging homework giving thorough feedback to students on their progress. They show high levels of praise and encouragement
- Effective teachers apply a variety of formative and summative assessment strategies according to the school's assessment policy utilizing scores of achievement to determine trends and apply corrective teaching measures
- Effective teachers develop effective systems of record-keeping
- Effective teachers are able to reflect on their teaching practice in order to determine deficiencies and continuously improve their teaching strategies.
- Effective teachers are competent classroom managers. They are able to plan and organize classroom activities and behaviors so that an effective teaching environment is created. Noise levels are low and movement around the classroom is minimal and work-related. Although a business-like and task-orientated atmosphere is maintained, a healthy classroom climate and friendly atmosphere exist

- Effective teachers contribute to positive academic, attitudinal and social outcomes for students such as regular attendance, dedication and self efficacy.
- Effective teachers are leaders in their own right. They have appropriate knowledge of leadership theories and styles and apply democratic leadership. Students take part in decisions and behavior management
- Effective teachers are self managers. They manage their time effectively and apply counter strategies to avoid burnout
- Effective teachers collaborate well with their peers in teams and with administrators, parents and education professionals to ensure student success, in particular those with special needs and at risk of failure

DISCUSSION

A barrage of criticism was levelled over the last two decades at initial teacher education in many countries. This has prompted efforts to redefine what makes an effective teacher, which have in turn led to a new conception of what constitutes teaching quality and a shift in the locus of reform from schools to classrooms. A continuation of teacher effectiveness research, according to Townsend (2001), may lead to a better understanding of how important issues such as initial teacher training and ongoing professional development might be to student achievement.

This study argues that the characteristics of effective teachers should constitute the broad guiding principles for initial teacher education. The indicators as identified above have direct implications for teacher education. In view of these indicators the teacher education curriculum should emphasise the following:

- Develop appropriate values including honesty, integrity, collegiality, consistency, fairness, genuine care for students, sensitivity for diversity and a work ethic
- Develop effective attitudes and orientations including an academic orientation, high expectations, enthusiasm, being positive and motivated, an eagerness to continue learning and self-confidence
- Train students in the use of effective learning support material and how to create an effective learning environment which attracts students' interest and make them eager to learn.
- Develop effective time management strategies so that teachers will ensure high time on task
- Introduce effective teaching methods for the specific subject or phase they will teach, the salient concepts thereof, the relations among concepts and how to apply knowledge. Different subjects have different epistemologies and the implicit prescriptions and proscriptions are known to effective teachers
- Train student teachers how to be flexible and to utilise a variety of strategies and teaching approaches to ensure the best possible mastery of different aspects of the subject content
- Train teachers to use technology and how to integrate appropriate technology in the teaching of the particular subject or discipline
- Work on student teachers' communication skills and how to communicate effectively and in a structured way especially where both teachers and learners are learning the language of instruction.
- Research findings show that communication to individual students is less effective than teachers using opportunities to talk to the whole class. Train teachers to use the principles of whole-class teaching effectively
- The school curriculum, in particular the curriculum of the subject that the student will teach, should be dealt with thoroughly. A curriculum cannot be covered effectively if a teacher does not have appropriate background in this regard.
- Train teachers thoroughly how to organize, sequence and cover the curriculum of a subject on a particular grade level
- Provide thorough knowledge of the learning child in its various developmental phases.
- Prepare student teachers how to support students with learning differences or difficulties as well as those learning the language of instruction
- Create sensitivity for diversity and how to teach in a manner that includes all the diverse needs of students from different ethnic, religious and social groups
- Proper preparation is essential for teacher effectiveness. Train future teachers how to plan a lesson thoroughly and provide for all necessary elements of an effective lesson
- Train future teachers the elements of a structured lesson, from linking work with students' prior knowledge to stating clear objectives and reviewing main ideas at the end of the lesson
- Train future teachers how to pace a lesson effectively and to limit the scope of a lesson to one or two curriculum areas within the same classroom activity.
- Student teachers should be trained how to actively involve students in lessons in various ways such as discussions, problem-solving and well-planned group work
- Train teachers in the techniques of questioning in order to ask questions at various cognitive levels.

- The planning of appropriate and challenging homework as well as thorough feedback to students on their progress is an aspect in which student teachers should be trained.
- Future teachers should be well-trained in effective formative and summative assessment strategies and also the specific assessment requirements of the subject that they will teach.
- Train teachers how to develop effective systems of record-keeping.
- Train teachers to be able to reflect on their practices.
- In order to be lifelong learners, future teachers should be trained in the basics of research to become active researchers.
- Teachers should be thoroughly trained in classroom management in order to be able to effectively plan, organize, lead and control all activities and behaviors, to create a conducive classroom climate where teaching and learning could happen in a relaxed but controlled atmosphere.
- Teacher leadership is an essential pre-requisite for future teachers.
- To be able to cope with the challenging demands of today's classrooms, teachers should be trained in the principles of self-management, such as effective time management.
- Teachers don't operate in a vacuum. Teamwork, collaboration with fellow teachers, parents, other professionals and stakeholders are essential aspects to be addressed in teacher education.

CONCLUSION

Teachers, not schools, make the difference in student learning. If teachers are to be effective their initial training will have to be effective. This study has identified the characteristics and behaviors associated with effective teachers. These indicators are broad guidelines for schools of education to effect teacher education reform. Although the behaviorist approach could be criticized, it is a valuable approach because teacher behaviors are according to research by Muijs and Reynolds (2002a) the most significant predictor of student progress. It is therefore clear according to these authors that a significant amount of initial teacher training should be devoted to behavioral factors.

This research falls into the category of grounded theory, given that the researcher continues to shape conclusions as data is gathered and new information becomes available from ongoing interviews, classroom observations and more.

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