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School Inspectors' Role of Supporting Mathematics Educators in South African Township Schools

Abstract

The purpose of the paper is to highlight ways in which mathematics educators are supported through school inspection. The aim of this paper is to establish whether mathematics educators are adequately supported through school inspection to address mathematics problems within South African classes. For this goal to be achieved, governments have tasked district officials, hereafter known as school inspectors to ensure and guarantee the delivery of quality education to learners. Despite the belief that school inspection may have a positive impact on the teaching of mathematics, little is known about how school inspectors support mathematics educators. A critical factor in capacitating mathematics educators is to ensure that they acquire effective teaching skills to address learners' mathematics problems. The study employs a qualitative conceptual approach using literature that includes books, articles and chapters written on mathematics, locally and internationally. Due to the limited discourse on how school inspectors capacitate and supervise educators in South Africa, the text serves as a significant piece in understanding how school inspection is implemented for developing mathematics educators in South Africa. The argument posed is whether school inspectors can succeed in adequately fulfilling this task. Findings reveal that supporting mathematics educators provides opportunities that make a real and lasting difference in learners' lives. Recommendations are that the government and educational stakeholders should ensure that school inspection is regulated to ensure mathematics educators are capacitated to address difficulties in mathematics learning.

Keywords: school inspection, educator capacitation, educator supervision, improved performance, educator support, township schools

Introduction

Several scholars believe that school inspection is a school accountability system (Pashiardis & Brauckman, 2010) and is responsible for assessing performance of educators and general effectiveness of the school. Similarly, Macharia and Kiruma (2014) argue that school inspection is an accountability mechanism that governments use to ensure value for money invested in the education system. Aligned to this is the perspective of Ehren et al. (2013) that school inspection holds school managers and educators are answerable for range of goals related to student achievements. School inspection is a necessary approach of accountability for supporting educators and learners in schools, however, it is one of the most challenging aspects in education. Accountability is a universal feature of decision environments, with a distinct attribute of discernment that reminds people to act in accordance with the existing norms of a society, and provides a rationale for people to behave in conformity or contrary to the existing norms (Frink & Klimoski, 2004). It is an indispensable condition for the sustainability of any society that connects

decision makers to their society and places of work. Mathematics serves as a foundation subject for many other disciplines (Roesken, 2010) and the key to improving performance and throughput in mathematics is through capacitation, supervision and support of mathematics educators by school inspectors, to ensure effective teaching and learning occurs. This conceptual descriptive qualitative paper analysed local and international literature and official documents to highlight the role of school inspectors of supporting mathematics educators.

School inspection

School inspection is a necessary precursor to improving teaching and learning in schools if properly implemented, however, the new mathematics curriculum and teaching standards do not match the qualified and competent mathematics educators, nor do they address problems in township schools, where high-quality mathematics teaching is needed (Darling-Hammond, 2000). School inspectors are tasked to monitor schools to ensure the successful achievement of outcomes in schools (De Clercq, 2013). Through school inspection, mathematics educators can be provided with accurate information about the current state of education in schools (AlKutich & Abukari, 2018) to address mathematical challenges. School inspection, therefore, is a critical mechanism for enhancing teaching and learning in the school context, especially the township schools in South Africa to guarantee value for money in the education system. The term township refers to the underdeveloped urban living areas previously reserved, and still are residential areas for Blacks, Coloureds and Indians (Monyooe, 2017). Township and rural schools in South Africa have considerably fewer opportunities to excel in mathematics, because educators in these schools, lack knowledge, and skills in mathematics, and the schools are also under-resourced. The assumption is that mathematics educators should be supported and developed professionally to do their best work with learners, and to be retained.

Mathematics educators

According to Rogan (2004), mathematics educators have sufficient subject matter knowledge and have successfully completed a minimum teaching qualification. Mogari et al. (2009) maintain that mathematics requires a deeper understanding of content, and interpretation of mathematics concepts. This view is in line with that of the Department of Education (2000) which states that the standards set for teacher classroom performance and learner achievement should ensure teachers meet the expected standards and adapt to curriculum changes (Supovitz & Turner, 2000). According to the South African Schools Act (1996), the term learner refers to any person receiving tuition or is obliged to receive education ranging from early childhood education to adult education. In this study, the term learner refers to high school students in a secondary school.

Professional development and support of educators

Despite recognition of the importance of educator support through professional development, what is currently available for mathematics educators in South Africa, is inadequate (Borko, 2004). The competencies and abilities of mathematics teachers

do not meet learner expectations, despite school inspection being regarded as the best means to improving teaching practice (Supovitz & Turner, 2000). OECD (2009) defines educator professional development as individual teacher activities for developing skills, knowledge, expertise and other characteristics. Teaching competency requires continuous support and guidance in a particular learning area (DoE, 2000) and should be aligned with the teacher's actual job. Instead of working with the assumption that teachers have a basic knowledge of teaching mathematics, the professional development process should aim at improving the teachers' academic standing as well as competence and efficiency in discharging professional obligations inside and outside the classroom (Komba & Nkumbi, 2008). Any constraints in work performance should be dealt with proactively as soon as it occurs and should involve a proper diagnosis of the actual causes of the poor work performance and appropriate corrective measures. Mathematics educator support can be enhanced through formal structures, like courses, workshops, and informal and internal teacher collaboration that includes coaching and mentoring and external networking between different schools.

Mentoring and coaching

Mentoring and coaching are amongst the most effective means of supporting educator professional development, though in practice the quality of mentoring and coaching is extremely variable (Hobson et al., 2015). Mentoring and coaching are a goal-oriented process that is directed towards ensuring organisational processes put in place maximise productivity of educators, and ultimately, that of the school. The terms mentoring and coaching are considered as two areas of practice that have large areas of commonality and overlap. Mentors are often more effective if a coaching style adopted is appropriate (Darwin, 2000). Effective mentoring and coaching rely on wisdom and prior knowledge. Mentoring and coaching include qualities of mutual respect and valuing differences of viewpoint, acknowledgement of influences, and listening and sharing (Garvey, Stokes & Megginson, 2009). Mentoring and coaching should be an ongoing process that involves experienced educators assisting struggling educators after personal and professional development needs are identified, and this should be in line with set goals. The performance commitments, deliverables, performance standards and time frames should be developed and recorded in the mentoring and coaching programme.

Mentoring and coaching can lead to empowering educators in the workplace. During mentoring and coaching support is provided through the monitoring and adjustment of the implementation of mentoring and coaching strategies, in order to make changes, where necessary (Nankervis & Compton, 2006). The educators often receive the greatest benefit, but the mentor and coach also benefit, and may feel a sense of empowerment from the relationship established. Not all academics improve performance, nor is non-improvement solely the result of mentoring and coaching. Sometimes, the performance targets established cannot be achieved within required timeframes with the resources provided (Darwin, 2000), however, mentoring and coaching should be adopted as a source of information for capacitating educators after performance evaluation, and for making decisions about professional development. The achievement of mathematics improvement is influenced by organisational cultures and subcultures, organisational values, the physical

environments of work, social and peer associations, etc. Therefore, knowledge, understanding and application of mentoring and coaching is imperative for performance improvement.

Theoretical framework and research methodology

According to Ozga (2013), school inspection is an accountability framework that is necessary for driving educational improvement, sets targets, provides incentives, and specifies contracts and measures results. According to this scholar, school inspection needs to focus on the core business of education which is teaching, learning and pupils' behaviour. Akin to the above perspective, Frink and Klimoski (2004) consider accountability to be a means of creating formal and informal mechanisms for reporting issues in an organisation. In agreement with the above perspective, several scholars confirm that school inspection is a mechanism for demanding accountability from school educators and managers. Gagnon and Schneider (2019) in their study of school accountability in the United States of America concluded that accountability encourages efficiency and effectiveness of schools. They recommend that instead of using it to punish and stigmatise poor performing schools, it should instead be used to help understand why the schools perform poorly and design strategies on how to improve them. In a similar way, Dedering and Muller (2011) hold that school inspection is a logical way of evaluating conditions, methods and outcomes of the work of individual schools based on standardised criteria of assessment that is capable of providing objective data to be used to identify areas for development. Williams (2018) argues that accountability requires people to justify their actions, feelings and belief system. It is a way of holding leaders and managers answerable for the decisions they make; it is a force that makes people more rational, accurate and diligent in their dealings. It helps people to pay attention to details in their thoughts and dealing because of fear of disapproval.

Accountability also makes people answerable for the resources entrusted to them to improve the quality of education in the system (Erdağ, 2017; Macharia & Kiruma, 2014; Ehren et al., 2013; Figlio & Loeb, 2010; Luginbuhl, Webbink & de Wolf, 2009). School inspection should therefore provide professional guidance to educators to ensure compliance to educational standards, laws, policies and regulations (Jones & Tymms, 2014). School accountability improves the operation of schools and should be preceded by support of teaching and learning, assessment of practices, with special focus on answerability by key stakeholders of the schools (Albareda, 2013). To the above scholars, accountability is usually exercised through group norms and corporate culture manifested through monitoring and evaluation functions, employee contracts, reward systems, disciplinary procedures, supervisory leadership and training. It is therefore necessary that school inspectors evaluate mathematics educators' teaching practice, and for the mathematics educator to defend or justify teaching practices based on set standards.

Implications

Support for mathematics educators is essential for ensuring commitments made to education are seriously translated into relevant actions in schools. School

inspector's support for mathematics educators is a way of mounting pressure on school systems to ensure the teaching of mathematics provide the necessary performance, professional capabilities, rewards, punishment and performance in schools. School inspectors are accountable for improved performance, therefore accountability in the educational system is an educational management approach that aims at improving quality of the educational services in a country. It is a financial control mechanism and academic enhancement strategy (Erdağ, 2017). School inspection should result in mentoring and coaching of mathematics educators in areas of need and mentoring and coaching should be aligned to the school's planned goals, objectives, and initiatives to improve learner and school performance. Lack of commitment and unclear aims may result in the non-attainment of goals. The implication is that school inspectors should be vigilant about the educator practices in task performances. Mentoring and coaching practice in schools could enhance the growth and development of mathematics educators as well as the school. Mentoring and coaching of mathematics educators is central to ensuring support and commitment to tasks relevant to required goals in the school (Rots et al., 2007). Acquired competencies by mathematics educators will lay a strong foundation for improved performance and may enhance skills essential to address challenges experienced in mathematics teaching. The study is significant in that a consolidated practical advice to be applied to South African schools is provided, with efforts directed at improving mathematics performance.

Conclusion

School inspection is necessary for controlling current practices in mathematics, planning for the future and making decisions about educator promotions (Merchant & Van der Stede, 2007). The increasing demand for greater accountability by education departments makes it imperative for the emphasis on performance improvement. School inspection is a highly important issue that should be effectively embraced by educators as an essential aspect of their work (Ellett & Teddlie, 2003). School inspectors, therefore, need to understand how to design a more effective systems for performance evaluation and support of educators. This means that they should constantly be measuring, evaluating, designing and changing their assessment and evaluation systems. The reason is poor assessments can lead to low motivation, commitment, and loyalty by staff (Kreitner & Kinicki, 1998). Mathematics educator support should be a dynamic, ongoing, continuous process that ensures identification of individual job performance needs for achievement of school goals. School inspectors should monitor the teaching of mathematics in schools and identify areas that require educator mentoring and coaching for support. Experienced senior educators may be approached to mentor and coach educators in specific areas of need in mathematics for professional growth and development, to improve individual and institutional performance. Mentoring and coaching, therefore, should be a formally set, continuing, and systematic practice and process that motivates and aids educators. Improving individual performance and accountability should not only be for individual performance, but also for developing educators to make informed decisions about their profession and career.

References

Albareda, L. (2013): CSR governance innovation: standard competition-collaboration dynamic. *Corporate Governance*, 13(5), 551-568.

AlKutich, M. & Abukari, A. (2018): Examining the Benefit of School Inspection on Teaching and Learning: A Case Study of Dubai Private Schools. *Teaching and Learning*, 9(5), 37-48.

Borko, H. (2004): Professional development and teacher learning: Mapping the terrain. *Educational Researcher*, 24, 417-436.

Darling-Hammond, L. (2000): *Solving the Dilemmas of Teacher Supply, Demand, and Standards: How We Can Ensure a Competent, Caring, and Qualified Teacher for Every Child*. New York: Opinion Papers.

Darwin, A. (2000): Critical reflections on mentoring in work settings. *Adult Education Quarterly*, 50(3), 197-211.

De Clercq, F. (2013): Professionalism in South African education: The challenges of developing teacher professional knowledge, practice, identity and voice. *Journal of Education*, 57, 31-54.

Dedering, K. & Muller, S. (2011): School Improvement through Inspections? First Empirical Insights from Germany. *Journal of Educational Change*, 12(3), 301-322.

Department of Education (DoE) (1996): South African schools act. *Government Gazette, Notice*, (84).

Department of Education (DoE) (2000): *Norms and standards for educators. National education policy act 27 of 1996*. Pretoria: Government Printers.

Ehren, M. C., Altrichter, H., McNamara, G. & O'Hara, J. (2013): Impact of school inspections on improvement of schools – describing assumptions on causal mechanisms in six European countries. *Educational Assessment, Evaluation and Accountability*, 25(1), 3-43.

Ellett, C. D. & Teddlie, C. (2003): Teacher evaluation, teacher effectiveness and school effectiveness: Perspectives from the USA. *Journal of personnel evaluation in education*, 17(1), 101-128.

Erdağ, C. (2017): Accountability Policies at Schools: A Study of Path Analysis. *Educational Sciences: Theory and Practice*, 17(4), 1405-1432.

Figlio, D. & Loeb, S. (2010): School accountability. In E. A. Hanushek, S. J. Machin & L. Woessmann (Eds.) *Handbook of the Economics of Education*, Vol. 3 (pp. 383-421). Amsterdam: North Holland.

Frink, D. D. & Klimoski, R. J. (2004): Advancing accountability theory and practice: Introduction to the human resource management review special edition. *Human resource management review*, 14(1), 1-17.

Gagnon, D. J. & Schneider, J. (2019): Holistic school quality measurement and the future of accountability: pilot-test results. *Educational Policy*, 33(5), 734-760.

Garvey, R., Garvey, B., Stokes, P. & Megginson, D. (2017): *Coaching and mentoring: Theory and practice*. London: Sage publications.

Hobson, A., Maxwell, B., Stevens, A., Doyle, K. & Malderez, A. (2015): *Mentoring and coaching for teachers in the further education and skills sector in England*. UK: Education Research Centre, Sheffield Hallam University.

Jones, K. & Tymms, P. (2014): Ofsted's role in promoting school improvement: the mechanisms of the school inspection system in England. *Oxford Review of Education*, 40(3), 315-330.

Komba, W. L. & Nkumbi, E. (2008): Teacher professional development in Tanzania: Perceptions and practices. *Journal of International Cooperation in Education*, 11(3), 67-83.

Kreitner, R. & Kinicki, A. (1998): *Organisational behaviour*. Boston, Mass: McGraw-Hill.

Luginbuhl, R., Webbink, D. & De Wolf, I. (2009): Do inspections improve primary school performance? *Educational evaluation and policy analysis*, 31(3), 221-237.

Macharia, S. M. & Kiruma, N. S. (2014): What Ails School Inspection in Uganda? Reflections, Experiences and Emerging Issues. *International Journal of Education and Research*, 2(3), 1-12.

Merchant, K. A. & Van der Stede, W. A. (2007): *Management control systems: performance measurement, evaluation and incentives*. UK: Pearson Education.

Mogari, D., Kriek, J., Stols, G. & Iheanachor, O. U. (2009): Lesotho's students' achievement in mathematics and their teachers' background and professional development. *Pythagoras*, 70, 3-15.

Monyooe, L. (2017): Reclassifying Township Schools – South Africa's Educational Tinkering Expedition! *Creative Education*, 8(33), 471-485.

Nankervis, A. R. & Compton, R. L. (2006): Performance management: theory in practice? *Asia Pacific Journal of Human Resources*, 44(1), 83-101.

OECD (2009): *Creating Effective Teaching and Learning Environments. First Results from TALIS*. Technical Report. Paris: OECD.

Ozga, J. (2013): Accountability as a policy technology: accounting for education performance in Europe. *International Review of Administrative Sciences*, 79(2), 292-309.

Pashiardis, P. & Brauckman, S. (2010): The Commonwealth's Co-LEAD Project. In *Commonwealth Education Partnerships 2010/11* (pp. 41-46). Commonwealth Secretariat: Nexus.

Roesken, B. (2010): *Hidden Dimensions in the Professional Development of Mathematics Teachers: In-Service Education for and with Teachers*. Rotterdam: Sense Publishers.

Rogan, J. M. (2004): Out of the frying pan: Case studies of the implementation of Curriculum 2005 in some science classrooms. *African journal of research in mathematics, science and technology education*, 8(2), 165-179.

Rots, I., Aelterman, A., Vlerick, P. & Vermeulen, K. (2007): Teacher education, graduates' teaching commitment and entrance into the teaching profession. *Teaching and Teacher Education*, 23(5), 543-556.

Supovitz, J. A. & Turner, H. M. (2000): The effects of professional development on science teaching practices and classroom culture. *Journal of Research in Science Teaching*, 37(9), 963-980.

Williams, J. B. (2018): Accountability as a debiasing strategy: Testing the effect of racial diversity in employment committees. *Iowa Law Review*, 103(4), 1593-1638.

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