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<sup>1</sup>University of PretoriaDOI: [http://dx.doi.](http://dx.doi.org/10.18820/2519593X/pie.v39.i4.4)[org/10.18820/2519593X/pie.](http://dx.doi.org/10.18820/2519593X/pie.v39.i4.4)

v39.i4.4

e-ISSN 2519-593X

Perspectives in Education

2021 39(4): 43-56

## PUBLISHED:

6 December 2021

## RECEIVED:

29 June 2021

## ACCEPTED:

25 August 2021

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# ICT POLICY APPROPRIATION: TEACHERS AS TRANSFORMATIVE ICT AGENTS

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**ABSTRACT**

*This qualitative instrumental case study set out to explore how the national e-Education policy is appropriated by teachers in South African schools. The meta-theoretical paradigm was social constructivism and the research strategy of inquiry utilised backward mapping principles. A socio-cultural approach to policy analysis and emancipatory theory provided the theoretical framings of this study. The case study design included a mix of data collection methods namely, interviews, classroom observations, document analysis and a researcher journal. Findings revealed that the existence of an “invisible national E-education policy” served as a catalyst for teacher agency in the formulation and implementation of a school ICT policy. Second, a change in the implementation paradigm of these teachers highlighted their role as transformative ICT agents. Their stance shifted from being merely conduits of policy, to becoming proactive socio-cultural actors in the formulation and appropriation of a school-based policy. Third, a new construct to policy appropriation emerged, namely the ignorance of teachers about the national e-Education policy led to their practice informing policy. Teachers’ beliefs, attitudes, will and professionalism are key to ICT policy formulation. Teachers’ experiences of policy implementation are valuable assets that should be incorporated in the formulation of policy.*

**Keywords:** *Appropriation; e-Education; transformative ICT agents; ICT policy; teacher professionalism.*

## 1. INTRODUCTION AND BACKGROUND CONTEXT

In an attempt to influence and change teacher practice and learning in South Africa, three key education policies on information and communication technology (ICT) were introduced over a period of time by the Department of Basic Education (DBE). These were the e-Education policy (DoE, 2004), Guidelines for Teacher Training and Professional Development in ICT (DBE, 2007) and the Professional Development Framework for Digital Learning (DBE, 2018). The e-Education policy mandated timeframes to develop public schools as e-schools, with the primary intention of improving teaching and learning in schools. This policy was



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ambitious and aimed to achieve its principal mandates by 2013. However, the e-Education policy only made its way onto school shelves, long after the introduction of technology in most schools. This policy seemed merely symbolic as it was neither integral to the many iterations of the curriculum policy, nor was it promoted at systemic levels as a policy that had to be implemented (Vandeyar, 2015). The Guidelines for Teacher Training and Professional Development in ICT (DBE, 2007) stipulates ICT knowledge and skills as a prerequisite to effectively implement the national school-based curriculum. The Professional Development Framework for Digital Learning (2018), aimed to develop teacher's digital skills to promote and facilitate learning with information and communication technology tools and digital resources. The intent of these policies was to "transform learning and teaching through information and communication technologies" (Department of Education, 2004:14) to keep abreast with technological advancements and foster economic growth and social development in South Africa. It was hoped that the use of ICT will lead to e-schools, change teachers' practice and improve the learning experiences of learners.

Sadly, these ICT policies were never given implementation priority, not even by the local district e-learning units. Post-apartheid South Africa witnessed the introduction of a barrage of changing education paradigms, namely Outcomes-Based Education, National Curriculum Statements (NCS), The Revised National Curriculum Statements (RNCS) and currently, Curriculum and Assessment Policy Statements (CAPS). Resultantly, some schools were in the throes of simultaneously implementing two different educational paradigms to accommodate the curriculum phasing-in process. Teachers were extremely overwhelmed, confused and experienced policy implementation exhaustion. Given this context, the most pressing concern for teachers was the implementation of the various iterations of national curriculum policies and not ICT policies.

The extant literature has focused on the implementation of policy (Alghamdi & Holland, 2020) and the rationale for introducing ICT into schools (Hammond, 2014). Attention has also been given to the ICT integration in teaching and learning (Cha, Park & Seo, 2020; Sabiri, 2019), teacher training and changed pedagogy (Younie, 2006; Wadmany & Kliachko, 2014) and ICT infrastructure and access (Ferrell & Wachholz, 2003; Pradhan, Mallick & Bagchi, 2018). Little research has been conducted on the "influence of the e-Education policy on teaching and learning in schools" (Vandeyar, 2015: 7). Accordingly, this study asks how does the e-Education policy influence teaching and learning in South African schools?

## 2. EXPLORING THE TERRAIN

To situate this study in the context of the body of literature, this review of relevant literature focuses on teachers as policy actors, teachers as change agents and teachers as policy shapers. Empirical research into ICT policy implementation has not been the focus of researchers in the South African context. There is and still remains a "paucity of research regarding relevant ICT policy" (Czerniewicz & Hodgkinson-Williams, 2005: ix). This dearth of literature is mainly on how schools have developed and implemented either the national ICT policies or their own school-based policies (Padayachee, 2017). Although the South African education system has been prolific in developing numerous ICT policies, it has fallen short in the implementation of these policies. Successful implementation of an ICT policy depends on willing schools with a supportive culture (Moyle, 2006), forward-thinking leadership with a sound understanding of policy mandates (Qureshi, 2013) and teacher professionalism (Ghavifekr & Rosdy, 2015; Bhattacharjee & Deb, 2016; Cha, Park & Seo, 2020). Within the

systemic hierarchy from national, provincial, district and local school context of educational policy, teachers must be acknowledged and recognised as central actors in implementation (Heineke, Ryan, & Tocci, 2015). Teachers are pivotal and situated at the coalface where policy meets practice. It is what happens behind classroom doors that determine whether policy takes effect.

In order to understand how local ICT policy informs teachers' policy implementation in schools, Smit (2005) found that teachers' voices are silent during policy implementation. This phenomenon is not unusual in the South African education context, as teachers are often viewed as mere conduits to policy implementation. However, Smit (2005) argues that by ignoring teachers' voices we miss the classroom knowledge and experience they bring as crucial actors to policy formulation and policy implementation. If teachers' local contextual knowledge in policy formulation is taken into consideration, effective policy implementation may be enhanced (Smit, 2005). Heineke, Ryan and Tocci (2015) argue that teachers should be acknowledged as a valuable policy resource at all systemic levels of policy formulation, however policy studies indicate they are not recognised as central actors. This may account for why teachers resist change, resulting from an anomaly between what policymakers mandate for teachers to implement and what teachers believe about their classroom practice.

Fullan (1993) suggest that most teachers have a moral purpose that is evidenced by the single most prolific response "to make a difference in the lives of students" (Fullan, 1993, 12). It is this moral purpose that suggests that teachers must become change agents. The teacher who is a change agent believes that schools must re-invent themselves as dynamic institutions that do not exist merely to entrench the present policies. Change agents believe that schools have an obligation to enhance the life chances of all learners to prepare them for career opportunities through the development of the necessary 21<sup>st</sup> century skills. The extant literature has increasingly recognised the importance of teacher agency as a crucial factor for promoting policy implementation (Menken & Garcia, 2010; Nguyen & Bui, 2016). Although the body of literature indicates that there is limited research on teachers' agency in the implementation of policy (Zhao & Baldauf, 2012; Hamid, Nguyen & Baldauf, 2013), as scholars we have to advance the notion that we have a vested interest in the potential of teachers to be transformative agents to meaningful policy implementation.

"Local implementation" of policy is complex (Spillane, Reiser & Reimer, 2002: 390). Policymakers need to understand that making sense of policy by local actors is a cognitive action constituted by the interaction of their prior knowledge, beliefs, attitudes, local context and policy mandates. Tondeur *et al.* (2008) found that the formulation of local ICT policies tend to reflect "to a larger extent" what transpires behind closed classroom doors. Furthermore, they maintain that if teachers' values and beliefs are inherently expressed in school-based policy, it is more likely that policy will influence their practice. Li (2010) adds to this debate by suggesting that the inclusion of teachers in policymaking may make policy more meaningful and thus promote implementation. This argument brings to the fore the idea that teachers are capable of shaping and formulating policy and not merely tasked as implementers of policy. Kumar and Scuderi's (2000) concept paper claim that policymaking should not only be in the domain of those in authority but should also include local actors in the process. Affording previously excluded teachers a policymaking stance is more likely to make them willing implementers of policy, and less likely of a discord between what is desired by policy mandates and what is implemented. A review of the literature has revealed many studies calling for or recommending that teachers be involved in the policy formulation process

(Kumar & Scuderi, 2000; Tondeur *et al.*, 2008; Toll, 2002). Little, if any empirical studies have been conducted to test this hypothesis. This study aims to address this gap in the literature.

### 3. THEORETICAL FRAMEWORKS

Socio-cultural approach to educational policy studies (Sutton & Levinson, 2001) and emancipatory theory (Proudford, 1998) provide the theoretical framings of this study. Social practice is a key tenet of the socio-cultural approach to educational policy studies. Social practice and specific contexts are key elements of policy implementation. Resultantly, as policy makes its way across various settings and different levels of the organisation it can become susceptible to policy incongruency. Thus, the appropriation of policy by various social actors often assumes many forms. Policy is constantly “negotiated” and “reorganised” by social actors as it meanders through the corridors of an institution, whether it exists as a form of governance or as a locally self-enacted policy within an institution. In this study policy as practice is defined by the way in which teachers (local actors) within an organisation (school) engage in situated behaviours and “exercise agency” in their contextual situation. The term “appropriation” refers to the taking of official or unofficial policy and “making it one’s own” (Levinson, Sutton & Winstead, 2009:3). Agency is thus embedded in the term “appropriation” as actors can and often do have the right to create policy. Previously local actors were excluded or marginalised from this exercise of power, they were seen as mere conduits of policy. This study seeks to understand how teachers appropriate policy on ICT within a school context.

Emancipatory theory deals with teachers’ reactions to policy changes in terms of professional confidence, professional interpretation and professional consciousness (Proudford, 1998: 139). Teachers’ belief about their authority and inability to make crucial and effective decisions about their teaching is what constitutes *professional confidence* (Helsby, 1995). It relates to how teachers cope with their work, the feeling of being in control and their ability to address the demands of educational change. Professional confidence has a direct influence on professional interpretation. Teachers with a high professional confidence level often “impose their own professional interpretation of government policy and to balance its demands against other professional priorities” (Helsby, 1995: 325). The deconstruction and critical analysis of policy texts is what characterises *professional interpretation*. This relates to the ability of teachers to interpret policy text such that it enhances their professionalism and promotes transformative educational change. The “capacity to problematise taken for granted assumptions and values which underpin policy response and professional practice” (Proudford, 1998: 136) refers to the *professional consciousness* of teachers. Proudford (1998) claims that teachers’ “writerly” scrutiny of policy documents directly relates to the success of transformative educational change. Such scrutiny and action is “underpinned by a defensible philosophy and theory of education that is guided by professional consciousness” (Proudford, 1998: 137).

The professional confidence and professional interpretation of policy in practice is largely influenced by teachers’ beliefs, attitudes, values and contexts. Consequently, adopting an emancipatory approach “is a political act in so far as teachers’ assumptions and values may be in conflict with those of policy implementation through their ‘writerly’ interpretation of policy texts” (Proudford, 1998: 138).

Helsby (1995) draws a distinction between “readerly” and “writerly” professional interpretation of educational policy. A “readerly” stance to policy inhibits creative interpretation.

A “writerly” stance on the other hand takes on an interpretative role. Helsby (1995: 324) claims that a “readerly” or “writerly” policy position “depends upon the interactions between the text and the user and is not inherent within the policy text itself”. This implies that the user exercises a “degree of choice” (Helsby, 1995). Teachers may unquestioningly accept policy regulations as “readerly” and become mere conduits of policy texts or alternatively they can resist and reinterpret policy texts by taking a “writerly” stance (Helsby, 1995). Thus, a direct correlation exists between teachers’ interpretation of policy texts and teacher practices.

#### 4. METHODOLOGY

In this study I believe that reality is socially constructed as participants perceive it to be and thus affiliate to a social constructivist meta-theoretical paradigm (Amineh & Asl, 2015; Karagiorgi & Symeou, 2005). According to social constructivism, “knowledge is a human construction” within which persons actively engage in educational experiences that enable them to construct their own meaning (Hester, 2020: 140). Social context is a key component of social constructivism. It is within the social context that “meaning-making” is generated. “Knowing” arises not only from within the individual but also occurs out of shared social and cultural spaces (Schreiber & Valle, 2013). Thus, individual cognitive development is mediated through the social world.

A qualitative exploratory approach (Bowen, 2005) provided the methodological paradigm of this study. An instrumental case study (Stake, 2005) about the phenomenon of policy formulation and implementation using backward-mapping principles (Elmore, 1980) defined this case. I utilised maximum variation sampling (Patton, 1990) in the selection of research sites. Three primary schools situated in socio-culturally diverse settings in the Gauteng province of South Africa, namely a former Model C school, a former Coloured school and an independent school<sup>1</sup> were selected for this study. These sites were purposively selected because teachers were using ICT for teaching and learning and not merely for computer literacy as was the case in many township and former Indian schools. Participants were selected by purposeful sampling and included two teachers at each research site. Following a backward mapping strategy, the principal, district and provincial e-learning officials were selected as additional data sources. A mix of semi-structured interviews, classroom observation, reflective journals and document analysis as primary methodological approaches comprised the data gathering techniques of this study. Two face-to-face interviews, using interview protocols and a digital recorder as instruments, were conducted with each teacher. The initial interview took place prior to classroom visits. The second interview was conducted post-lesson observation. Observations and informal conversational interviews were captured as field notes in the researcher reflective journal. By invitation from participant teachers digital video technology was used to capture classroom observations. Document analysis included school computer rules, ICT literacy syllabi, curriculum policy and computer screen captures.

Most of the data were reduced to text format in readiness for data analysis using AtlasTi<sup>™</sup> as computer-assisted qualitative data analysis software (CAQDAS). The gathered data were analysed utilising content analysis methods as advocated by Charmaz (2001). Research rigour was ensured through the following quality criteria: transferability, credibility, dependability, confirmability and authenticity. Ethical approval for this study was granted by the University of Pretoria (CS080502).

1 Former Model C school, a former Coloured school and an Independent school: Descriptions of pre-1994 South African schools.

## 5. FINDINGS: HOW DO TEACHERS INTERPRET THE E-EDUCATION POLICY?

### 5.1 The “invisible” e-Education policy

The e-Education policy existed as an “invisible policy” within these schools. Most of the teachers seemed to be aware that a national e-Education policy existed, but they have never seen it. However, the contents of the policy were oblivious to teachers. It seemed that this policy swirled around in the clouds above, without touching ground level,

I haven't seen it [e-Education policy] [laughs], I haven't seen it haven't been through it but know about it that there's a white paper on e-learning, that's at National [level]. At district level, I don't think there's any, I haven't seen it (Anna, white, female teacher, former Model C school).

Yes, the e-Education policy isn't familiar to all educators. I heard of it when I went to e-learning exhibition station at a workshop, but I do not know what is in the contents of this policy (Dezlin, Black female teacher, former Coloured school).

Two teachers expressed the need to implement policy as it was intended and called for more structured guidelines and guidance from the district office,

Look we've got that White paper [e-Education policy], but something more better and more...that explains it better and more structured (Cycil, Coloured, male teacher, former Coloured school).

Putting it on paper and saying you have to do this. Ja, just like the way they do with textbooks. Or give a list of open source websites that's accessible to the teachers, that they [district] actually went through and say we've put our stamp of approval on it (Jenny, white female teacher, independent school).

One teacher seemed to know about the contents of the e-Education policy. He noted that he “browsed” through the e-Education policy and tried to integrate ICT into the curriculum.

We used it [e-Education policy] when we drew up our schemes... We tried and fit it [ICT] into the curriculum...er..so that it's got to be part of the curriculum. We only take what we think is good or we think would work in our context and incorporate it into what we are already doing (Phillip, white, male teacher, former Model C school).

Another teacher's rationale for the existence of an “invisible” e- Education policy was the lack of knowledgeable ICT implementation support from systemic structures. He believed that the district e-learning office lacked the knowledge and expertise to deliver substantive support in this regard,

No I would not. I would not, because I don't think they (district) have, this is a personal opinion, that they (district) don't have the knowledge, expertise or the resources to be able to do it the way it should be done (John, white male, independent school).

This teacher also held the belief that some teachers at independent schools were more competent than officials from the district e-learning office.

We have people here [in the independent school] that are way beyond what is offered by the district. If you look at computer centers which is pushed by the government...that is not working, and my question is 'why is it not running from the district level?' It's again because they do not have the knowledge and maybe resources. So, no. I would not

feel comfortable with them being involved in an independent school (John, white male, independent school).

The principal of the former model C school expressed similar sentiments about a lack of guidelines and policy support from systemic structures on how to implement the e-Education policy in schools. He viewed this as a contributing factor for the existence of an “invisible” e-Education policy at schools.

I think the time is right now for the district to play a bigger role. To come forward and say ‘guys we are implementing computer centers in you schools, we starting this MML (mathematics and mathematical literacy), this is the bigger picture. This is where we are now this is where we want to go, and this is how we are going to get there’. There’s no big picture (Principal, white male, former Model C school).

The local district official provided the following reason for schools’ obliviousness of the e-Education policy and attributed this to the failure of the “cascade” model that was used to disseminate the e-Education policy to school,

Whenever I send out a memo... not everybody gets to read that memo. That is for me... the question of clusters ... information doesn’t filter through...the cascading model it does not work [emphatic]. It does not work you see. I don’t blame those teachers they haven’t seen it (e-Education policy), regardless of the memos or the policy documents that have gone to schools (e-learning official, black female, District)

## 5.2 Teachers as transformative ICT agents

The absence of what comprised the contents of the e-Education policy did not deter teachers from integrating ICT into their teaching practice. Despite teachers’ expressed desire for access to a more tangible policy, what clearly emerged from the data was teachers’ instrumental role in compiling ICT schemes of work, ICT curriculum and ICT policy that were influenced by their practice and teaching context. Teacher professionalism came to the fore as teachers developed an unwritten policy that highlighted the integration of ICT in their teaching practice. What appeared to be happening was the development of a school e-Education policy by teachers, in accordance with their own understanding and professional experience.

The absence of systemic policy support led to increased levels of teacher frustration, but also served as a catalyst to develop a school-based policy,

We’re making it up as we go along. We’re using our own stuff. They [district] don’t give guidelines, I don’t think it’s fair (Anna, white, female at the former Model C school).

One teacher suggested that directives of the policy goals as envisioned by the relevant district office required clarification and practical guidance. He bemoaned the fact that there was a lack of school-district link. This was a concern raised by all the teachers in this study,

There needs to be a link. We don’t know what they [district] want, we’re making it up as we go along. We’re using our own stuff... It’s not like they [district] have it all lined out like the portfolios, you have to have this, this and this in your portfolio. They don’t say we want this kind of teaching, and...(Cycil, Coloured, male teacher, former Coloured school).

As expected, the prescribed learning outcomes as stipulated in the National Curriculum policy seemed to inform the teaching of all the teachers in this study. Accordingly, ICT literacy outcomes were developed for each grade and integrated into learning programmes. Having

fulfilled this requirement in the absence of the e-Education policy and their resultant ignorance of the contents of this policy, teachers felt free to incorporate ICT according to their own understanding into their teaching. They drew on their professionalism and experience and adopted suitable teaching methods and strategies to integrate ICT into their teaching,

100% total freedom [emphatic]. There's no prescription there's no, er I can use anything I want. So it's not er..., in our school we focus on just being able to reach the outcomes, but how you get there it's totally up to you (John, white male, independent school).

Well, we don't use text books... so for me I like I said, it is very open I decide...there is no limit here...you have to do it this way you have to do it that way. We have our work schemes we have our lesson plans we have to cover our LO's [learning outcomes] and that's it and oh the assessment standards have to be met and they have certain guidelines...you want to use a PowerPoint presentation...that's up to you. (Anna, white, female, former Model C school).

Teachers also seemed to initiate viable strategies to overcome systemic constraints,

ICT use in class is not scheduled on the timetable, I have become a renegade since I can choose what content I want to teach. I'd rather rush the content in the week ... so that I can incorporate [ICT] ... it's nice for learning and also fun. ICT helps them understand that maths isn't war. Kids are kids so I make it fun to learn (John, white male, independent school).

Two teachers were acutely aware of their calling in terms of preparing learners for better life chances and the realities of the workplace. They highlighted the use, benefits and vital role of ICT in their practice,

The classroom must not be a place where it is '*kunsmatig*', you know artificial, the classroom must be made as real as possible to what the learners experience at home, and eventually must prepare them for the realities of the workplace. ICT has a big role to play in this regard (Cycil, Coloured, male teacher, former Coloured school).

What clearly emerged in these findings were teachers' attempts at challenging top-down policy directives by allowing their practice to inform policy. ICT concerns that related to teaching and learning and the socio-cultural context of the school influenced the change of policy by teachers.

## 6. DISCUSSION

Teachers' subjective, contextual and social realities of educational change were starkly revealed in this study. Policy alienation, top-down initiated change, pressures of the extent and pace at which change was unfolding, the way in which policy change was communicated and policymakers' lack of understanding of realities of the teaching context, led to teachers feeling confused and being overwhelmed. However, this feeling of confusion and being overwhelmed, which could so easily have allowed teachers to slip into a state of policy lethargy and a sense of disempowerment, did completely the opposite. It served to awaken a sense of agency in teachers and to empower their professionalism as the teacher fraternity. Teachers took action and their voices surfaced in this study. In the absence of the e-Education policy, they demonstrated how practice could inform policy. Their sense of professionalism seemed to be informed by their experiences as they navigated through the social realities of the school climate and culture, to effectively prepare their learners for the fourth industrial revolution.



Professional confidence, professional interpretation and professional consciousness were clearly evident in this study. Teachers felt they have the “authority and capacity to make important decisions about the way in which they conduct their work” (Helsby, 1995: 324). They also experienced a sense of “coping with the work in hand and of being in control” (Helsby, 1995: 325). In this way they affirmed their professional confidence in implementing the school-based e-Education policy. Most teachers were unaware of the e-Education policy and thus did not deconstruct or critically analyse the policy text itself. Except for one teacher (Jenny), who expressed a “readerly stance”, all teachers of this study adopted a “writerly stance” in their professional interpretation of the implementation of the e-Education policy. They interpreted the educational realities within which they operated and “looked beyond the classroom and school context to the role of the teacher within society” (Bottery & Wright, 1996: 92) to develop a school-based ICT policy that could enhance the professionalism of teachers and foster transformative educational change. They seemed to have an “acute understanding of the political, social and ethical implications of the impact of their practice, and of changes to it” (Bottery & Wright, 1996: 87). Teachers’ “capacity to problematise taken for granted assumptions and values which underpin policy response and professional practice” (Proudford, 1998: 145) clearly demonstrated their professional consciousness. The lack of systemic support influenced teachers’ policy in practice (Blignaut, Hinostroza, Els & Brun, 2010).

What motivates teachers to formulate, appropriate and implement a school-based ICT policy? Why did these teachers do this? Given that these teachers were products of the historical legacy of the segregated education system in South Africa, what influenced their professionalism? Appropriation is a “form of creative interpretive practice” (Levinson, Sutton & Winstead, 2009: 768) that teachers engage in to interpret what is essential and of importance in the implementation of an ICT policy. Beliefs and attitudes inform teachers’ value systems and “dictates their actions and classroom practices” (Drake, Spillane & Hufferd-Ackles, 2001: 7). Informed by their beliefs and instinctive professional attitudes, teachers in this study adopted the socio-cultural approach to policy analysis. The appropriation and implementation of an ICT policy was negotiated on personal, cultural and social level. In so doing, they overcame educational challenges such as “education policy overload, low teacher morale, overcrowded classrooms, diverse learners, new teaching philosophy, curriculum policy changes, absence of systemic directives and support” (Vandeyar, 2010: 260) and pursued what was in the best interest of their learners. The exceptional practice of socio-cultural analysis of policy of these teachers is succinctly captured by the following quote,

Social democratic processes must have leaders and groups struggling with courage, passion, and a strong sense of moral conviction to bring about change (Sutton & Levinson, 2001: 119).

Motivated by their beliefs, attitudes, a strong sense of moral conviction and innate calling to the profession, teachers proactively set out to improve the lives and life chances of their learners. They implemented a school-based ICT policy to address their agenda of “making a difference”. This is aligned to findings in the literature that revealed that “teacher professionalism is key to whether ICT is integrated in teaching and learning” (Ghavifekr & Rosdy, 2015: 175). A contributing factor to the formulation and implementation of a school-based policy were teacher experiences of the demands of a corporate world. At each of the respective schools, the teacher who was the driver of this agenda had resigned from teaching to explore working in the corporate world, only to return to the teaching profession. Corporate life experiences

and its demands reflected the reality of the world beyond school and influenced the belief and attitudes of these teachers, which ultimately informed their practice. Teachers in this study became acutely aware of their role in equipping and empowering their learners with the ICT tools of the future, the very opportunity that they seemingly did not have. A strong sense of commitment mediated by their own ICT experiences propelled teachers to use ICT in their teaching and learning practice to enhance, empower and prepare their learners for a digital society and ultimately the digital workplace. This vision culminated in educational change yielding teachers as transformative ICT agents.

The significance of policy appropriation within the school context (Sutton & Levinson, 2009) was highlighted in this study. Teachers demonstrated their ability to be developers of local policy and drivers of ICT implementation. The agentic role of teachers in implementing educational change came to the fore. Teachers generated a new and enabling policy by drawing on their practice to inform policy. Teachers repositioned themselves not merely as conduits of policy, but as proactive socio-cultural actors in the formulation and appropriation of a school-based policy. In so doing they took a writerly stance to policy appropriation. A new construct to policy appropriation emerged, namely the ignorance of teachers about the national e-Education policy led to their practice informing policy.

## 7. CONCLUSION

This study clearly enforced the notion that the formation and appropriation of policy is a sociocultural practice that can be seen “[as] a set of activities embedded in and informed by certain cultural models and social relations” (Sutton & Levinson, 2001: 141). Teacher ignorance of the national e-Education policy that could be perceived in a negative light actually spawn something positive. It forces us to recognise that teacher voice participatory decision making is crucial for the formulation of policy. If teachers are given the opportunity to co-formulate policy on teaching, which ultimately draws on their professionalism and the day-to-day experiences in schools, they will take ownership of policy and “make it their own”. The dire lack of systemic support catalysed school-based policy formation, appropriation and implementation. Agency and professionalism played a key role in the formulation and implementation of a school ICT policy. Teachers stance toward policy implementation was that of social and cultural actors who possess the ability to “articulate, construct and implement new educational procedures that eventually became formulated and appropriated as new educational policy within a school context” (Vandeyar, 2010: 264).

These teachers were not only transformative ICT agents in terms of teaching, but by countering the approach to e-Education policy implementation adopted by the Department of Education, they were taking a stand against de-professionalising the work of teaching (Ellison *et al.*, 2018). Despite their voices being silenced by policymakers in the process of policy formulation, these teachers clearly illustrated that they were able to embrace an emancipatory stance toward policy change and to exercise their agency (Proudford, 1998). They developed and mediated a school-based e-Education policy that was feasible and sustainable in their teaching context, aimed to improve the life chances of their learners.

Policy as a social practice positions actors in various roles within the policy, dependent on the context (Sutton & Levinson, 2001). It recognises that teachers are major actors of e-Education policy and are central to the success of responsive classroom practices. Thus, teachers are crucial role-players for the sustainability of e-Education policy implementation.

This study advocates for an emancipatory and a socio-cultural approach to e-Education policy analysis for meaningful and sustainable educational change. Teacher participation and ownership should be crucial components in policy formulation. The teacher is key to the success of transformative ICT change.

This qualitative study is not without limitations since the small sample of six teachers in three schools implies that the findings cannot be generalised. However, this presents a recommendation for further studies to compare the findings of this study with other schools in South Africa. Future research could also focus on how ICT policy influences pedagogical change and on how a bottom-up and participatory decision-making approach could involve teachers as crucial stakeholders in policy formulation.

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