

Continuing Professional Teacher Development in South Africa: To investigate the barriers, incentives, and opportunities for ICT training in a Rural Township Primary School [Unpublished thesis]

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This paper examines the factors that influence educators to undertake Continuing Professional Teacher Development at a single rural school in South Africa. It is important that we understand what motivates these educators to take part and what prevents them from doing so. Only when we fully understand the social setting, its inherent constraints and the needs of the educators and the school can we begin to address any barriers to undertaking ICT training. A mixed method approach to data collection was adopted. Firstly, a questionnaire was completed by 28 educators at the school. Secondly, 8 educators were asked to take part in a semi-structured interview. The principal of the school was also interviewed. Our analysis uncovered several factors that influence educators which including barriers to taking part, intrinsic and extrinsic motivations for taking part and opportunities to take part. By focusing on the factors that influence educators to take part in ICT training at the school, we have managed to record an important moment in the digital skills development of this rural school in South Africa and by uncovering barriers to undertaking CPTD and ICT training we have provided key information that could be used to help build a school strategy to address these barriers. The findings presented in this paper provide a good starting point for further consideration of factors influencing educators to undertake CPTD in a similar setting.

Keywords: CPTD; ICT; rurality; education

Introduction

The aim of this paper is to explore the educator (teacher)-level and school-level barriers and enablers to sustainable integration of Continuing Professional Teacher Development (CPTD) for ICT training at a rural Township Primary School in South Africa. It is important to discover the educator's motivation for lifelong learning but also to reflect the views of those educators who are disinclined to take part in CPTD for ICT training to better understand how educators engage with professional development. It is

highly likely that there will be educators who are motivated but unable to engage in CPTD for a myriad of external factors such as access to equipment, availability of training materials and time constraints. This paper seeks to better understand what these factors may be.

School principals are expected to demonstrate proficiency when performing leadership and management roles in schools. Their influence on the teachers working at the school is key to the efficient running of the school and through staff development policies they can have a strong impact on their staff engagement. Trade unions also have a potentially key role to play in teacher development. For these reasons, this paper will also examine these contributions to CPTD.

ICT Intervention

Since 2015, several technology students at a British university have volunteered to provide ICT support and training in a cluster of township and rural partner schools in Kwazulu-Natal, South Africa. The township is 28 sq. km in size with a population of 119,497 of which 99.43% are Black African ethnicity. The schools are characterised by basic school buildings, limited resources, large pupil-teacher ratios, and limited ICT resources. The ICT support provided by the volunteers included building ICT infrastructure at the schools, basic ICT training to help educators to integrate ICT into their lessons and additional support for learners as they begin to develop their own skills in ICT. For the duration of their three-week volunteer placement students lived in pairs with a host teacher from one of the schools supported during the intervention.

This case study focuses on one of the rural primary schools. The school has over 1100 learners (children) and around 35-40 educators. Class sizes vary from 50-70 learners. The school had been visited on three previous occasions by a Technology Team from the same British University to provide ICT support and training.

During previous visits observations had been made which indicated that issues surrounding educator's knowledge, skills, and confidence in using ICT led to poor integration of ICT into lessons, but that small improvements in knowledge and skill could produce marked improvements in confidence and willingness to use ICT in the class. Continuing Professional Teacher Development (CPTD) was also observed to be a key component of successful integration of ICT into the classroom at the school. These observations have led to the development of the current study which intends to investigate CPTD for ICT training at the school in more depth.

Materials and Methods

This study is a case study-based research project. This methodological approach was used to gather the views, perceptions, experiences, and the ideas of individuals that relate to the case in question. The theoretical framework used to help to frame the study focuses on the work of Ryan and Deci (2000) who describe two different forms of motivation: intrinsic and extrinsic. These elements form part of their Self-Determination Theory (Deci and Ryan 1985) and focus on the motivation an individual feels for tackling tasks. Intrinsic motivation refers to the “doing something because it is inherently interesting or enjoyable”, i.e., the reward for doing a task is doing the activity itself. Extrinsic motivation is “doing something because it leads to a separable outcome” such as improving career prospects, monetary gain, etc. Ryan and Deci (2000) identify competence and autonomy as two important psychological needs that can enhance and maintain intrinsic motivation when present in each context and are also key in self-determination with respect to extrinsic motivation. Although the level of self-determination apparent in extrinsic motivation can vary – internalisation and integration are the processes through which this is enhanced, that is, the “more one internalizes the reasons for an action and assimilates them to the self, the more one's extrinsically

motivated actions become self-determined". This paper will look at the various motivational factors that influence educators when considering taking part in CPTD.

A mixed method approach to data collection (questionnaire and interviews) was adopted. This enables triangulation of the data, thereby enhancing any claims to knowledge and quality. The case, or bounded unit of examination, for this study is a primary school. During the period of data collection, a purpose sampling strategy (Robinson, 2014) was used in which all educators working at the school were asked to participate in the study. This approach was used to enable the identification of themes, concepts, and indicators through observation and reflection. The data collection methods used were a questionnaire and follow-up interview with 8 educators. In addition, the school principal was also interviewed.

Participants were provided with an Information Sheet and to comply with GDPR legislation, a question was added to the questionnaire to ensure voluntary informed consent to participate was made by the participant. Each questionnaire included an alphabetic Identification Letter-Code to maintain anonymity but permit traceability of contributions in the event of a withdrawal from the study and to help with identification for further data capture. Educators indicated their informed consent to participate in the interviews via a tear-off sheet attached to the Information Sheet. Each tear-off sheet recorded the same Identification Letter-Code written on the questionnaire. If an Educator decided to participate, they were reminded that throughout the period of data collection they could withdraw consent as well as a period of 2 weeks following the return of the researcher to the UK. Instructions for doing so were included in the Information Sheet and Consent Form.

Agreement was sought from the School Principal to allow sufficient time to be made available to complete the questionnaires and interviews within the normal working

day. Due consideration was also be given to the effect on the learners that the research study might have. When an educator left the classroom to take part in a one-to-one interview, there may be a detrimental effect on the learners' education. Other educators helped reduce the effect on the learners. However, this may also affect their workload too. The School Principal had prior knowledge of the research being carried out at the school and engaged in helping to reduce any effects of the research on the school.

Questionnaire

All participating educators were invited to complete a questionnaire about their professional background and aspirations, their perceptions and expectations for teacher training, their experiences of CPTD at the school, and any previous experience of CPTD before joining the teaching staff at the school. The questionnaire included quantitative and qualitative questions to provide some overall context to the study and provide a rich reservoir of information to follow-up during the interview stage. Inspiration for these questions was taken from the guiding theoretical framework described above and more practical elements. The questionnaire focused on professional development, barriers/enablers, opportunities, management and strategy, influences, and incentives.

One-to-one Educator Interview

Using the questionnaire data to aid selection, a group of 8 participants were selected from the 15 participants who indicated a willingness to participate in a short follow-up semi-structured interview. The strategy used to make this selection attempted to provide a balance of gender, teaching experience, age, school grade taught, and educational background found within the school to help to mitigate any selection bias. This selection criteria was used to ensure that the relative proportions of these groupings in those educators selected for interview closely matched that found in the whole population of

questionnaire respondents. A careful examination of answers to questions related to these demographic characteristics was made to identify the best fitting participants that met this criterion.

Each educator interview lasted no longer than 20 minutes. Considerations were made for the language used to frame the interview questions. These included clarity of speech, rephrasing questions (when required) and active listening techniques (such as paraphrasing, reflecting back what has been said and being patient). Participants' first language is isiZulu, but they do teach in the language of instruction in South Africa – which is English.

School Principal Interview

The School Principal was asked to take part in a one-to-one semi-structured interview to discuss CPTD at the school, what form this takes if already implemented and to discuss any barriers that they have encountered in running or attempting to run CPTD at the school. This interview also considered external influences on the school that affect CPTD such as Trade Unions and national/regional education department policy. The interview lasted around one hour and took place in the School Principal's office on two separate occasions of 30 minutes each around 3 days apart.

Coding

All nine of the interviews were transcribed and combined with the qualitative data provided in the questionnaire before the data was analysed. The approach used was an inductive coding technique like the open, axial, and selective strategy described by Williams and Moser (2019) in their overview of coding techniques. In particular, the original text was free coded without using any pre-defined codes. If a code appeared to be a sub-code of another code, it was added. This approach ultimately led to a deep

hierarchy of codes. A reduction technique was then applied to the hierarchical set of codes to reduce the depth of the hierarchical structure one level at a time and thereby reduce the number of codes. Inevitably, some codes subsumed others and occasionally new codes were needed to capture the sense of the combined idea. This was repeated until the hierarchy was reduced to a depth of two. The first level represents the main themes and the second level sub-themes. The resultant themes and sub-themes for this paper are shown in Figure 1 below.

Barriers	
	Education-level
	School-level
Incentives	
	ICT Integration
	The Educator's Role
	Effect of Learners
Motivations	
	External
	Internal
Opportunities	
	At Home
	At School
	External Training Providers
	In Community
	Trade Union

Figure 1. Themes and Sub-Themes for this study

Ethical Considerations

The researcher had visited the case-study school on two previous occasions as part of their IT support work with the charitable initiative. As such, the researcher was well known to the School Principal and many of the educators at the school through this work. It should be noted that the researcher could be viewed as an 'insider'. This has clear advantages for the researcher in terms of understanding the context, but also could introduce informant bias into the study (Mercer 2007; Drever 1995). While the researcher

acted as objectively as possible during the data-capture phase, those educators with whom the researcher interacted may have considered the researcher differently. There was also an apparent role-duality (Coghlan 2001) here - the author acts in the role of both instructor (or facilitator of ICT training) and researcher. Recognition of the effects of authority and power on these relationships in post-apartheid South Africa should also be noted. As a White European Academic who acts in the role of ICT lead for the charitable initiative, the researcher is likely to be seen as an authority figure with some control over how the school is supported by the initiative.

Issues of the impact of power need to be acknowledged in this research design. It is possible that participants may not wish to be critical of the existing ICT training at the school if they view the charitable initiative as providing future professional development and funding. It should be recognised here that there was some overlap between this case-study and the support the charitable initiative (and the researcher in particular) has provided to the school. Participants may have been anxious that their views could be reported to their School Principal and that there may be a feeling that they could not and should not be critical. The historical and political context of South Africa mean that power imbalances between white and black could influence responses. The School Principal was key to ensuring the messages about the need for educators to express honest views were understood by them. Educators were also reminded by the researcher that their answers would be treated confidentially and anonymously. It is also however acknowledged that there was the possibility of educators feeling that they could not express their opinions if these were critical of the School Principal and/or initiative. It was therefore the responsibility of the researcher to find ways to ensure that the participants were aware of all possible outcomes of being involved in the research such as: what participants disclose might affect their self-esteem, professional identity, or sense of adequacy.

Results and Discussion

According to Ncube (2013) what is currently known about rural education from an empirical perspective is limited and therefore much of the discussions about CPTD in a rural setting appears to be speculative. It is hoped that this paper will add more evidence to the conversation about professional development in a rural setting with an emphasis on ICT training. Mpahla and Okeke (2015) suggest that post-apartheid education development programmes have “attempted to eliminate disparities in education”. However, they maintain that many of the differences between urban and rural schools and teachers persist. According to van der Wesrhuizen (2012), the spatial inequalities generated by the apartheid government have left rural schools with “challenges that the education system was not designed to handle”. Despite the attempts to transform the post-apartheid education system through an innovative curriculum and policy framework the legacy of this inherited system continues to exist (du Plessis et al. 2007). Pillay and Saloojee (2012) note that teachers working in rural areas often feel disregarded because they tend to define themselves by the context in which they work which inevitably leads to a demotivation for learning and teaching. However, they also argue that township teachers can use their experiences to turn constraints imposed by their context into opportunities for change. Mpahla and Okeke (2015) describe rural schooling as unique and its teachers as understanding the schools and their own specific needs - they too are experiencing the challenges of the rural places they work. They suggest that teachers themselves should be involved in the conversation to understand their everyday lived experiences within a rural setting. This paper has attempted to follow this advice to gain a deeper understanding of the barriers, incentives, and opportunities for professional development from the perspective of the educators who live and work in this setting.

Teacher development is central to transforming education in South Africa according to Loucks and Matsumoto (2010) and it is therefore imperative that training location be considered when running CPTD programmes. Zafeirakou (2007) argue that teacher development must take place at the school rather than at some distant location to properly equip educators with the necessary skills for teaching in the classroom. Steyn (2013) contends that this should give the educators “space for self-reflection and self-reflexivity” – key elements in personal and professional development. Steyn (2008) also suggests that CPTD “requires building professionalism through a collective reflection on practice and through development of support structures at the workplace” where educators can share ideas and practise to help to support each other. This is more relevant and important in rural settings than in urban areas.

Geldenhuys and Oosthuizen (2015) consider the challenges that influence teachers’ involvement in CPTD from a South African perspective. Their paper sampled 12 coloured educators from 12 different Primary Schools in a metropolitan area in the Eastern Cape Province. Clearly, there are some important differences in setting between their paper and the setting used here such as urban vs rural schools, Eastern Cape vs KwaZulu-Natal and coloured vs black educators. Nevertheless, their paper provides some key findings that support the findings reported in this study suggesting that these results may represent a more general trend in South Africa. They define a requirement for teachers to continuously learn to remain effective in their role, to meet the challenges of increasingly diverse school communities and the implementation of inclusive educational environments. They present four different themes which emerged from their analysis:

- Opportunities for CPTD through organised support.
- The teachers' motivations for participating in CPTD activities.
- Barriers to teachers’ involvement in CPTD.

- Incentives for acquiring professional knowledge/competencies through CPTD.

These themes are broadly confirmed by the research findings presented in this paper and form the main themes used during the presentation of results that follow.

Quantitative Data

The questionnaire was completed by 28 participants. The participants consisted of 26 female and 2 male participants ranging in age from 25 to over 60. Most participants (86%) were aged between 30 and 59 with only two participants below 30 years and two above 60 years. Teaching experience ranged from newly qualified through to 20+ years with almost half of the participants having more than 10 years' experience and around 30% of the participants being in their first 5 years. For this sample, the exact distribution of ages and teaching experience were helpful in terms of avoiding any selection bias. The educational background of the respondents was typical with 53% of the participants having received a bachelor's degree. Of the remaining 47%, only one participant (4%) had a National Certificate, the rest qualifying to teach with a National Diploma.

A relatively small amount of CPTD training took place in the 12 months preceding the data capture across the participant pool with an average of 4.1 days. Seven educators indicated that they had received no CPTD while the 43% had received between 1-4 days and 25% between 5-10 days. Only one educator indicated a significant number of days (>16). While this is encouraging, more than two-thirds had received less than 5 days with many receiving none. There appears to be a real issue with of lack of availability of CPTD which may be explained by some of the barriers to CPTD discussed in the next section of the paper. Figure 2 shows that 39% of the participants felt that the lack of support was a contributing factor to making it more difficult to take part in CPTD while lack of motivation and confidence made up for 36% and 29% of the participant's reasons

respectively. It was interesting to note that only 14% of participants felt that the lack of finance had been a factor.

Lack of support	39%
Lack of motivation	36%
Lack of confidence	29%
Fear of failure	18%
Lack of reward	14%
Lack of finance	14%
Negative previous experiences	7%

Figure 2. Reasons preventing educators from participating in a CPTD programme.

Participants responded that they would like to have CPTD opportunities in classroom management, ICT skills, discipline, and assessment. Two thirds of the educators said they wanted some training in all areas, but the two most important areas identified by the participants as requiring extensive training were ICT skills and discipline as shown in Figure 3 below.

Discipline	54%
ICT skills	36%
Counselling	29%
Assessment	18%
Content and performance	11%
Classroom management	7%
Knowledge and understanding	4%

Figure 3. Areas of teaching that require extensive training.

Almost all participants felt that professional development was an important aspect of their role as an educator with all participants agreeing that successful completion of any training programme is vital. There were many influences on an educator's decision to take part in CPTD (see Figure 4). The two most significant reasons were to improve their career prospects (93%) and to improve their self-esteem (82%). The first is a common external motivator and indicative of ambition. The second is also interesting – an internal motivator. In fact, the next two most significant reasons are to gain a certificate (64%) and to gain a sense of satisfaction (64%). Again, one external and one internal

motivator. These findings corroborate results discussed later in the paper focusing on internal and external motivators and support the theoretical framework underpinning this study. Influences from the family, community and colleagues was also important to the participants with 79% agreeing that this was a key motivation for them. In addition, the educator's trade union was also a key influence on them (around 70% of respondents).

To improve career	93%
To improve my self-esteem	82%
To gain a sense of satisfaction	64%
To gain a certificate	64%
To gain financial reward	50%
It is interesting	43%
It is challenging	43%
To avoid professional sanctions	14%
Pressure from my manager	4%
Pressure from my family	4%

Figure 4. Factors that influence the decision to participate in CPTD.

Several questions focused on the availability of training and resources. Around 60% of the participants felt that it was important to have time in the normal working day for practising ICT skills. However, the 40% did not see this as important. There may be several reasons for this including a high workload, a need to work in a more relaxed environment (such as home), an overloaded timetable or anxiety about using ICT. However, only 32% of the participants felt that there were significant difficulties fitting ICT training into the working day. As educators integrate their new digital literacy skills into their everyday work practices (such as writing tests, recording marks, printing resources, etc) improvements can more easily be made with targeted training. All participants felt that being able to practise at home would be useful. Most educators do not own their own laptops according to the results of this survey. The options open to them and the school are discussed in more detail in the next section of the paper. All participants felt that it was important that the school had an ICT training strategy in place

and most felt the principal of the school was very supportive in this regard. Around 60% of the respondents felt that they could find opportunities for ICT training outside of school setting and the majority felt in control of their own development. However, one interesting result did show that some educators did feel some pressure from others to take part in CPTD while others felt no pressure to do so. The proportion of each was broadly equal.

Qualitative Data

Barriers

Geldenhuis and Oosthuizen (2015) focuses on barriers to teachers' effective participation in CPTD at both the educator-level and the school-level. This includes the lack of planning suitable times for CPTD activities in the school calendar by the SMT. According to Steyn (2011), school principals are faced with several leadership challenges when implementing effective CPTD programmes for in-service teachers, such as inspiring teachers to become dedicated to their own CPD or paying attention to the "intricacies of teachers' personal and professional growth". Educator-level barriers evident in Geldenhuis and Oosthuizen's work focus on experience and age as having some influence. They found that newly qualified teachers appear to be more motivated to take part in professional development than teachers closer to retirement age who may be less committed to further development as "the potential future return on professional development activities decreases when retirement is imminent" (Richter et al, 2011, p.118). There was some evidence in the data captured for this paper that corroborates this observation.

In this paper we will again take a broader view of barriers to professional development focusing on ICT and digital literacy training. In the findings presented here, we continue to consider barriers from educators' and school's viewpoints.

Educator-Level. At the educator level we can distinguish three key barriers to ICT training. Firstly, educators need access to equipment to develop their digital literacy skills. While the school does have the necessary equipment, many educators lack the necessary equipment at home. Secondly, educators need the necessary funds to continue their study. Two different participants described how financial pressures have prevented them from continuing their studies. One described how they began to study with the University of Free State part-time but were unable to continue without access to a sponsor or bursary, that they were “paying from [their own] pocket”. The other educator described having to resign from a previous role in a private school where “the salary is low and there [are] no benefits” to secure a permanent role within the department before they could continue their studies. Thirdly, the most cited barrier to ICT training amongst the participants is time. One educator stated that “I will never have the time” given the size of the classes. Unforeseen events within a day can also reduce available time for ICT training sometimes leading to the educator needing to “take books home to mark” rather than at the school. Another educator explained “there’s a lot of work and we [are] having problems with learners...we have to attend to the learners one-by-one”. This educator felt that ICT training should happen after the school day to allow them to “pay attention to our learners” but recognised that “it needs a lot of time”. While there are breaks in the school day, another educator described how they need “to go to other colleagues...do my preparations and discuss problems I encounter” and that this is the focus of break time rather than ICT training. A third educator described how there are professional

development opportunities available, but the time to take advantage of them is not limited - “teachers are very loaded”.

School-level. The principal explained that the school does not have access to additional financial support for internal training workshops or school ICT equipment and so they must fundraise if they wish to do this. The education department do conduct some training programmes, but these are only “based on the things that they need to equip the schools with”. They rarely conduct ICT training. In fact, no money is provided for travel to these departmental programmes and so the school needs to provide travel expenses to any educator who attends. The principal said that he does include money for these programmes in the school budget but for anything else they must either raise funds themselves or contact external sponsors to support the school’s work.

Evidently, there are difficulties in timetabling opportunities to study during the working day. One educator stated, “the school has too many classes and only one computer lab” while another said there “is not enough time for teaching and learning about ICT”. Both express the difficulties in timetabling ICT training sessions. However, three respondents in the questionnaire suggested that it only requires proper planning to integrate training sessions. There is a mixed view about the possibility of finding time with half the respondents saying that it is possible and half saying this it is not. However, the principal explained, “we are flexible here, very flexible at the school” and that educators and learners at the school are “used to the idea of changing and adapting to a new timetable”. The principal described how changes in the weather can affect the timetable, “when we come to work there's a lot of frost...how can we expect learners come and concentrate...then we change [start time] to half past eight...and then we break at half past three”, i.e., the teaching day is delayed by one hour. According to the principal, contact time is the key metric he uses, “as long as we are within the seven and

half contact hour”. He further explained that a school principal does have some flexibility in how the working day is structured and that running a workshop during normal teaching hours is possible (i.e., while learners would normally be in lessons), “I just write letters to parents [to explain] ...we have to release learners - we can't leave them in their respective classrooms alone, because there would be disorder”.

According to the principal the school has a strategic approach to building in training workshops to the school year, “which involves everything that could be done in terms of the infrastructure...[and] training”. If training workshops are conducted at another location during the term-time, the principal must ask permission of local education department. The principal described the school’s approach to ICT lessons as “integrative” – it is incorporated into the main timetable. To complete this, educators must either “take the laptops to the classroom, or they take learners to the computer centre”.

The final identified barrier to ICT training was described by the principal as a requirement laid out in the education department policy requiring schools to have ICT equipment while not providing this for them. He described his strategy for meeting the school’s need as having to source their own equipment through donations, educational interventions or from the school’s own budget. However, he conceded that there is some recognition at the education department level that schools need security to protect their own ICT equipment. The principal described how “there were demands that came from schools...to the department” for additional support and that as a result the government have improved “safety and security measures”.

Incentives

Given that teachers are largely responsible for their own professional and personal growth, their attitude and commitment to CPTD is paramount to their success. Wood and Oliver (2008) suggest that teachers with a belief in their own capacity to execute the behaviours necessary to achieve specific performance goals will tend to engender positive change within a school. They tend to create learning environments beneficial to preparing learners for the future and tend to regard themselves as effective, competent, and able. Geldenhuys and Oosthuizen (2015) found that another factor in reducing participatory stress and increasing commitment to change is how teachers collaborate with colleagues inside and outside the school. According to De Vries et al. (2013) this can provide opportunities for “feedback, new ideas, and challenges” and a greater enthusiasm for cooperation and commitment to change. Ultimately, this should have a positive impact on learner performance. Geldenhuys and Oosthuizen also consider self-reflection as critical to the success of a teacher’s professional development. Schon (1996) defines reflective practice as a “process of critical investigation into one's own teaching practices, to improve the teaching and learning process”. Adler and Reed (2002, p. 121), describe a reflective teacher as one who is “attentive to the institutional and cultural contexts in which he/she teaches”. The reflective teacher is keen to engage with the curriculum development and is involved in changes to how the school operates. For Adler and Reed, it is important that the teacher takes responsibility for their own professional development.

There are three key areas which we consider in this paper as the incentives for an educator to take part in ICT training. The first key area looks at the benefits of integrating ICT into everyday teaching at the school. The next area focuses on how ICT training can benefit the educator in their professional role at the school and in their own feelings of

self-worth. The final area considers how educators can use their ICT training to benefit learners' classroom experiences.

ICT Integration. Several participants recognised the importance of integrating ICT into their lessons. One educator stated that in their Natural Science class they used “the computer to show them the animals, the life cycle”. Another educator described how ICT should not be taken separately from other school subjects, “ICT is not a subject alone”. However, they also felt that it is vital for laptops and projectors to be available in all teaching rooms rather than being limited to the computer centre. They reported that they had observed that educators were less inclined to move all their learners to the computer centre and felt that integration would be easier in the classroom because “the learners won't [need to] move, they [can] just sit where they are and do their work”. In fact, the principal reported that an external trainer had visited the school to demonstrate how ICT can be integrated into lessons and that those educators who observed how laptops can be integrated “will do it much better” but that they “need to get that confidence...[they] need practise”.

The Educator's Role. Most of the participants reported that professional development helps to make them more effective educators. One educator stated that “professional development helps you grow as a teacher”. Another focused on the benefits of ICT training, recognising that “the world that we are living in today is...computers, tablets and phones” and that “now we no longer use books...we are using our laptops and our projector in classes to do our teaching”. A third educator described how using ICT for lesson preparation allows their classes to be “thoroughly planned”. The educator described themselves as “like a blind person leading them [the learners]” without the necessary ICT skills. For this educator it is clear how much they value these skills and

how not having them can adversely affect their role as an educator. Several educators shared their concerns about not wanting to ask learners to do something that they themselves were unable to do - "I can't ask them because myself, I also can't". They felt that ICT training should help them to become more effective role models for their learners "so the more we know, the more they will want to be like us". This recognition of the educator's status as a role model occurred several times during the interview phase and is a useful indicator of how educators see themselves within the community.

Effect On Learners. One educator expressed how important ICT is for their social science class. They described how "you tell them about something...that happened in the past...it's not easy for them [to understand] they were not there in the past" but when using Google to search "you [can] get pictures from the internet" which "they are able to see...how that thing looked – so it really helps". Another educator added that access to the internet "will empower our learners – we will have better learners who are well informed". This is also something that parents want according to another educator "parents will be happy if they hear that the learners are studying computer". The principal reported that he has seen very positive benefits for learners, but he was still concerned by the relatively small number of educators who take learners to the computer centre (only about 30% of the educators feel confident to do this) and even fewer who take laptops directly into their classrooms. This is a key area that the principal identified as a challenge for the integration of ICT into everyday teaching. There have been gradual improvements with growing confidence amongst the teaching staff, but this needs to continue.

Motivations

Geldenhuys and Oosthuizen (2015) considered the continuous need for teachers to acquire relevant professional knowledge and competencies through CPTD. This might

include teaching subject matter, curricular content and pedagogical processes and practices. They found that “poor content knowledge leads to a lack of confidence and enjoyment of teaching” which ultimately leads to a reluctance to complete tasks and employ innovative teaching approaches.

In this paper we look at the different ways in which an educator could be motivated to take part in CPTD.

Internal. Aspirations at the school for ICT development and integration range from the personal to the professional. One participant provided a clear expression of the need for technology within the school. They stated, “we want to change the environment so that our learners in the future...have ICT [skills] at the end of [school] when they go out looking for different careers”. There is a real issue in South Africa for young people with unemployment rates of 60% (third quarter of 2022) for individuals in the age group 15-24 (Statista 2023). This educator was clearly aware of this and expressed a wish to support their learners and provide them with key skills that could make securing a job easier.

There is clear evidence that educators are motivated to continue their professional training to help build confidence in their skills, their self-esteem, and their professionalism. One educator stated that “I do think it is very important for one to participate or to get that development from time to time... every day, we need to learn something new...because I do believe we’re lifelong learners”. Lifelong learning is a recognition that things do change, and that the role of an educator will also change over time. This is something most of the educators recognise and embrace as a positive influence on them (according to the questionnaire results). The principal has a similar view about building confidence in his staff through professional development, “the more the staff [are] exposed to development, the more they will gain a confidence and the more they will be...involved with it”. The principal emphasised the need for “continuous staff

development” particularly for those educators whose digital literacy skills are weak. He also suggested that “those that know more, they must assist” and that “we have to work our own way of developing each other”. Clearly, staff development is not limited to ICT. Educators need to upgrade their knowledge of the subjects they teach through education department workshops “to make sure that they come on par in terms of having the correct methodologies”.

The importance of professional development to an educator’s sense of well-being was expressed succinctly by one of the educators, “through professional development, from term to term...[it] builds up your confidence, your esteem and professionalism”. In fact, most of the educators interviewed described how important it is to have control over their own professional development. One educator said, “if you are developed then you gain more self-esteem on the work that you are doing”. Another said, “it's important because as our educators, we need support, because we have problems in our schools, and we teach many different [children] who come from different society”. The educator themselves are best placed to recognise what they need to study - “I know myself what...I lack and what...I need to develop”.

However, there is a recognition that it will take time for digital skills and ICT integration to become an everyday part of the school’s educational environment. Educators expect to see positive improvements in learners’ performance, in their own performance as educators and in building a positive teaching team. They are keen to lead their classes well and to act as a good role model for their learners. A senior member of the school explained how they had instructed their teaching teams to use ICT rather than paper where possible so that “they will be more motivated” to use ICT. One educator expressed a hope that “each and every learner” can gain ICT training using their own

supplied computer. However, they did recognise that there is an issue with security in South Africa where criminals may “break in and take those computers and sell them”.

External. At the school there is a great sense of camaraderie and teamwork, “that's how we live, we assist each other”. One educator, a newer member of staff, commented on this “I've noticed...that since I've joined the school we work as a team...anytime whenever I need support...they are very supportive”. Another educator described how colleagues supported them, “they are supportive because if I'm busy, I can give my colleague...they are pleased to do for me”. This support is mutual. Several educators described how they provide support for their colleagues “if it is not my period, I'm free...there might be another educator in the computer centre I make sure [to] go there”. Another educator highlighted this as the “culture of the school” that “when we enter this gate; when we are here...[for] one thing...we must [support] each other; we must help each other out every [day]”. A third educator provided a clear explanation of the culture “it's very important that I must not be alone with the information. I must share...what I know and think that will help someone out, I must share that information” and through this sharing “that will develop [us] in one way or another”.

The school's ICT lead educator assists educators with their ICT training needs according to another educator, “Yes, they do assist...especially after the [ICT training intervention] last year...if I don't understand something [they] do help”. For instance, the ICT lead educator will “charge the laptops, prepare everything for us...if I tell them early that...we are going to the computer centre...to do lessons...they just charge the laptops...they see that it's okay”.

Educators have also reported being influenced by their own local community, the community “influences you to take part in development” and there are reciprocal benefits from this “it is good for me to be developed so that I can develop them too”. Another

educator considered the role they can play in their community to be one of “a role model to a growing generation”. This is supported by a second educator who said, “we always want what is best for our young children...to change the young children to become our future leaders”. The Church also forms a vital part of many South African lives and can have a positive influence on educators and the wider community. One educator explained how they had been nominated as a youth leader by the church leader. The church leader wanted to promote ICT development to the younger members of the church and even bought laptops for this purpose. The educator was tasked to meet with the learners every Saturday to practise how to use ICT in daily life – to improve their digital literacy.

One educator described how they are influenced by the principal, “The way he conducts himself every day at the devotion time, he has something powerful to motivate, to empower concerning learning - concerning education” and “that positive influence, that is pushing me - I just want to study and study and study”. A second educator added that the principal says “teachers upgrade yourself...you must start it...don't stay like this because you are growing...maybe one day you will be the principal...one day you will be the inspector...one day you will be the director”. The Head of Department can also act as an important influence on educator behaviour. One senior educator stated, “I'm expecting positive attitude, dedication, good result and good team spirit”. Another senior educator described how they must “make sure that the teachers under my control are doing what they have taught us in the workshops”. ICT has become core to the educator's role according to another participant, “everything is done technologically now, so either way you are forced and bound to do it via laptop...you do use the laptop whether we like or not”.

In South Africa trade unions play a key role in giving educators a voice, in supporting their professional development and in influencing their actions. According to

one educator “they do conduct workshops...they do assist in helping us”. Another stated “they should provide [training] because some people do believe in their trade unions more than their principals”. In fact, one educator said that they received most of their professional skill development through workshops facilitated by their union. The principal’s experiences with Trade Unions differ from the educators. He reported that there is a negative impact on “real and effective education” as other disruptive political issues are brought into education including in-fighting between different unions within the same school. However, he did admit that unions can have a positive effect on educators by “advising their members to do the right thing”. In his opinion, the balance between positive and negative influences falls more heavily on negative, more disruptive influences than positive ones. Clearly, he feels that the school is “obligated to teach and make sure that we teach effectively” and “whatever we bring in, from our different unions should not affect teaching”.

Opportunities for CPTD

Geldenhuys and Oosthuizen (2015) found that there must be involvement from all levels of the educational context in providing opportunities for CPTD, both from the school management team and the Department of Education, in creating the opportunities through to encouraging and motivating teachers to participate. In this section, we will look more broadly at the opportunities available to educators and focus on educators’ experiences of some of the opportunities for CPTD that they had either taken part in or were aware of. These included studying at home, attending workshops at school, visiting external training providers and support from their trade union. However, before we look at each of the opportunities in more detail, it is important that we look at the South Africa Council of Educators (SACE).

The principal described SACE as “a body that regulates and governs teachers - all professional teachers” and likened this professional body to other professions like nursing. He added that they have “developed policies, that will control...administer educators in their respective stations”. He described how “we have to [report]...information pertaining [to] the number of workshops that we have attended”. These workshops are accredited by SACE giving educators points (endorsements) for each workshop they attend. He explained that there is a software system that SACE has developed that allows educators to view and update their information. His view appeared to be that SACE does not directly organise workshops itself, but that “maybe they are working through districts to do that”. This organisation appeared in multiple answers given by educators in their questionnaire responses. One educator described how they must interact with this educational body “educators have to register at SACE before they come to work”. They described some benefits of the body as “they tell educators about their work...they also support educators” and “they did provide us workshops”.

At Home. There is an appetite amongst the participant pool for developing their digital literacy further at home. Several educators reported that they do have time, for instance, “we tend to have too much time at home so we [are] able to practise ICT skills”, “[more] time at home than at school” and “at home I'll be able to manage my time”. In addition, the environment at home is better for practise as “it's quiet”, “practising in my own personal environment without learner disturbance” but that “safety of the laptops might be the concern”. One educator emphasised the importance of not “develop[ing] myself at the disadvantage of my work and my duties and the learners as well”. However, there was one educator who was more cautious about this approach to ICT development, “some of us can do it but - honestly - not everyone will do it”. They did concede that “if you are

really dedicated you can do it at home” but if the principal was to request educators to study at home “it won't happen”.

When asked about the use of school laptops by educators at home, the principal described the current policy as “for certain members [of staff]...if there is something that [they need] to go and do at home that will be needed early in the following day” then this is acceptable. The staff member is expected to sign out the equipment and back in when it is returned to school. When considering expanding this policy to the rest of the educators, he was most concerned about the security of the laptops. Some educators travel from a distant town and rent rooms locally, “the security there...is not that strong”. The school would expect educators who lose equipment to “pay back - they must pay that kind of loss”. When asked about insurance for the equipment, the principal explained that there was insurance for theft and fire within the school premises, but that the school had not investigated how to insure equipment taken off-site. He clearly saw the benefits for his staff and learners of allowing educators to continue their ICT training at home, “this is beneficial to our learners. If educators [take] laptops home...they want to come back as better educators and teach these learners...must consider it”. He also reported “we will gradually expand [the scheme] ... depending on...the safety of our school computers”. However, the principal has very clear expectations that educators must only use school laptops at home for work and not for personal use. In fact, he explained that recently “one of the educators signed for [the laptop]. Then the following day...I want[ed] to see what she was doing...there must be some form of follow up in terms of my management”.

At School. It is clear from the participants' answers that finding time during the school day to practise the ICT skills is difficult. One educator suggested there was time available on Thursdays each week, “the learners break at quarter to, but the teachers leave it half-past two. So, there is time for you to make to practice”. Another suggestion made by the

interviewer was to extend a day by one hour from 2.30pm to 3.30pm. One educator stated that “I wouldn't mind [remaining] behind and [to] do those developments. [If] I get permission from the principal, because now the security of the school lies with him”. Another educator suggested that this extra time should occur once a week rather than once a month “so I don't forget what I was doing”. This is corroborated by a third educator “once a week it would help...more you get used to it, the more you expand your knowledge”. The regularity of ICT training is key to its success. However, it is clearly problematic to find time within the school day to complete this.

External Training Providers. The principal explained that there is a scheme within the education department's local teaching centre located in the township which supports schools with ICT-related matters. This course is sponsored by a corporation that provides many jobs for workers in the township called Accelor Mittal. The support offered is training for both the learners and the educators. All transport costs for learners are covered by the teaching centre who provide buses for them.

In Community. When asked about opportunities for ICT training in the community, educators listed several locations that they had sought training including the local Education Centre, Community Library and NATU Teacher Development Institute. There were several, however, who were unaware of these opportunities.

Trade Union. Most of the participants reported that their union provided them with support for professional development in general. These free workshops tend to focus on non-digital literacy skills such as learning more about their own roles as educators, new roles (such as Head of Department or Principal) and personal finance. However, several educators confirmed that their union (NATU) does provide opportunities for ICT training

including a lab room and teaching assistant to support members. It seems like support of ICT training is dependent upon which union an educator is a member of and is therefore not universally supported by all Trade Unions with respect to aiding their members' digital literacy.

Summary

Throughout the data analysis phase due consideration was given to the guiding theoretical framework, intrinsic and extrinsic motivations. We identified four key themes to support the investigation: barriers, incentives, motivations, and opportunities. The analysis provides sufficient depth and breadth to address the key research aims of this paper – to gain a deeper understanding of the professional development landscape at the school.

We identified educator and school level barriers as obstacles to effective CPTD. The main educator level barriers to accessing professional development apparent in the data are equipment, finances, and time. The principal identified the same three barriers at the school level but was able to report on strategies that the school had in place to help mitigate each of these barriers. To understand what motivates educators to take part in CPTD we considered incentives and motivations. For educators, digital literacy skills are key to helping them to provide a better service to their learners through integration of ICT into lessons. This will increase their sense of well-being and professional pride in their role. There is clear evidence of an internal motivation to take part. The educators showed a keen sense of camaraderie and teamwork and drive to improve through mutual support. It was clear that strong leadership at the school provided a positive motivating influence on educators. Other extrinsic motivations included community and trade unions.

To build a successful digital literacy strategy the school needs to identify the existing opportunities for training. The analysis focused on five different places. Many educators felt that their own home would be an ideal place to improve their digital literacy

skills. This approach can only work if it is combined with an organised training programme. The principal seemed to be optimistic that ICT training could take part at the school during the working day and several suggestions were made about how this might work. Educators also have access to external training providers and trade union resources to improve their skills. Educators need to be driven and motivated to take part in this. There is a further extrinsic motivation to take part – SACE. Every educator must report every CPTD activity they complete to SACE. This endorsement is key to their role as an educator and was felt by many educators to be an important element of their motivation to take part.

Limitations

The results presented here are based on a single primary school in a rural setting. It is therefore not possible to generalise the results presented. However, one of the key sources identified in this work (Geldenhuys and Oosthuizen, 2015) did publish a similar result.

Further Work

The results presented here need to be corroborated at more schools in the same setting to help to provide more evidence of the trends and themes presented in this paper. The same approach could be used at all the schools in the charity initiative reported here. In addition, a consideration of how improvements in access to CPTD affect the educators at the school and the learners' experiences over time should be made.

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Declaration of Interest Statement

I hereby declare that: I have no financial, non-financial or other personal interest, direct or indirect, with anyone and/or any organisation reported in this paper.

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