The Significance of Models of Continuous Professional Development Programmes in Promoting Quality Teaching and Learning in Schools

Hasha Rio and Wadesango Newman
University of Limpopo, Republic of South Africa:
Corresponding author: newman.wadesango@ul.ac.za

ABSTRACT

Continuous professional development (CPD) of educators is a crucial function within school environments and operations as it is deemed to help develop teachers into more effective educators. At its simplest form CPD can be viewed as the development of educator skills, knowledge and overall competence in promoting student achievement. The view is that improving teacher quality can improve learning outcomes for students. Teachers are constantly faced with new challenges or opportunities within their teaching context and might need some insight, knowledge, support or creative ideas on how to handle these situations. The single most significant factor why teachers should be professionally developed is based on the conviction that the quality of teachers influences the quality of the learners' experience and achievement in a positive way. Presently in South Africa there is an energetic political press to judge teachers' quality by measuring learner performance. Raising the quality of teacher performance through teacher development programmes is essential. A desktop research methodology was engaged in this study. Basically, the desktop research involved collecting data from existing credible published resources. The authors sourced and reviewed literature on the topic. Among others, these sources included journal articles, books, magazines and newspapers. In the light of the scholarly literature, the purpose of this paper was to show the importance of CPD as guided by models of educator continuous professional development programmes.

Key words: Continuous professional development, skills, knowledge, competence, student achievement, desktop research, models.

BACKGROUND TO THE STUDY

Educators are expected to be knowledgeable of their profession, maintain high academic standards and be accountable for students' progress and achievements (Mizell, 2010; Vracar, 2014; Bautista and Ortega-Ruiz, 2015). Ucan (2016) and Cooper (2016) concur, adding that high priority must be given to educator continuous professional development. Continuous professional development (CPD) embraces the idea that individuals aim for continuous improvement in their professional knowledge and skills beyond the basic training initially required to carry out the job (Pedder and Opfer, 2010; Moonasar and Underwood, 2018). CPD is especially critical in schools where the kind of education that students receive is heavily dependent on the quality, efficiency and effectiveness of educators. It can therefore be envisaged that CPD embraces the notion that teachers should ideally aim for continuous improvement in their professional skills and knowledge beyond the basic training initially acquired or required to carry out the job.

Srinivasacharlu (2019:30) offers a comprehensive definition of CPD as;

> *...one involving on-going divergent activities (formal, non-formal and informal) that aim at developing the teacher educator's intellectual abilities (cognitive domain), self-confidence, attitude, values and interest (affective domain), and skills*

> *and competencies (psychomotor domain) for improving personality and to carry out responsibilities of the teaching profession properly in accordance with the changing times and needs of the prospective teachers and society.*

Mitchell (2013:388) agrees by simply viewing CPD as, *"The continuation of a teacher's professional development beyond their initial training, qualification and induction."* It implies that educators never cease to learn. CPD therefore, puts emphasis on lifelong learning 'zeroing-in' on student achievement. The common denominator is that the staff skills and competencies are improved upon in order to produce outstanding educational results for students. Additionally, CPD is lifelong in one's working life. Therefore, professional development of educators is the cornerstone for the provision of quality teaching and learning (Ushie, 2009; Bernadine, 2019). CPD is ideally a system that encourages teachers to grow professionally. Procedurally, challenges that teachers face need to be identified and then improvement measures to the system are suggested for implementation.

The term Continuing Professional Development (CPD) is said to have been coined by Richard Gardner, who was in charge of professional development for the building professions at York University in the mid-1970s (Gray, 2015). According to Gray (2015), CPD embraces the idea that individuals aim for continuous improvement in their professional skills and knowledge beyond the basic training initially required to carry out the job. Gray (2015) further states that, in teaching, such development used to be called 'in-service training'. In line with Gray's idea, Mohammed (2006) says that Continuing Professional Development may be regarded as all forms of 'in- service', 'continuing education', 'on-the-job-training', 'workshop', 'post qualification courses' etc. whether formal or informal, structured or unstructured, teacher- initiated or system-initiated, accredited or not. Desimone (2009) concurs with Gray (2015) and Mohammed (2016) and writes that:

> Teachers experience a vast range of activities and interactions that may increase their knowledge and skills and improve their teaching practice, as well as contribute to their personal, social, and emotional growth as teachers. These experiences can range from formal, structured topic- specific seminars given on in-service days, to everyday, informal "hallway" discussions with other teachers about instruction techniques, embedded in teachers' everyday work lives (p.182)

From the above definitions of CPD, it can be noted that Continuing Professional Development is designed to contribute to learning of teachers who have completed their initial or pre-service training. For the purposes of this study, the term Continuing Professional Development refers to the formal courses and programmes that are attended by primary school teachers with the purpose of enhancing their professional skills so that they become better teachers. These formal courses and programmes may be in the form of but not limited to the following as outlined by Gray (2015): whole-school training days; undertaking joint training exercises with other schools; joining teacher networks, engaging with specialist subject associations; and attending short courses in the form of workshops and seminars at zonal, district or national levels.

Research in Pakistan shows that there has been a lack of engagement of principals in the professional development of teachers,

causing tensions as accounting officers are responsible for the day-to-day running of schools, and provision of space for teachers to share practices that would improve their practices and content knowledge (Khamis & Shammons, 2007:579 in Tsotetsi & Mahlomaholo, 2013). Teachers who attended professional development programmes could not share the theory they learnt as they needed the go-ahead from their masters (Tsotetsi & Mahlomaholo, 2013). For those who did succeed the result was minimal (Murtaza, 2020:214). The minimal success of sharing best practices was caused by a lack of overt support from the principals and as a result the sustainability and continuity of professional development in Pakistan was at stake. Passing on information from teachers who attended professional development programmes to those who could not attend did not materialise (Tsotetsi & Mahlomaholo, 2013). The frustration emanated from success of the implementation of the acquired knowledge being reliant on one person, the teacher who attended the professional development programmes (Khamis & Shammons, 2017:575; Vazir & Meher, 2010:124). No space was opened for teachers to learn collaboratively so the education system remained stagnant. The lecturing method was the dominant method of teaching, with learners still expected to memorise and regurgitate 'facts' transferred to them by teachers. The scenario will not change unless teachers' pedagogical practices and content knowledge are enhanced (Vazir & Meher, 2010:124 in (Tsotetsi & Mahlomaholo, 2013).

For South Africa, teacher professional development is an aspect of the Integrated Quality Management System (IQMS) policy document (Department of Education (DoE), 2003:3). Although the IQMS policy has a programme of professional development, teachers in the study conducted by Khumalo (2008:77, Tsotetsi & Mahlomaholo, 2013) showed that they did not see the actualisation of the contribution of the IQMS on teacher development. In addition, the study also noted three aspects. Firstly, teachers did not have time to serve on the Development Support Group (DSGs). Secondly, they indicated that training offered by the DoE was inadequate for them to implement the policy (Hlongwane, 2009:4; Kganyago, 2014:33; Khumalo, 2008:77; Mabotsa, 2005:3), leading to its failure. Lastly, they did not understand the purpose of the IQMS policy (Mabotsa, 2005:3 in Tsotetsi & Mahlomaholo, 2013).

> This research originates from the calls for more emphasis on educator professional development to support student achievement. The notion of educator CPD is part of a wider debate on educator professionalism. The South African education system is in dire need of competent educators with relevant knowledge, skills and abilities to manage and develop their learners (Steyn, 2008; Boaduo, 2010; Steyn, 2010; Harnet, 2012). Teachers in present day South Africa are expected to be reflective and change oriented thereby to meet the government and public demand for quality education (Steyn, 2010). This situation signifies the importance of CPD aimed at improving the quality of the teaching/learning process in particular and improving the quality of education in general.

Research indicates that many CPD programmes for teachers are unsatisfactory and have not met intended goals (Boyle et al 2005:4; Mewborn & Huberty 2004:4). Burke (1997:299) blames ineffective CPD programmes on research, since many programmes are based on faulty assumptions of such research or even no research at all

The approach to institute continuous professional development programmes in schools is through the guidance of some professional development packages in the form of models that have been tested and tried over time (Poekert, 2012; Fullan and Hargreaves, 2013). The models discussed in this article are not all-inclusive, but they are considered to be potentially effective in implementing continuous professional development.

In real or true practice, models of educator professional development do not appear in isolation at implementation phase, but there might be some considerable overlap amongst them. It should be stressed here that it is not sufficient to learn mere models in isolation. Instead, these models must be in the context and totality of continuous professional development at large. Only then, can the engagement of models and the use of particular techniques, strategies or methods be determined.

Rationale for studying CPD

NSTED (2007), emphasizes that initial teacher preparation will never be sufficient as far as effective teaching is concerned. It is Continuing Professional Development which enables a teacher to go on teaching effectively (NSTED, 2007). This implies that, even if standards for pre-service education of teachers are improved, it will not necessarily lessen the need for continued in-service preparation and professional growth. So teachers, like other professionals, must continue with their education after their pre-service education. Robinson and Latchem (2003) captured in Mohammed (2016) have indicated some identifiable stages in the process of becoming a teacher. They identify a five-stage model of novice, advanced beginner, competent performer, proficient performer, and expert teacher. According to Dreyfus & Dreyfus (1986), novices and advanced beginners exercise no judgment, whereas a competent performer will judge by means of conscious deliberation. Proficient performers and experts make judgments based on their prior concrete experiences. Hence, how people make judgments while performing a particular task is based on their level of experience within that task (Dreyfus & Dreyfus, 1986). The journey from being a novice teacher to becoming an expert teacher is facilitated, quickened and made less stressful by well-planned Continuing Professional Development programmes (Mohammed, 2016; Selemani-Meke, 2011)).

Research on teacher education has consistently stressed the need to regularly provide opportunities for teachers to improve their knowledge of the subject matter they teach and the teaching skills they learned in the pre-service courses they attended (Selemani-Meke, 2011). This is based on the recognition of the fact that we live in a rapidly changing world, such that whatever knowledge and skills teachers acquired in their pre-service training becomes stale very fast as new challenges and realities emerge in the socio-economic and political environments. This explains why in some countries such as Singapore, every teacher is required to submit himself/herself to 100 hours of retraining every year (Mohammed, 2016). In Malawi, each teacher is allocated a minimum of 3 days per year of In-service Training (Policy Investment Framework, 2001). In some cases, for instance in Mexico, the training of high school mathematics teachers is not organized in the form of a well-defined teacher training program. These teachers go into high school mathematics teaching without being specially prepared for it (Guttenberger, 1992). This situation makes in-service teacher training more and more important. In Malawi, more and more emerging topics arise such as HIV/AIDS,

sex education, life skills and others in addition to new curriculums for which teachers are not thoroughly prepared during their pre- service training. Hence, there is a need for CPD to equip them with skills on how to handle such topics.

In line with the above need for CPD, Bolam (2000) and Hargreaves (1994) point out that professional development is an essential part of improving school performance (Selemani-Meke, 2011). This performance is not only in terms of learner achievement but also in terms of school culture, learner and teacher behaviours, and attitudes towards each other in the school as well as to visitors to the school.

Professional development should be seen as a process by which teachers review, renew and extend their commitment as change agents to the moral purposes of teaching; and by which they acquire and develop their knowledge, skills and attitudes. Hendricks and Bisschoff (2009) state that there are many reasons for undertaking professional development, such as to improve the job. performance skills of an individual, extend the experience of an individual teacher for career development or promotion purposes, develop the professional knowledge and understanding of an individual teacher in order to fulfil his/her responsibilities more effectively, extend the personal or general education of an individual, make staff feel valued, promote job satisfaction, develop an enhanced view of the job, enable teachers to anticipate and prepare for change and to derive excitement from it, and make teachers feel willing and competent to contribute positively to the development of the school.

Teacher change is a complex process as highlighted by writers such as Andreasen et al. (2017); Clarke & Peter (1993); Clarke & Hollingsworth (2012); Cobb, Wood, & Yackel (1990); Desimone (2009); and Guskey (1986) among others. CPD programme implementers need to be aware of what is involved for teachers as well as the CPD providers to achieve the goals of an effective CPD programme. These goals include the need to initiate change in the classroom practices of teachers, change in their attitudes and beliefs, and change in the learning outcomes of students. They also need to be aware of the order in which the change progresses, according to Guskey (1986), significant change in teachers' attitudes and beliefs occurs primarily after they gain evidence of improvements in student learning. These improvements typically result from changes teachers have made in their classroom practices.

Literature shows that there has been an increase in focus on Continuing Professional Development for teachers worldwide. This is because CPD is continuously being viewed as a means of improving learner performance and the production of required skills (Coolahan, 2018; Fraser et al., 2007). Armour & Evans (2016) further add that effective professional development may have a positive effect on teacher knowledge and motivation as well as in improving students' learning. However, despite the general acceptance of professional development as essential to improvement in education, literature has consistently pointed out the ineffectiveness of most programmes (Clarke & Hollingsworth's, 2012; Cohen & Hill, 2019; Kennedy, 2018). Different authors have suggested ways to effectively implement Continuing Professional Development of teachers.

RESEARCH OBJECTIVE

To establish the extent to which models of teacher continuous professional development programmes may influence the promotion of quality teaching and learning in schools.

RESEARCH PROBLEM

The Department of Basic Education (DBE) of the Republic of South Africa is on record to challenge schools to accelerate gains in student achievement to meet stakeholder expectations. The DBE (2017) analysis of the 2016 matric results for the Pietersburg Circuit in Polokwane indicates an average circuit pass rate of 78.4%, but further analysis shows a worrisome low pass rate with some schools. For instance, Guava High School had 36%, Apple School 42.9%, Grape Fruit 36.4%, Orange 57.2%, Lemon 59.2% and Mango Secondary School with 39.7%. It is on this background that we were motivated to embark on this study.

RESEARCH METHODOLOGY

This is a desktop research method that involved collecting and examining information that already exists on the internet, libraries, published journals and periodicals, magazines, published government reports and theses. Desktop research is secondary research where the researchers reviewed what other researchers had established. The data was found to be necessary in providing baseline information in understanding CPD.

REVIEW AND DISCUSSION OF RELATED LITERATURE

The quality of teaching is a critical factor influencing students' learning (Chapman, 2012). This naturally provokes educationists and theorists to wonder how best the quality of teaching and learning might be enhanced to improve student achievement. To consider possible answers to this question, this article draws from international theories and research CPD models that may be engaged to promote effective and efficient CPD programmes in schools.

MODELS OF CONTINUOUS PROFESSIONAL DEVELOPMENT

Sparks and Loucks-Horsley (1989) identify five models of professional development, namely; Individually guided professional development, Observation/assessment, Involvement in a development/improved process, Training and Inquiry.

Individually guided professional development

Educators may learn and do learn many academic and professional aspects of their career on their own. Reading professional publications, discussing with colleagues or experimenting with new instructional strategies, are among such engagements (Malik, 2016). Such activities may occur with or without the existence of a formal professional development programme.

The key characteristic of the model is that the educator designs the learning. The educator is perceived to determine his or her own goals, and in the process, selects the activities that will result in goal achievement. The underlining assumption is that individuals can best judge their own learning needs and that they are capable of some sort of self-direction and self-initiated learning (Trotter, 2006). In other words, the model assumes that adults are likely to learn most effectively when they initiate, design and plan their learning activities as opposed to spending their time in activities that are perceived as less relevant than they themselves would design (Drago-Severson, 2008; Malik, 2016).

The proponents of this model seem to recognize that the circumstances that are most suitable for one person's professional growth or development may be quite different from those that promote another individual's growth. Sparks and Loucks-Horsley (1989:4) put it more candidly, by

stating that, *"Consequently, individually-guided staff development allows teachers to find answers to self-selected professional problems using their preferred modes of learning*." As a result, individually guided professional development is likely to allow educators to find answers to self-selected professional problems using their preferred modes of learning.

Observation/Assessment

With this model, another educator or a group of fellow educators, the principal or head of department as the professional development providers observe educators at work for example, on lesson delivery. The lesson is observed and recorded, highlighting strengths, weaknesses and possible suggestions for improvement. A feedback must be provided at a later stage to reinforce on strong practices and to help educators improve upon their performance.

According to Sparks and Loucks-Horsley (1989:7), *"Observation and assessment of instruction provide the teacher with data that can be reflected upon and analyzed for the purpose of improving student learning."* In other words, reflection and analysis of an educator's performance is hereby viewed as a means for professional growth when suggestions for improvement are put forward. The key assumption inherent in this model is that reflection by an educator on his or her practice can be boosted or enhanced by another's observations (Sparks & Loucks-Horsley, 1989). Teaching is typically an isolated profession-taking place more commonly in the presence of no other adults. This scenario renders educators unable to practically benefit from the observations of other colleagues. Nonetheless, when educators have *"another set of eyes"* a different view of how he or she is performing with learners or students is given (Burns, 2014: 2).

Yet another assumption is that observation and assessment of classroom teaching can benefit both parties involved, that is, the educator being observed and the observer. The educator benefits from receiving helpful feedback on his or her behaviour from a colleague. Further, the observer benefits from watching a colleague, preparing the feedback and discussing the common practice (Sparks & Loucks-Horsley, 1989; Eliahoo, 2016).

Under this model, assessment is also extended to the student. Examining the student's work entails an educator collaborative on-going or formative assessment of the learner's work. The learner's work is examined in view of the way the educator would have designed and executed the teaching content or lesson. As a result, the lesson would be restructured in an attempt to improve educator and learner performance.

Burns (2014:3) clarifies by stating that, *"This type of professional development uses highly structured protocols that make the examination of student work non-threatening and keep the focus off what the teacher did or did not do and instead on evidence of student learning."*

It is hoped that when educators see positive results from their efforts to change, they are more likely to continue to engage in self-improvement to resultantly benefit the student. This theory is supported by research findings by (Guskey, 2002) in his 'Teacher Change Theory'.

Enshrined in observation and assessment is the lesson study approach. Educators hereby collectively and collaboratively plan, develop and improve upon a lesson. That is followed by field-testing the lesson in a classroom by observing it and making any necessary changes. Data is collected to see the impact of the lesson on

student learning. Usually, this process is repeated over a period of months. Burns (2014) claims that lesson study has been shown and proven to improve the educators' design and instructional skills. All that is needed is to provide the educators with the time, resources and skilled facilitation needed to make it a success.

Involvement in a development/improvement process

According to Sparks and Loucks-Horsley (1989), educators are sometimes asked to develop or adapt curriculum, design programmes or engage in some systematic school improvement processes. The idea behind it is to improve classroom or curriculum. Such projects are ideally meant to solve some envisaged problem or problems. The successful completion of the projects would result in educators acquiring specific knowledge or skills such as in curriculum planning, research on effective teaching or group problem-solving strategies. The learning could be acquired through such approaches as in reading, discussion, observation or some other form of training. As is evident, this model tends to focus on a combination of a myriad of learning activities that would result from the involvement of educators in such development/improvement processes (Sparks and Loucks-Horsley, 1989).

Once more, the assumption is based on the notion that adults learn most effectively when they have a need to know or a problem to solve (Trotter, 2006). In other words, educator learning would be driven by the demands of problem solving. Another assumption of this model is that people in general, working closest to the job are better positioned to understand what is required to improve their performance. The educators' teaching experiences, therefore, guide them to frame problems and develop appropriate solutions.

One more assumption of this model is that educators acquire important knowledge and skills through their involvement in school improvement or curriculum development processes. Sparks and Loucks-Horsley (1989) assert that such involvement may cause changes in attitudes or the acquisition of skills as individuals or groups work towards the solution of a common problem. The theory around this model is supported by research carried out by Glatthorn (1987) and Glickman (1986), both cited in Sparks and Loucks-Horsley (1989).

Training model

The educators attend workshop type sessions facilitated by a trainer who has the relevant expertise (Sparks & Loucks-Horsley, 1989). The activities may include lectures, demonstrations, microteaching, or some role paying. The training sessions are conducted in pursuit of set objectives or goals. It is the facilitator or trainer's role to select the training activities such as in lectures, demonstrations, role-playing or simulation (Lee, 2005; Burns, 2014). Such activities would aid educators in achieving the desired outcomes.

The key assumption in this model is that there are behaviors and techniques that are worthy replicating in the classroom. Another assumption that undergirds the training model of professional development is that educators can change their behaviors and learn to replicate behaviors in their classroom that were not previously in their practice or repertoire. Inherent in this model is that training is a powerful process for enhancing knowledge and skills (Joyce & Showers, 2002).

The theory underpinning this model is supported by Burns (2014) study-group approach. In the study, the reading, discussions, writing and reflections are under the supervision and guidance of a skilled

facilitator. Herein, critical issues are formally discussed amongst educator peers to benefit each other. In study groups, educators collaborate as a single large group or in smaller teams, to study a particular issue with the goal of solving a common problem or creating and implementing a plan to attain a common goal. It is interactive and problem-solving in nature (Burns, 2014).

Educator preparation aligned to the training model is designed for student educators or untrained educators awaiting training. The reality is that some schools employ unqualified, untrained or semi-trained educators (referred to in this study as student educators). These educators often are given same responsibilities and mandate to teach like any other professionally qualified educator unless they are engaged as assistant educators.

The best educator-prep programmes emphasize subject matter and provide many opportunities for student educators to spend time in real classrooms under the supervision of an experienced mentor before they are released to stand on their own. The idea is to allow the educator candidates the time to apply their learning of theory in the context of teaching in a real classroom.

Additionally, educator induction programmes are ideal for newly qualified educators. Support for beginning educators is often uneven and inadequate as they are assumed to be fully equipped and ready to execute their duties (Sparks, 2002; Kennedy, 2005; Edutopia, 2008). Newly qualified educators may be assigned to some challenging schools or classes with little supervision. The much younger and inexperienced educators may choose to leave the profession frustrated in response to being assigned to demanding school environments. Attention, therefore, must be paid to providing them with early and adequate support.

Edutopia (2008:1) underscores the above claim by stating that, *"Mentoring and coaching from veteran colleagues is critical to the successful development of a new teacher. Great induction programs create opportunities for novice teachers to learn from best practices and analyse and reflect on their teaching."*

The training model of professional development is universally recognisable (Edutopia, 2008; Burns, 2014). The model supports a skills-based technocratic view of teaching whereby professional development provides educators with the opportunity to update their skills in order to be able to demonstrate their competence (Kennedy, 2005; Burns, 2014). Prominent features include that an expert generally delivers it to the educator whereupon the expert determines the agenda. The educator (participant) is placed in a passive role. The training may take place at the school but is most commonly delivered off-site and is often criticized for its lack of connection to the current classroom context in which participants work. Hoban (2002) in Kennedy (2005) put forward a claim that the training model is acknowledged as an effective means of introducing new knowledge.

Inquiry model

An individual educator or a group of teachers may do educator inquiry. It can take different forms. For instance, educators undertake to study basic classroom research techniques, formulate research questions, gather and analyse data, and use their findings to improve instruction in the classroom (Lee, 2005). A group of teachers may gather weekly to examine the research on ability grouping or streaming, and their findings shared.

Loucks-Horsley (1987) quoted in Sparks and Loucks-Horsley (1989:18) put forward three assumptions about educator

inquiry approach to professional development:

- Educators are intelligent, inquiring individuals with legitimate expertise and important experience.
- Educators are inclined to search for data to answer pressing questions and to reflect on the data to formulate solutions.
- Educators will develop new understandings as they formulate their own questions and collect their own data to answer them.

The model encourages cooperative study by educators themselves into problems and issues arising from their practice.

On-going professional development

It is critical for veteran educators to have on-going and regular opportunities to learn from each other. On-going professional development keeps up to date on new research on how children learn, emerging technology tools for the classroom, new curriculum resources, and more. Edutopia (2008: 1) posits, *"The best professional development is on-going, experiential, collaborative and connected to and derived from working with students and understanding their culture."* This model appears to embrace all the models put forward by Sparks and Loucks-Horsley (1989) and Burns (2014).

Educators may also engage in what is referred to as open classrooms. Educators see other educators in action. Educators create lessons and invite colleagues to observe the lesson and provide feedback in a post-observation session. The focus of open classroom is on educator behaviour. Gaible and Burns (2007) cited in Burns (2014) asserts that when the observation is followed by structured discussion and information sharing after watching more skilled colleagues in action, it tends to benefit both parties – those conducting the lesson and those observing.

The award-bearing model

An award-bearing model of professional development relies on and emphasises on the completion of award-bearing programmes of study. Such studies are usually (but not exclusively) validated by universities or some tertiary college. According to Kennedy (2009), this external validation can be viewed as a mark of quality control. It may also be viewed as the exercise of control by the validating or funding bodies.

Kennedy (2009) cites Solomon and Tresman (1999) as pointing out those award-bearing courses need to be focused on classroom practice, on issues of value and relevance to the teaching and learning of the student.

The deficit model

Continuous professional development can be designed specifically to address a perceived deficit in educator performance as in performance appraisals. The model, therefore, can be viewed as a means of raising standards in educator performance and student achievement. According to Kennedy (2005), performance appraisal requires that somebody take charge of evaluating and managing change in educator performance by attempting to remedy perceived weaknesses in individual educator performance. However, what is not always clear is what the expectations are for competent performance and whose notion of competence they reflect (Kennedy, 2009; Elliot, 2015).

Kennedy (2009) in reference to Rhodes and Beneicke (2013) claims suggests that the root causes of poor educator performance are related not only to individual educators, but also to organisational and management practices. To attribute blame to individual

educators, and to view professional development as a means of remedying individual weaknesses, suggests a model whereby due cognisance on collective responsibility is not considered (Kennedy, 2009; Sammons & Bakkum, 2011; Elliot, 2015).

The cascade model

The term cascade literally refers to a process whereby something (typically information or knowledge) is successfully passed on or disseminated. The cascade model involves individual educators attending training events and then cascading or disseminating the information to colleagues. It is commonly employed in situations where resources are scarce or limited (Kennedy, 2009). Solomon and Tresman (1999) in Kennedy (2009) suggest that one of the drawbacks of this model, however, is that what is passed on in the cascading process is generally skills-focused or knowledge-based, but rarely focuses on values. This is an argument that is also articulated by Nieto (2003) cited in Kennedy (2009), when she claims that educator education needs to shift from a focus on questions of "what" and "how" to also consider questions of "why."

It could therefore be argued that the cascade model supports a "technicist" view of teaching, where skills and knowledge are given priority over attitudes and values (Kennedy, 2009; Elliot, 2015).

The standards-based model

The terminology "standards" may interchangeably be used with "competences." The chief feature of this model is in that it represents a desire to create a system of teaching and educator education that can generate and validate the connections between educator effectiveness and student achievement (Beyer, 2002) in Kennedy (2009). "Standards" also provide some form of benchmark or yardstick or common language, thereby making it easier for educators to engage in dialogue about their professional practice (Kennedy, 2009). In other words, the standards-based model may bring some form of uniformity in the professional development of educators.

Critics of this model, such as Beyer (2002) cited in Kennedy (2009), disagree with the mode of operation inherent in this model in that it relies heavily on a behaviourist perspective of learning; focusing on the competence of individual educators and resultant rewards at the expense of collaborative and collegiate learning.

The coaching/mentoring model

The coaching/mentoring model appears to cover a whole range of professional development models that have already been discussed in this chapter as most professional development programmes have a lot to do with some coaching or mentoring of some sort. However, the defining characteristic of this model is the importance of the one-on-one relationship between two educators (Kennedy, 2009). Coaching is more skills-based, whereas mentoring involves an element of counselling and professional friendship (Rhodes & Beneicke, 2002) in Kennedy (2009). Mentoring also often implies a relationship where one partner is novice and the other more experienced (Clutterbuck, 2002) cited in Kennedy (2009).

The mentoring or coaching relationship can be collegiate as in peer coaching. However, it is probably more likely to be hierarchical as in novice/experienced educator mentoring relationship. The novice/experienced educator model is akin to apprenticeship; where the experienced educator initiates the novice educator into the profession. In direct contrast, the coaching/mentoring model involves a more

equitable relationship. According to Kennedy (2009:243), it allows for the two educators involved to, *"... discuss possibilities, beliefs and hopes in a less hierarchically threatening manner."* Ideally, two or more educators, in confidence, work together as colleagues. They could share ideas, teach one another or collaboratively solve problems within the workplace. Furthermore, the colleagues could expand, refine or build new skills, or conduct research in their teaching endeavour.

The community of practice model.

There is a clear relationship between communities of practice and the mutually supportive and challenging form of the coaching/mentoring model discussed above. Kennedy (2009), however, picks up an essential difference in that a community of practice generally involves more than two people, and would not necessarily rely on confidentiality. Learning within a community of practice happens because of that community and its interactions. Boreham (2000) in Kennedy (2009) highlights the added value of learning in communities (considering the existence of individual knowledge and the combinations of several individuals' knowledge through practice) coming as a powerful ingredient for the creation of new knowledge.

In a school set-up, the community of practice can act as a powerful ingredient of transformation, whereupon the sum total of individual knowledge and experience of educators is enhanced significantly through collective endeavour (Kennedy, 2009).

The action research model

In action research study, the participants involve themselves as researchers with a view to improve the quality of action within it (Kennedy, 2009). Advocates of the action research model Weiner (2002), Burbank, and Kauchack (2003) cited in Kennedy (2009), tend to suggest that it has a greater impact on practice when it is shared in communities of practice or enquiry.

Burbank and Kauchack (2003) in Kennedy (2009) argue that collaborative action research provides an alternative to the passive role imposed on educators in traditional models of professional development. They advocate that educators be encouraged to view research as a process as opposed to merely a product of someone else's endeavours. It is also, arguably, a means of limiting dependency on externally produced research such as those coming from universities. The action research model tends to shift the balance of power towards educators themselves through their identification and implementation of relevant research activities (Kennedy, 2009). Furthermore, action research as a model of professional development has been acknowledged as being successful in allowing educators to ask critical questions of their practice.

The transformative model

The transformative model of professional development tends to involve a combination of a number of aspects, processes and conditions, which are drawn from other models outlined in this study. Kennedy (2009) asserts that it is chiefly characterised by a combination of practices and conditions that support a transformative agenda. In this sense, it could be argued that the transformative model is not a clearly definable model in itself; rather it recognises the range of different conditions required for transformative practice (Kennedy, 2009).

It could be argued further, that one of the key characteristics of the transformative model is its integration of the range of models described above, together with a real sense of

awareness of power issues, that is, whose agendas are being addressed through the process (Kennedy, 2009). Nieto (2003) in Kennedy (2009) pointed out that this model is not so much evident in schools, except for limited small-scale research activities featuring in academic literature.

Like other teaching and learning processes and experiences, professional development cannot be handled by an isolated strategy or model. Lee (2005) hereby presents a model of the Teacher Needs-Based (TNB) professional development programme. The TNB is deliberately designed to fulfil educators' needs, which reflect their personal shortcomings or deficiencies in content, students' needs and/ or education policy (Lee, 2005). In his research, the primary goal of TNB, according to Lee (2015:41) was, *"...to deepen the participating teachers' conceptual understanding of mathematics content knowledge and pedagogical content knowledge by exposing them to innovative and creative approaches that necessitate active participation in developing mathematics concepts."*

The TNB professional development programmes should be decided upon based on educators' inputs. Belcastro and Isaacson (1992) cited in Lee (2015) called for a TNB professional development programme that is responsive to the intrinsic needs of educators to be more productive. In other words, educator professional growth is most possible when a professional development programme responds to educators' needs. Educators themselves need to determine what students already know and what they still need to know. Information on student needs may be identified through a variety of classroom assessments or routines such as through written or oral tests, conversations or observations. In other words, educators need to focus on areas of weak student performance, as well as their own understanding of teaching concepts and pedagogical techniques to improve those areas of deficiency (Lee, 2015).

The TNB model is best affected through workshops conducted through discussions, collaborative group work, hands-on activities, problem-solving opportunities, reflections and presentations by participants. Further, approaches may include additional reading materials for educators, developing lesson plans or solving teaching problems with invented ways (Lee, 2015).

SUMMARY

Teachers should see value in attending the CPD programme activities. CPD programmes which neglect to provide for the development of a sense of commitment and mutual support for the activities undertaken by the participants will not have long-term effects. Hence, any CPD activities which are imposed on teachers from above are destined for failure if they do not take into account the teachers' perception of reality (Selemani-Meke, 2011). The teachers may attend. They may even get involved to a certain degree, but if the activities do not deal directly with the teachers' perceived reality, the activities will have little permanent effect on them. The challenge however for CPD programme implementers remains how to gear their programmes in such a way that they take on board all the elements discussed in this article.

The researchers note that the combination of all the models discussed above takes into consideration the complexity of CPD programming which cannot be achieved by use of any one model. In any evaluation of CPD programmes, one has to consider how issues to do with the personal, social and occupational aspects of the teacher were integrated into the design of the programmes. Bell and Gilbert's (1996) model can give guidance on this. Again, in

the evaluation of CPD programmes, one has to focus on the process of delivering CPD and how the programmes ensure transformative practices in the teachers. Kennedy's (2005) framework for studying CPD is well placed to give guidance on this aspect. Lastly, in the evaluation of CPD programmes, one has to consider the kinds of opportunities (Fraser et al., 2007 call them spheres of action) for professional learning that the CPD programme implementers provided. Reid's quadrant of teacher learning can facilitate this process (Selemani-Meke, 2011).

CONCLUSIONS

This article aimed to present a review of the scholarly literature to illustrate the importance of the teachers' CPD in enhancing student achievement as well as scrutinize the role of CPD models in influencing CPD of teachers. Teachers need to be motivated to seriously commit themselves to the implementation of what they learn from CPD training Given the importance of the teachers' role in the implementation of educational reforms and student achievements in general, this article calls for future research to further explore the optimal conditions under which effective CPD processes can occur.

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