BETWEEN TEACHERS AND CHEATERS: CRITICAL PERSPECTIVES ON CONTINUING PROFESSIONAL TEACHER DEVELOPMENT TOWARDS EDUCATION 2030 AGENDA IN AFRICA

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ABSTRACT

Reasons why teachers might cheat range from money, politics, sex, favoritism, time constraint, frequent curriculum changes, and unrest. Teachers' professional development (PD) is related to benefits accruing from Continuing Professional Development (CPD) enterprise which engender changes in learning and teaching, and teachers' attitudes, beliefs, and practices. PD affords teachers to remain professional and not to be seen as cheaters. This professorial inaugural speech, therefore, examines some manifestations of cheating by teachers and the critical perspectives on CPD for teachers and classroom-based practices in Africa, intending to differentiate between teachers and cheaters among the teaching professionals. This paper is based on a review of articles to conduct an analysis of the PD concept and programmes of continuing professional teacher development (CPTD) for fostering the best classroom-based practices among teachers in Africa. The paper is guided by the attitudinal teacher development model. Other areas highlighted and discussed in this paper include international and national perspectives on CPD, approaches to CPD, professional development types, benefits accruing from CPD and factors promoting it, mitigating CPD challenges, 21st-century implications of PD with the intervention of ICT for teachers' professional development, CPD policy, and institutional reforms. The paper concludes that the professional development of teachers is undergoing a continuous professionalism focus towards the education 2030 agenda in Africa and should, therefore, adopt the developed strategies for professional teaching conduct focusing on the empowerment of teachers to help them overcome the upcoming challenges of continuous professional practice and development in the teaching field.

Keywords: Professional development, professional practice, international and national perspectives, Reflection, Professionalism

INTRODUCTION

Teachers are said to be nation-builders and that is the reason why no nation can be greater than the quality of its teachers. The role of teachers in the 21st century has left us with some doubts as to whether teachers are cheaters or not. Consequently, I had to reflect as follows:

Today, a lot of people now go into the teaching career for the sake of just being employed. However, the teaching profession is more than that! Teaching is a calling. One who is coming into this profession must possess attributes such as patience, love, passion for learners, endurance, creativity, emotional balance, coordination, and selflessness. As a teacher, one should be able to have an average knowledge of relevant societal issues and have a strong knowledge of the subject matter. Good teachers go the extra mile to bring out the best in their learners. But what do we see today? People enteentero this vocation without motivation, which is a pity as this forms part of the poor results in many schools. Over two decades of my teaching career, I could detect teachers who are born, are not made those who are made, but not born. For me, both should happen (Adu, 2015:6).

Professional or career development that was a must in the past has become optional in the 21st century due to teachers' negligence and unenthusiastic attitude. Poskitt (2014) sees professional development (PD) as a curative measure for addressing meaty issues arising from teaching and learning processes, which may include 'short-term', 'once-off courses', and deliverables to teachers with the least adaptations and customization to the teachers' career requirements. Similarly, King (2014:7) critiques the view that professional development (PD) is construed "as 'inputs' such as courses, rather than the 'actual development of knowledge and expertise (outcomes)". King (2014) rather considers PD as professional learning (PL) that aims at empowering the teachers as learners who become responsible for their continued learning.

Be that as it may, professional learning not only puts into cognizance the beliefs, values, and knowledge, it balances critically individualized and collaborative forms of learning. PL specifically focuses on the knowledge, beliefs, practices, and implementation levels of teachers, and is suggestive of the critical concerns of professional development (King, 2014). Put differently, Poskitt (2014) suggests that PL is provided as an integral part of the PD programme, and may be identified as Professional Learning and Development (PLD). It is, therefore, impossible to discuss professional development without talking about issues regarding teachers' professional learning since the latter is part and parcel of the former.

Xaso, Galloway, and Adu (2017) have explained PD as the systematic way of maintaining, improving, and expanding knowledge and skills, and consciously developing personal attributes required for carrying out professional and technical responsibilities throughout the entire work life of the individual. The professional development of the individual teachers is unavoidably related to the benefits derivable from the Continuing Professional Teacher Development (CPTD) initiative and may positively bring about learning and behavioural changes (Xaso *et al.*, 2016). This in turn allows teachers to discharge their duties professionally.

In this regard, Adu and Okeke (2014) parallel Xaso *et al.*'s (2017) view by stating that professional development is a process whereby teachers' commitment to their work, as agents of positive change in terms of the moral values of teaching, is reviewed, renewed and extended. It also involves a process of acquisition and development of teachers' knowledge, skills, and attitudes to foster improved and effective practice for the sole benefit of learners. Today, learners can be seen whispering a lot of things during classroom teaching activities. Learners nickname their teachers due to their misconduct and unprofessional practices. School administrators, as a matter of necessity, need to ensure that teachers are encouraged to participate in development programmes to improve their knowledge, skills, values, and attitudes to equip them for efficient and effective classroom management and service delivery. This has always been one of the factors that motivate and promote teachers' productivity (Adu, 2015). Terry (2015) states and I quote:

Why would a teacher, a fountain of knowledge, guidance, truth, and ethics, be exactly what they try to counsel us from not being, which is a con, trickster, and a "cheat" (not that he/she needs any explanation)? A teacher who cons us could then teach us how to avoid being conned in the future. Their students would develop valuable critical thinking skills, learning how to evaluate scenarios that are "too good to be true", or are otherwise suspicious. They would develop a healthy sense of humility in the process, realizing that even the cleverest of them can be fooled, if they are unprepared to face a seasoned trickster. A teacher who is a cheat could also foster an ongoing discussion of the subjectivity of fairness and how it relates to real-world situations that the students would face in the future, be it in a workplace, government bureaucracy, relationships, etc. There would be no ethical violations if such cons, tricking, and cheating were done within the scope of the classroom and did not cause any more undue emotional stress than important exams do today. It would be important that the whole process be done with a healthy dose of good humour and no vindictiveness (Terry, 2015:6)

Furthermore, PD refers to the process of skills and knowledge acquisition for both self-development and vocational growth (Adu & Galloway, 2015). Individuals, who practically involve themselves in PD, do to enhance their work performance skills and capacities by becoming keenly interested in lifelong learning (Adu & Okeke, 2014). I have personally advocated for teachers' professional development through teachers' participation in lifelong learning opportunities. This is the surest way of keeping them abreast of the new development in their subject areas. In most cases, we have been taught in one way or the other by teachers and we felt cheated by the changes in our beliefs and knowledge in diverse forms. Terry (2015:8) argues thus:

A teacher teaches, and this involves the imparting of "knowledge". Knowledge of the world is always tentative at best, and sometimes downright wrong. At various points in history, children were taught by teachers that the Earth was flat and that the Earth was the center of the Universe. Generations were cheated of cosmological truth. Even in the physical sciences and mathematics, which are supposed to be exact, there are many misleading things taught to young children. Gross simplifications abound. First example: Newtonian Physics is taught to all school children like it is gospel truth, only to later be demolished by the revelations of Relativity and Quantum Mechanics, which can lead to a feeling of disillusionment amongst some students. Second example: teaching younger students that you can't take the square root of a negative number, only to cheat them of this early assumption with the introduction of complex numbers. "Simplification" is a euphemism - it's tantamount to cheating the students of a deeper truth. It's even worse when you consider humanities subjects like History, which necessarily involve subjective interpretations of events in the past. It's quite safe to say that the many students who end up rejecting "accepted" historical narratives to embrace "alternative" ones feel thoroughly cheated by their original mainstream teachers. If we accept as an axiom that ignorance is bliss, then surely anything that dispels ignorance to banish bliss is the basest form of cheating. Bliss is a divine state; why would anyone stoop so low as to cheat us of that? The best teachers are the worst cheaters (Terry, 2015:8).

Recent research by Phillips, Desimone, and Smith (2011), has demonstrated the potential for teacher professional development to enhance teacher's lesson delivery, improve instructional strategies, and advance students' achievement records. When learners, teachers, and administrators come together, they would alleviate the fear and stress of learning from learners (Phillips, Desimone & Smith, 2011). Phillips *et al.* (2011) further argue that the role of school management cannot be over-emphasized in providing an enabling environment that fosters teacher-based outcomes and reforms since new demands are placed on them. Building on this contribution, Adu, and Okeke (2014) opine that there is a need for CPTD throughout a teacher's

career, not the one that is bedeviled with inconsistency and lack of support from the management. Management at times fails to support CPTD because of financial constraints which in turn affects the professional discharge of duties of the teachers under their supervision.

Continuing Professional Teacher Development (CPTD) is regarded as a learning approach that is structured to ensure teachers become professionally competent in their classroom practice, methods of information gathering, acquisition of relevant knowledge, skills, and practical application of their experiences. CPTD may include any useful learning activity, be it formal and structured or informal and self-directed. Instances from across the globe indicate that the profession of teaching has become so relegated that numerous factors have accounted for the job dissatisfaction of teachers which has caused them to be seen as unfulfilled professionals. For such unfulfilled teachers, CPTD is more or less fictitious rather than veracious. They, therefore, become nonchalant in their attitudes toward the profession (Oluniyi 2013). Some teachers only consider the profession of teaching as a mere stepping stone to getting qualifications to achieve certain goals while others see it as a total mirage. This is the more reason why some researchers have had to conduct studies to investigate factors suppressing and encouraging CPTD (Steyn 2010; Singh 2011). Teachers are expected to ceaselessly build and develop their capability to assist learners to grow their intellectual understanding. By implication, teaching demands that its practitioners become highly knowledgeable by constantly updating their skills that can easily be adapted to new situations (Adu & Okeke, 2014).

ATTITUDINAL TEACHER DEVELOPMENT MODEL

Different professional learning experiences offer varying opportunities for attitudinal development. This comprises two dimensions: formal-informal and planned-incidental (McKinney, 2015). Formal opportunities are those explicitly established by an agent other than the teacher, for example, taught courses, whereas informal opportunities are sought and established by the teacher, for example, networking. On the other axis, planned opportunities may be formal or informal, but are characteristically pre-arranged, for example, collaborative planning, whereas incidental opportunities are spontaneous and unpredictable, for example, teacher exchanges over coffee. These descriptions represent polarized positions that encompass

the range of learning opportunities encountered by teachers. The model can be exemplified as follows:

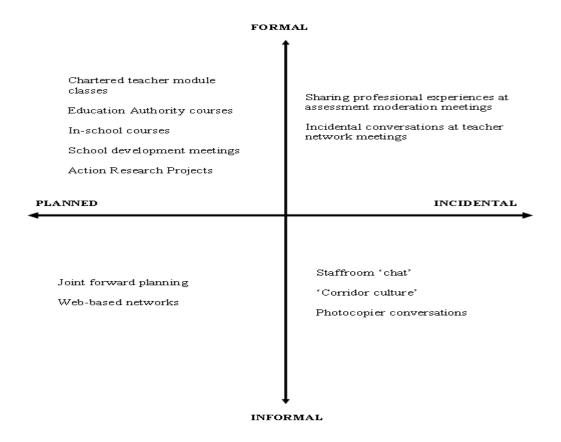


Fig. 1 McKinney (2015)

TEACHERS VERSUS CHEATERS INSTANCES

At this juncture, my two decades' experience, allow me to quickly identify instances of situations when teachers may become cheaters. The manifestations of cheating by teachers include teaching students what they want to learn even if that is harmful; teaching and limiting students only to what they require for passing a test or examination as against developing knowledge, skills, and competency in them. Moreover, teachers could be assigned to teach subjects in which they have little knowledge or no domain knowledge at all. Teachers are fond of telling white lies. Sometimes, a very definitive explanation holds much more water than a very well-worded "maybe". Often the truth is so complicated that to explain a subject: the teacher may just need to do a simplified run-through; having attained a specific level, we can tear down the

previous knowledge and replace it with a new one; and repeat the process. More instances are written below

An internal investigation in New York City uncovered what was believed at the time to be one of the largest instances ever of teacher cheating. Thirty-two schools and 52 teachers and administrators were implicated in a lengthy investigation. In the most shocking case, one teacher was accused of leaving an answer sheet near a pencil sharpener and then encouraging his students to sharpen their pencils. A subsequent New York Times investigation questioned the extent of the cheating, though it did not dispute that the practice was widespread throughout the school system. (ProPublica 2019:3)

Nearly 200 teachers and administrators in Atlanta's public schools have been implicated in the largest known case of teacher cheating in U.S. history. All told, 178 educators were cited in a state-led investigation into cheating on the Criterion-Referenced Competency Tests (CRCT). Additionally, investigators determined that cheating had gone on at 44 of the 56 schools they examine. (ProPublica 2019:3).

Let me shock you a little. When teachers attempt to give explanations on certain subjects, they might be telling some kind of lies based on what they understand or do not understand at all. Making this work requires particularly adaptive minds. In the end, people often leave the classrooms half-baked having mastered a negligible amount of knowledge. The most destructive of all is letting people stick to their erroneous conceptions with a view to not showing that they were lied to from the onset. Is this not one of the big lies? There is another dimension to teaching falsehood which is globally accepted as a "self-perpetuating lie".

Do teachers put up different anti-cheating techniques like those shown below?

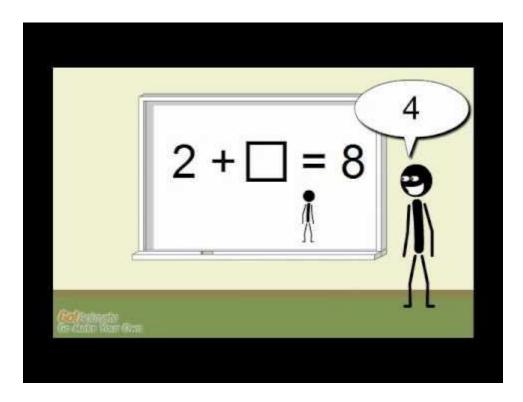


Do they observe this during the examination?

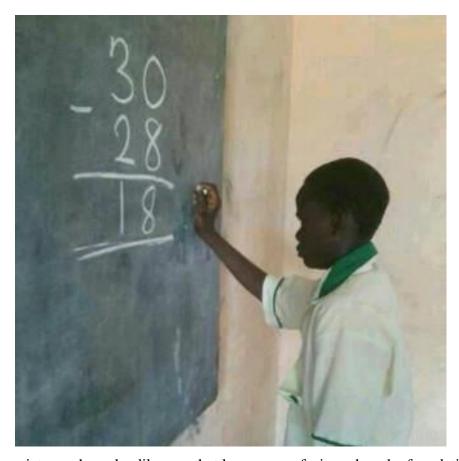


In a situation where an individual's assumption that having attended A, taught by B, and graded by C is somehow in conformity to fact or truth. Again, it may shock you to know that most grading systems (if not all) in schools are atrociously and abysmally not accurate and are therefore highly subjective. Teachers have to be warned to be careful with the way and manner they tend to categorize individual learners by their education or performance scores. It is not

funny to note that errors are bound to happen a lot of times. I do not know whether many societies would not collapse when matters of grading and scoring systems in our schools were subjected to more rigorous screening and investigation. In any school system where learners' performance is used as a yardstick for determining teachers' promotions and remuneration packages, acts of dishonesty may become the teachers' practices by telling all sorts of lies about their students' performances (Terry, 2015). The student eventually becomes clueless like:



Or



The above two pictures show the dilemma that learners are facing when the foundation is faulty

THE INTERNATIONAL PERSPECTIVE ON CONTINUING PROFESSIONAL DEVELOPMENT

According to this perspective, attention is more to teachers' professional development by learning essential methods of teaching that would facilitate understanding concepts of content and pedagogy and performing new roles demanded of them; instead of emphasizing the provision of enabling environments that aim at fostering teachers' professional learning (Adu & Galloway, 2015). Hence, the working context is required for teachers to develop intellectual and physical skills for the fulfillment of the responsibilities placed upon them through pedagogical practice (Van Wyk & Marumoloa, 2012). The working context for teachers may include but not be limited to everyday teaching contexts, classrooms, schools, school clusters, and other forms of communities such as a partnership with institutions and other networks. Put differently, teachers' professional learning can only occur within the context of their workplaces such as the classrooms and school settings (Xaso *et al.*, 2017).

Scholars have recently argued about what constitutes the alternative models and approach to practices of professional development in modern society (Ono & Ferreira 2010; Pitsoe & Maila 2012; Steyn 2011). These scholars (Ono & Ferreira 2010; Pitsoe & Maila 2012; Steyn 2011) have unanimously agreed that approaches to professional development must be those that impact positively on teacher educators empowering them to be able to bridge the disparities in the learners' achievement records. This is suggestive of the fact that continuing professional development (CPD) has to be constructivist in an approach that is teacher-learning centered; that promotes active learning among teachers; aims at producing self-reflective teachers; should be supportive of teachers' professional learning; and finally, focuses on activities reflecting the career aspirations of teachers within the contexts specifically relating to school settings. Put differently, the alternative approaches are supportive of the teachers' professional needs and yearnings. From the foregoing, it is clear that professional development is crucial to the profession of teaching and educators. This explains the reasons why teacher education scholars have advocated for CPDT They believe that it helps give teachers job satisfaction over time for an improved performance and service delivery (Adu & Okeke 2014).

Still, from the international perspective on continuing professional development, studies conducted in **China** by Dall'Alba and Sandberg (2012) indicate that there are horizontal and vertical dimensions in professional knowledge and skills development. According to Dall'Alba and Sandberg (2012), the horizontal dimension implies the skills progression that is associated with professional experience while the vertical dimension is concerned with the changes in the embodied understanding of the professional practice. These dimensions are consideres an integral part of this study concerning skills and knowledge acquisition through the continuing professional development (CPD) that promotes a considerable amount of experience which is greatly needed in the interaction between the teacher and the learner. Similarly, studies conducted in **Australia** buttress the fact that teaching as a profession should be an engagement of teachers with an inquiry into professional practice and this inquiry should be based on the recognition for collegial and collaborative efforts among teachers (Xaso *et al.* 2017).

Moreover, in research conducted in **Bangladesh**, Alam *et al.* (2010) have argued that teachers' professional development becomes most effective only when it is a process that continually takes place to create changes and new understanding in a quiet and revolutionary manner within the school contexts. Let me also restate here that professional development (PD) means a process of continual learning for the enrichment and enhancement of oneself while engaging in a job in an institution of learning. In clear terms, the idea of professional development for teachers presupposes learning and practices such as improving on teaching techniques and strategies, widening knowledge and mastery of subject specializations, insisting on that teachers to responsible for and committed to acquiring current and useful information in the preparation of students in tandem with the demands of the labour markets and the societal needs (Alam, Abdullah & Hoque, 2010). The resultant effect of the PD programmes on teachers is the facilitation of efficient classroom management and practice and effective service delivery to the students and the society at large (Xaso *et al.* 2017).

In countries like **Sweden and the United Kingdom** (**UK**), Moodly and Drake (2016) reveal that CPD is an imperative aspect of teacher training. They state further that some other countries like Holland, Australia, and New Zealand are in support of some forms of training to develop teachers at different levels but not obligatory. These researchers, therefore, affirm that CPD has the potential to improve organization, group interaction, and rapport. Most importantly, it is capable of improving students' learning (Moodly and Drake, 2016:227).

Reflecting on Wermke's (2011) thought, professional development is perceived to include all experiences from natural learning and those consciously planned activities which could be of benefit (directly or indirectly) to the individuals, groups, or schools and are capable of contributing to education quality at the classroom level. By extension, Wermke posits that PD affords teachers opportunities, either alone or collaboratively, to re-examine, rejuvenate and increase their commitment as agents of change toward the moral essence of teaching. PD as a process involves the acquisition and development of critical knowledge, relevant skills, and social and emotional intelligence considered very key to good professional thinking, planning, and practice (Wermke 2011). For effective professional development, it must be linked to the school, not just individual goals, but needs to be implanted in the workplace. The workstations

therefore should be conducive for effective teaching and learning processes to occur (Wermke 2011).

I strongly believe that CPD Programmes are capable of making teachers versatile in the classroom and with the capacity to contribute to efficient work delivery all the time. Professional development is inextricably linked to quality assurance practices where teachers are not afraid of teaching morals to learners with innovation. This should be part of the professional roles of the teachers in the 21st century.

THE AFRICAN PERSPECTIVES ON THE CPD

Ethiopia's Perspective on CPD

Ethiopian CPD scholars opine that teachers' CPD has become a global phenomenon. They believe also that CPD is crucial for the preparation of teachers to be able to cope with the current trends of changes and challenges for improvement of the quality of education (Gemeda & Tynjala, 2015). As noted by these scholars in Ethiopia, the world is undergoing a lot of technological, social, political, and economic changes with some sort of pressure on the national education system to be repositioned to ensure that its teachers' capacity is continually updated. They argue that an effectively organized CPD gives room for teachers to renew their intellectual capacity for improving classroom management skills which would, to a large extent, positively affect their students' learning and academic achievements.

More importantly, the scholars (Gemeda & Tynjala, 2015) agree that schools have the responsibility to promote effective learning of their pupils in the ever-changing world and it is imperative for professional educators to continue to learn and develop themselves. They believe that teachers' professional development consists of the total learning experiences, both formal and informal, from the inception of their training (pre-service teacher education phase) to the end of their teaching career (retirement stage).

Zimbabwe Perspective on CPD

In my search for the expression of views on the CPD from Zimbabwe, I came across Mukeredzi (2013) who posit that teachers' idea of what to learn and how to professionally develop through their teaching performances are very germane to classroom practice and learner

achievement records because they influence teachers' pedagogic approaches and choices they make in terms of materials, contents, and learners' activities. Essentially speaking, Mukeredzi (2013) adds that continuing professional development has been broadly understood as the growth of individual teachers in their profession. This understanding suggests "a long-term process that includes regular opportunities and experiences planned systematically to promote growth and development in the profession" (Mukeredzi, 2013:67).

Nigerian Perspective on CPD

As a Nigerian scholar of teacher education and the CPD advocate, I am aware of the fact that a lot of Nigerians only choose a teaching career for the sake of gaining employment. However, I believe that the teaching profession is more than being gainful employment. Teaching is a calling like any other profession, hence *it is said that "Those who can do. Those who cannot teach"*.

Be that as it may, there is a regulatory body called the Teachers Registration Council of Nigeria (TRCN) saddled with the responsibility of organizing and implementing different aspects of CPTD and induction of teachers into the teaching profession in the country. I witnessed it when I was serving as a lecturer in one of the universities in Nigeria for about nine (9) years. There was also a time when university lecturers without the pedagogical knowledge and/or teaching qualifications were mandated to enroll for Post Graduate Diploma in Education (PGDE) for them to qualify as professional teachers. This was done to enable them to understand pedagogy and andragogy.

Namibia Perspective on CPD

CPD in Namibia is handled by the Faculty of Education in the University of Namibia, Directorates of Education in the Regions, Unions of Teachers, and a host of Non-Governmental Organizations (NGOs). The University of Namibia's CPD unit is a center charged with the responsibilities of coordinating and collaborating with the various CPD actors within the CPD consortium. The CPD Unit provides leadership in the establishment of a coordinated and seamless CPD system for educators in Namibia. According to Nyambe (2014), the CPD unit also sees the facilitation of the priorities identified for CPD. It therefore coordinates and collaborates with other stakeholders in the planning, designing, development, and implementation of CPD

programmes and activities. The CPD system follows a localized, site-based, and practice-based CPD at school, cluster, circuit, and regional levels. It blends the supply-driven and demand-driven CPD, balancing site and localized CPD with networking, learning, and sharing of best practices across schools, sites, and regions to avoid isolation and limited learning opportunities. The localized CPD is facilitated within the working context and is likely to be more relevant and responsive to the identified needs of educators (Nyambe 2014).

South African Perspective on CPD

Teachers in South African schools should be equipped with the relevant knowledge and skills to be able to cope with the country's developing demands and expectations (Steyn, 2010). In an attempt to achieve this, the Outcome-Based Education (OBE) was introduced to effectively reposition the nation's education system to become more sufficiently valuable; and reform the society in such a way that parents and guardians of school children would have their input into the system. Following the enthronement of the democratically elected government in 1994, new policies of education such as the Curriculum (C2005), Revised National Curriculum Statement (RNCS), National Curriculum Statement (NCS), and the most recent Curriculum and Assessment Policy Statements (CAPS) were introduced in the years 1997, 2002, 2007 and 2012 respectively to find solutions to the myriad of problems that had bedeviled the education sector and teacher education and training programmes in the time past.

By design and implementation methods, the new curriculum's contents provide activities and experiences for learners in such a manner that they can find learning very exciting and appealing, and more importantly, learners would begin to realize the significance and essence of democracy through their involvement in the teaching and learning processes. The new curriculum's contents also mean a lot of changes in the teachers' professional practice and therefore the need for professional development programmes for teachers continually (Adu & Ngibe, 2014). Research findings have shown that a lot of teachers in South African schools do not possess effective teaching skills in the way they conduct their classroom duties and practices. Hence, there is the need for urgent attention on retraining and reequipping such teachers through professional development programmes that would focus more on the subject contents and the right type of pedagogical skills to improve teachers' service delivery at the classroom level and help learners achieve better academically (Adu & Ngibe, 2014).

The teaching culture in South Africa, as in other nations has traditionally been one of isolation because teachers tend to teach in a classroom whose doors are closed against the collaboration from their colleagues. One way to address this is through continuing professional teacher development (CPTD) programmes. On the contrary, Coe, Carl, and Frick (2010) posit that CPTD has not been successful in bringing teachers out of isolation to collaborate with their colleagues in a meaningful manner. The authors further assert that statements of competence and standards derived with support of the profession should help to ensure that development and training are related and effectively targeted at the skills and knowledge that teachers require (Coe et al. 2010). I would like to state that professional development activities adopted for teachers' training and development purposes must align with the classroom's nature and requirements and have to help in the attainment of the teaching and learning objectives.

Sometime in November 2018, I had an opportunity to represent the Dean of my faculty at the Deans of Education Forum in Pretoria. In attendance were official representatives of SACE and DHET who clearly pointed out the need for a review of the policy on Minimum Requirements for Teacher Education Qualifications (MR-TEQ). Some of the areas in need of review in the policy are:

- National Qualification Framework (NQF) level.
- Work Integrated Learning (WIL) for 16 weeks instead of 12 weeks and to happen in all types of schools provided that they are purposefully selected to support the type of learning intended.
- Diploma qualification for Grade R educators.
- Language of conversational competence.
- Mathematics, Economics, and Management Science (EMS) have been included as a compulsory aspect of initial teacher education Programmes for intermediate phase teachers
- ICT integration in teaching and learning basically involves a series of activities planned
 for achieving the project purpose that include the systematic introduction of information
 and communication technology into the teaching and learning process and the creation of
 digital educational content.

- The knowledge-mix requirements to specialize as a Foundation Phase teacher and Intermediate Phase teacher have been more explicitly described. This policy describes the knowledge mix which is appropriate for purposeful teacher education qualifications in terms of minimum credit values as well as the level of learning required.
- The South African Council for Educators (SACE) published Professional Standards for Teaching in 2018. etc.

Mr. Vice-Chancellor and distinguished colleagues, you will agree with me that these changes call for CPTD in South Africa in terms of workshops, conferences, and short-term courses to disseminate the relevant information to our school teachers. The forum also received a paper presented on the need to include education law as a compulsory module for the undergraduate students and the educators. In addition to this, the Basic Education Sector Lekgotla came out with the diagram below:

The Teacher Education & Teacher Development Continuum in South Africa

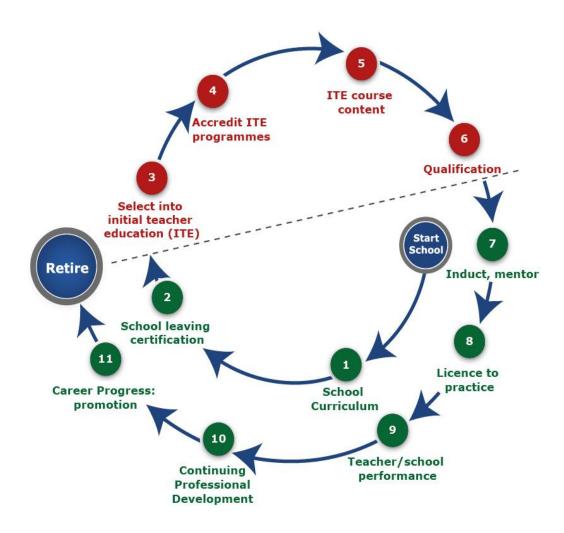


Fig 2: Diagram acknowledgment: Dr. N Taylor, JET Education Services

The above is an indication that professional development continues until retirement day.

Types of Professional Development

Xaso *et al.* (2017) argue that in-service training is an ongoing process of professional development. In-service education and training should therefore be regarded as a process whereby teachers continuously work on improving their skills, knowledge, and attitudes while on the teaching job. My understanding, concerning in-service programmes, is that they should be organized and financed by the School Management Teams (SMTs) to help in the professional development of their teachers. This opportunity helps the SMTs and the teachers to review and

assess the school's effectiveness and further allows considering new relevant intervention programmes to address any problems that may prevail relating to effective teaching and learning. Based on the literature that has been provided for this study, it is therefore clear that continuing professional development of teachers occurs at all levels of the school and takes various forms. These forms of professional development include:

- Workshops on different disciplines or subjects.
- National and international conferences relating to the field of specialization.
- Furthering their education by articulating to the next level.
- Exchange programmes among schools.
- Attending the union meetings and participating in any networking organized for teachers.
- Private development of reading relevant books to update their knowledge.
- Mentoring one another in a collegial manner.
- Expert support is given by colleagues and managers, study groups, peer coaching, and mentoring.
- Off-the-site job training which can be special classes, role-playing sensitivity training, special meetings, and conference training.
- Cascade training (Xaso et al. 2017).

In this regard, Alam *et al.* (2010) maintain that policies and programmes aimed at addressing the professional development of teachers should be able to build the school's capacity in terms of teachers' knowledge, skills, dispositions, professional community with an emphasis on a collective goal, collaborative and reflective enquiry and influence on coherent nature of the programme. They further state that the school's capacity is enhanced when its programmes for staff's professional learning are coherent, focused, and sustained. The objectives of all kinds of professional development activities are to develop teachers in the above-mentioned areas.

In the same vein, I vehemently believe that the various forms of continuing professional development can help in inculcating the following in the teachers; improved performance due to induction, ensuring quality teaching and learning, molding the teachers for better classroom practice, and instilling commendable skills and knowledge in the teachers.

Benefits of Continuing Professional Teachers' Development (CPTD)

The continuing professional development of teachers will further ensure that teachers are strengthened in their professional practice through the CPTD programmes regularly. The benefits of the CPTD initiatives include the following (Saville 2012):

- To promote the capacity for constant development of technical and scientific knowledge.
- To emphasize and become acquainted with the ethics of the teaching profession.
- To enhance job satisfaction in terms of stating the duties and responsibilities of teachers and making sure that there is no overlapping of duties or any confusion,
- To update teachers' knowledge for better performance.
- To accept new development and cope with changes that might occur as a result of curriculum innovation and changes and teachers' turnover.
- To provide a clear route for career development.
- To support articulation to the next level of qualifications and professional practices

Buttressing the above, Joubert *et al.* (2010) strongly believe that effective CPD is beneficial to teachers and their professional classroom practices as follows:

- Job performance and best practice.
- To provide coping strategies for diverse students' attitudes in school.
- To grow learners' self-reliance in the classroom.
- The teachers will become more useful and interact with available new technologies improving their teaching skills for the 21st century.
- They will enjoy some relaxation while interacting with their learners during the lessons (Joubert et al. 2010).

In this regard, I am of the view that every teacher should enhance their skills and knowledge, not necessarily qualifications, for effective teaching and learning to take place at the classroom level. Furthermore, other benefits of teacher professional development include increasing teachers' perceptions of students' learning processes. Additionally, teachers become

more confident to learn and acquire new strategies, such as cooperative learning and roleplaying, which they can put into practice within the classroom environments (Welsh 2011).

Factors Promoting Continuing Professional Teacher Development

Driel and Berry (2014) contend that professional development programmes towards the development of teachers cannot be limited to supplying teachers with inputs, such as expertise needed in teaching their subjects. Instead, such programs should be closely aligned to teachers' professional practice and, in addition to providing teachers with specific inputs, should include opportunities to enact certain instructional strategies and to reflect on their experiences and knowledge individually and collectively. Butcher and Stoncil (2011) enumerate the following as factors prompting the continuous professional development of teachers:

- Renewal of teachers' commitment to the teaching profession.
- Upholding moral standards and professional ethics.
- Capacity empowerment in integrating different contexts while teaching the learners.
- Knowledge of time allocation and management.
- Collegiality and professional support for school structure in terms of management layout.
- Conducive environment for engaging education issues.
- Knowledge of bringing theory into practice and applying it to society.
- Upholding the values and mission of the school and promoting community development.
- Defending and acknowledging the integrity and moral values of teachers.

From another perspective, Caena (2011) suggests that continuing professional development can be promoted by the following factors:

- Reforms as sensitive to the situations of individual schools, where improvement efforts need to adopt a 'classroom-exceeding' perspective, without ignoring the classroom.
- A systematic approach to change, which must be carefully planned and managed over years.

- Focus on internal conditions of schools: teaching-learning activities but also school procedures.
- Role allocations and resource use.
- Accomplishing educational goals linked with the particular school mission not only student scores but also developmental needs, professional development needs, and community needs.
- A multi-level perspective, considering schools as embedded in an educational system that has to work collaboratively with the roles of teachers, staff, and local authorities as clearly defined and committed to school improvement.
- Integrated implementation strategies top-down and bottom-up where top-down policy can provide aims, overall strategy, and operational plans, and bottom-up school response can provide diagnosis, priority goal setting, and implementation (Caena 2011).

Be that as it may, it is pertinent to mention that the CPTD programmes should be strategically planned and coordinated to address never-ceasing pedagogical challenges confronting the teachers.

The Mitigating Challenges of Continuing Professional Teachers Development

According to a report made available by the President's Education Initiative, most South African teachers were limited in terms of conceptual knowledge and this was pointed out as the most critical challenge that the nation's teacher education programme was facing. Xaso et al. (2017) suggest that the challenges confronting continuing professional teachers' development can be mitigated by the following factors:

- Teachers lack prior knowledge.
- Failure of school management to support teachers.
- Family responsibilities.
- Poor organization of professional development programme.
- Time constraint concerning organizing an effective CPTD.

Similarly, Nwangwa (2013) contends that successful implementation of continuing professional development programme could be prevented by several factors such as failure to consult and identify the appropriate needs, poor planning and organization, poor delivery of pedagogy, absence of practical use, poor knowledge and experience of the facilitators, decrepit presentation strategies; to mention a few. In light of the aforementioned, there is no gainsaying the fact that the CPD is a fundamental vista of quality assurance of the teachers' professional engagement. It is needful to therefore mitigate as much as possible any circumstances that may limit its effective implementation for the expected outcomes within the school context.

In the case of South Africa, post-apartheid curriculum-change efforts have led to the balkanization of the erstwhile Education Department into two distinctive departments of education at the national and provincial levels. These efforts have increased our hopes for formally established policies and programmes of CPTD in South African schools to bring about the standardization of the practices and strategies for effective teaching and learning processes.

21ST CENTURY IMPLICATION OF PROFESSIONAL DEVELOPMENT

In this century, teachers' efficiency and effective performance can only be facilitated through standard training and retraining programmes which must be sufficiently driven by information and communication technologies (ICTs). The world is going completely digital and the earlier our teachers are provided ICT tools such as computers and unhindered access to internet infrastructure daily the better for our educational system. Besides the fact that ICT tools would help teachers to deliver their lessons more efficiently than ever before, the provision and utilization of the ICT devices would help in proffering immediate solutions to the many problems that may arise in the course of their classroom duty performance. For instance, a teacher that is provided with an electronic board with the internet as against the black/green/whiteboard with chalk and/or marker would speedily help students find answers to their questions during lessons by simply using the internet and would not pretend to know when in fact he/she does not have answers to students' questions but to turn such questions to assignments which he/she may not want to collect for marking at the end of the day.

Goal 9 of the SDGs indicated industry, innovation, and infrastructure, therefore, providing the teachers with the 21st century ICT tools is not enough, training on how to put such tools into effective use to produce the expected results is also very important, especially in this 4th industrial revolution. A teacher who does not have the skills to surf the internet for academic materials to use for classroom lesson delivery will simply ignore the fact that there is an electronic board that is internet ready for use in the classroom. Lack of training may become a serious impediment to teachers' professional development. When teachers are adequately equipped and given sufficient training during pre-service phases, it positively affects their performance and quality of service delivery while on the job professionally after graduation from higher education institutions. The teacher's sense of professional development (PD) is very essential because this is relevant to his/her daily practices in and out of the school context and this is a fundamental factor that resonates in the teacher's preparedness for particular professional development activities. No doubt, technological applications in the teachers' classrooms have positive implications for lesson delivery and resolving questions of academic hurdles. This will, in many ways, facilitate teachers' participation in the 21st-century professional development activities (Adu & Galloway, 2015; Adu & Okeke 2014: 275).

SOUTH AFRICAN ICT INITIATIVES AND POLICIES IN CONTEXT

In 2003, there was a national educational action initiated resulting from the e-learning White paper draft to align and transform teaching and learning processes with the aid of information and communication technology (ICT) across the board in all schools operating within the Republic of South Africa. The national government articulated its commitment and vision toward improving the education sector by clearly spelling out long-term techniques and strategies for education transformation through the embrace of digital technologies. Subsequently, ICT facilities are provided for schools to enhance the effectiveness and efficiency of the teaching and learning processes.

Also, the 2013 national document advocated the need for a public-private partnership for the development and maintenance of the ICT for the fact that it is capital intensive. You and I understand that investment in ICT is largely costly. Hence, the government may not be able to

provide all the required finance to get it done. With the collaboration of the private sector in the ICT business, funding, and accessibility of ICT in our schools can be pretty easier and more feasible. Moreover, the national policy document of 2013 also reviews the current state, distribution, and accessibility of the information and communication technologies in schools as well as the professional development in ICT, infrastructural amenities, interconnectivity among schools, and the imperative of e-learning approaches in schools (Adu & Galloway, 2015).

The e-Education policy goal states that "every South African learner in the general and further education and training bands will be ICT capable (that is, use ICT confidently and creatively to help develop the skills and knowledge they need to achieve personal goals and to be full participants in the global community) by 2013" (White Paper, 2003). Essentially, the policy further emphasized the utilization of ICT for the promotion of learning activities, for assessment purposes and to facilitate increased levels of competency and productiveness of school managers and the entire administrative teams (Adu, Galloway & Olaoye, 2014)

The policy document (2013) is also instructive for us the teacher trainers; it makes demands on us to become ICT compliant by adopting more of the available technological innovations in our teaching and learning procedures. In simple terms, teacher trainers must utilize more technological tools for lecture delivery daily and our student-teachers must be prepared in the pedagogy for e-learning approaches. In our contribution to encouraging the adoption and utilization of ICT for teaching and learning purposes, we provided an ICT guide to school administrators in a document entitled, "Managing ICTs in South African Schools: A guide for School Principals" (Adu & Galloway 2015: 244). The rationale behind the production of this ICT document was to provide a clear step-by-step approach to effective use, maintenance, and management of ICT for teaching and learning in schools. The major challenge in South Africa is the implementation and review of ICT policies to align with the 4th industrial revolution.

THE 21ST CENTURY ROLE OF TEACHERS

Expectedly, teachers' role certainly has to change in the 21st century in consonance with the dynamic demands of the Information and Communication Technologies (ICTs). By implication, classroom activities and ways by which teachers carry out their duties have to change from the ways of the past. The installation of digital devices and equipment for teaching and learning in

the classrooms demands that teachers should familiarize themselves with the use of these ICT gargets for them to remain irreplaceably relevant for 21st-century classroom management. For instance, teachers should be skillful in the use of an overhead projector and preparation of PowerPoint slides for their lesson delivery. No teachers should still be relying on the use of chalkboards in the 21st century. Only analogue and ICT non-compliant teachers can be found still using chalkboards in our classrooms today. Studies have confirmed that schools in Pretoria, Johannesburg, and Cape Town have introduced and adopted the use of e-learning gadgets such as tablets instead of their students writing notes in their notebooks.

The challenge that may arise is that teachers without adequate ICT knowledge will become cheaters in their classroom duties because they will certainly find it difficult to provide guidance and facilitation for the use of the gadgets for effective teaching and learning processes to take place (Adu & Galloway 2015: 246; Adu & Mireku, 2016). Teachers can't give what they do not have. The 21st Century teachers must avail themselves of the opportunities to be fully equipped with the ICT skills and knowledge for the promotion of efficient teaching and learning. This can be greatly achieved by embracing and participating in professional development programmes which may include but not be limited to on-the-job training and retraining, inservice training, capacity development workshops, conferences, seminars, and symposia. These are obvious avenues for exposing teachers to new knowledge and skills acquisition for impactful and meaningful teaching and learning in this 21st century (Adu & Mireku, 2016).

STRATEGIES FOR PROFESSIONALISM TOWARDS EDUCATION 2030 AGENDA IN AFRICA

Mr. Vice Chancellor permit me to give you and the audience a succinct overview of Sustainable Development Goals (SDGs) and the Education 2030 agenda before postulating the strategies that can assist us in attaining it. The global community's commitment to the education 2030 agenda is aimed at achieving a sustainable development goal (SDG) through the provision of quality education that is inclusive, equitable, and capable of facilitating the promotion of lifelong learning opportunities for all. In September 2015, the Sustainable Development Goals (SDGs) were launched and adopted by world leaders. The SDGs came into being as the successor framework to the Millennium Development Goals (MDGs) which were in 2000 adopted by 189 heads of state and 23 other multilateral organizations to tackle problems of poverty and hunger

through global partnership (Olorunyomi, 2014; Lawal, Obasaju & Rotimi, 2012). The SDGs are collectively known as the 2030 agenda for sustainable development to which the international community has subscribed and committed as a development agenda for people, the planet, and prosperity (UNESCO, 2017). The SDGs consist of 17 interdependent goals with 169 targets. According to UNESCO (2017), education in the 2030 Agenda for Sustainable Development is not restricted to a particular goal. The following are the strategies for professionalism toward the education agenda in Africa.

Deeper Coverage of INSET Content

The in-service education program requires deeper coverage of INSET content most importantly for those making use of the cascade model. The manners of operation of the model indicate that "training messages flown down from someone who is an expert and specialist through several means and layers of personnel and finally to the teachers," (Dove, 1986). The INSET for primary school teachers is a three-tier cascade model whereby the national trainers use INSET for the training of the selected primary school tutors from teacher training colleges. Moreover, those already trained will then use INSET and will be expected to retrain their colleagues with the skill acquired. It is very imperative to ensure that coverage content in professionalism is strong because coverages that are not deeper in the content will produce ineffective teachers (Hanson & Moog, 2007).

Contextualization of Continuing Professional Teachers Development

The second strategy is the contextualization of professional development meant for the teachers. Contextualization is defined as a way of providing professional development within the normal work of the participants. This is contrary to the in-service programs that are normally held in schools during vacations whereby most teachers are joined together not considering the degree of various experiences, competencies, qualifications, and school settings. It is a general belief that when teachers from different contexts gather together and share their individual experiences, there is more understanding of the acquisition of knowledge and necessary skills. During the period of undertaking INSET, participating teachers are expected to use similar content they had taught their students during classroom interaction but by adopting a known appropriate method of teaching gathered in the process. As much as this seems to be

good, it could be categorized as half measure by scholars taking into consideration that it occurs outside the normal place of work by the individual participants; it is eradicated from the real classroom situation (Adu, Akinloye & Adu, 2015).

Aspirations for Continuing Professional Teachers Development

The expectation of teachers when attending CPTD programs is to be able to act as motivators. This will also include the award of the necessary certificate that can enhance their job efficiency and mostly for job promotion; most importantly some focus much on the monetary gain. This was shown in the teachers who attend INSET through the award of certificates of attendance. Opertti (2006) reveals that sometimes the majority of the teachers reject a given CPTD program not necessarily as a result of its content, but because of various aspirations that are more related to the belief in their roles and responsibilities. Although the value attached to the certificate is very important, the program should not be done for the issue of a certificate only; rather, certificates should be seen as a currency that will eventually yield measurable gain. The program is not enough just to issue a certificate of attendance for participants. This immeasurable value should be judged by assessing the achievement of INSET on participants through their practices in the classroom regularly with given rewards for motivation and motivational teaching. Vaillant (2006) supported this when he recommends the evaluation of teachers regularly as a measure of contributing to both the classroom practices and the overall performance of the entire educational system.

Adequate Professional Teacher Educators

The need for adequate professional teachers is germane to the development of education at all levels. This serves as one of the major strategies for the continuity of professionalism in the teaching industry. The shortage of teachers in schools will weaken the effectiveness of teaching and learning. The inadequacy of teachers in education sectors is seen as a major challenge confronting the preparation of teachers in most sub-Saharan African institutions. (InfoDev, 2010). This inadequacy is divided into two, one area has to do with inadequacy in terms of required numbers, and secondly, is in the area of discrepancy in the relationship between teachers' qualifications and their job specifications. NCTE (2009) confirmed that the

preparation of effective teacher educators will be competently and professionally equipped for the job if such a teacher undergoes proper training and preparation as at when due. (p. 63). The inadequacy of teachers in schools is due to many notable reasons. Such as motivation, teaching experience, lower academic and professional qualifications.

Adequate Funding for Continuing Professional Teachers Development

The government needs to give more financial support to teachers' education and professional development; this will enhance the attainment of set goals and objectives and most importantly serves as an agent of progress in achieving EFA set goals. In a research study carried out by UNESCO among 70 of 110 countries, it was highlighted that spending on education at the public level increases based on the state of Gross Domestic Product (GDP) (UNESCO, 2017). This seems to be an encouraging report, it is observed that many of the notable increases centered on the increases in education access. It will be full of many challenges to achieve EFA goals as long as the quality of performance of teachers did not measure professionalism towards teachers' development. Therefore, it is very important to advocate an increase in funding for CPTD.

Integration of ICTs into Continuing Professional Teachers Development

The introduction and application of Information and Communication Technologies (ICTs) to teaching and learning provide opportunities for the use of digital resources such as digital libraries whereby both teachers and students including professionals, have accessibility to materials that can be used to gather information on research and other materials relating to their courses and fields of study at the time and place of need (Bhattacharya & Sharma, 2007; Adu & Galloway, 2015). ICT facilities improve the networking of ideas in academics among researchers and hence sharing scholarly ideology as regards mastery of their subject areas becomes pretty much easier. According to Adu and Galloway (2015), this minimizes the duplication of research work. ICTs integration in teaching and learning also eliminates time barriers in education among learners and teachers. Moreover, the geographical barriers are also eradicated because the learners can access any location from time to time. (Adu et al. 2014; Mooij, 2007; Cross & Adam, 2007; UNESCO, 2002; Bhattacharya & Sharma, 2007). ICTs also make provision for new

educational approaches (Sanyal, 2001).

Globally, the rate at which the application of ICTs spread in teaching and learning demonstrates new advancement that provides a solution to numerous educational problems through the integration of ICTs by teachers. The ICTs offer ideas to strengthen continuing professional teachers' development through the introduction of innovations. ICTs provide numerous ways of enhancing the quality and make teaching friendlier as well as the provision of appropriate classroom management. Adu and Galloway (2015) viewed that the use of ICTs gives enhancement to teaching and learning. It also in agreement with Haddad and Draxier (2005) who revealed that the use of ICTs makes teaching more effective and also contributes to the development of the educational process.

CPTD AS POLICY AND INSTITUTIONAL REFORMS

Professional development is an integral part of current efforts to transform and revitalize education. The promise of high-quality education for all children is dependent not only on a total restructuring of schools, but also on the knowledge and commitment of practitioners to restructuring. "for school restructuring to occur, a combination of factors must be present at the same time and over time--including leadership, a shared mission, school goals, necessary resources, the promotion of colleagueship, and the provision of professional growth opportunities for teachers" (Xaso et al 2017). Therefore, the school management and education authority should all activities that can lead to teachers' professional development; policy, and institution reforms to support CPTD. Some of these include:

- 1. Making teachers the reforming agent will allow the skills, beliefs, and attitudinal changes acquired as a result of professional development to have a direct impact on the students
- Articulation policy for qualification enhancement through professional development should be put in place; teachers should be encouraged and sponsored to further acquire more certificates.
- 3. Compulsory attendance for professional development policy, it should be mandated for teachers to regularly attend CPD programmes for capacity development and self-reliance
- 4. Job performance policy, CPD should be seen as a measure of job evaluation and best practice for promotion, constant development, and scientific knowledge (this will raise the standards of their teaching performance, teaching practice and promote open class teaching) (Saville 2012).

Other national regulatory mechanism reforms include:

Teacher Licensing

Restructuring the format for licenses, *e.g.*, by developing initial or probationary licenses for the initial year(s) of teaching and reconsidering standards for advanced practice or specialized areas of practice. Developing or adopting performance-based licensure assessments. Considering or establishing relationships between how graduates perform on licensure examinations and how teacher preparation programs are evaluated. Establishing or working with established teacher professional standards boards that participate in or control the licensure function. Many countries are having different professional associations for teachers, Nigeria has a Teacher Registration Council (NTC), South Africa has the South African Council of Educators (SACE). There is also the National Council for Accreditation of Teacher Education (NCATE)

Teacher Certification

The term "teacher certification" has recently come to have the same meaning in education as it does in other professions a designation of advanced practice in a specialized area, based on a voluntary system of application and assessment. Since the mid-1980s, a comprehensive national certification initiative for teaching has been operating with substantial funding from private and corporate foundations and the government. Some countries are yet to implement this reform. other professions for example medical professionals even within South Africa have CPD points which have to be earned yearly to continue registration as medical professionals, argue for such CPD points for the teaching profession as a national regulatory mandatory mechanism.

CONCLUSION

A cursory look at the capability approach theory, in terms of functioning and aspirations of the PD, provides a valuable framework through which we can contextualize the practice of professional development for teacher education and retraining of teachers. It argued that professional learning is undergirded by professional development programmes aiming at empowering teachers so that they can exercise some authority in confronting issues regarding their professional conduct. The appraisal of the international perspective on CPTD shed light on the approaches, modalities, and arrangements of other countries. A reflection on the prospects of the CPTD concerning its implementation at the school level brings about true professionalism and motivation for career development. The aspect of professional development increases teachers' knowledge about content or content standards and instructional skills, classroom management, or assessment. It enables teachers to critically reflect on their practice and acquire new knowledge and beliefs about content, pedagogy, and their learners. More so, CPD provides opportunities for teachers to keep updating their knowledge in the teaching field and also keep them abreast of the latest trends in educational practice to remain relevant to the job. The continuing professional development (CPD) of teachers plays a pivotal role in the development of any nation. As I have argued earlier that it is practically impossible for any country to rise far above the quality of its teachers. Teachers are the nation-builders. Their development is also the development of the society in which they operate as professional educators. The school management, education authority, and other stakeholders including teacher education scholars should therefore encourage and promote all activities that can lead to teachers' professional development.

RECOMMENDATIONS

The critical role expected of teachers in the nation-building project demands that they should be put on their toes. As professionals, they should be exposed to CPD to be equipped with the requisite skills for effective and efficient service delivery to their students. Having said that, it is imperative to recommend that teachers should constantly improve on their professional expertise and classroom management practices to deliver as expected on their professional mandate. The introduction of compulsory CPD points for all educators nationally and the use of points for promotions as is already happening in the Health and Engineering sectors should be introduced to educators. It is also important for school management teams to map out strategies in helping teachers to attain the expected level of professionalism by adopting one or more types of CPD which have been discussed in the course of this lecture.

Mr. Vice-Chancellor and distinguished colleagues, for us to achieve Education 2030 agenda in Africa, particularly in South Africa, preparation and training programmes of the prospective teachers should, as a matter of policy, integrate the use of ICTs. In addition, in-

service training for teachers on regular basis should be introduced. Both teachers and students should be exposed to the relevance of pedagogy that relates to the integration of ICT into teaching and learning. Of course, I need to also charge the government of South Africa to encourage and incentivize teachers to become more ICT-compliant. There should be a provision of all the necessary ICT software packages to enhance the proper integration of the ICT tools into the teaching and learning processes. More importantly, the maintenance of all ICT-related facilities should be routine. Few schools in the cities of South Africa use tablets and other ICT facilities while others do not have them. I strongly suggest the equity and equality theory of distributing ICT facilities to schools. Finally, the integration of ICTs in teaching and learning should be part of the pre-service training programmes for teachers in all higher institutions of learning.

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