



Higher education qualifications for early childhood educators: Policy implementation challenges

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Background: This article is based on a study focused on implementing the 'Policy on Minimum Requirements for Programmes Leading to Qualifications in Higher Education for Early Childhood Development Educators'. This policy aims to improve the quality of early learning programmes by supporting the provision of sufficient numbers of professionally qualified early childhood development (ECD) educators, and advancing the professionalisation of the Early Childhood Care and Education (ECCE) workforce.

Aim: This study aimed to identify the conditions necessary to enable and/or promote the successful implementation of the policy, and to make recommendations in this regard.

Setting: A total of 184 ECD practitioners from three Gauteng municipalities completed a quantitative survey. We purposively selected 10 of these participants for interviews, and qualitative open-ended questionnaires were completed by 14 other stakeholders, selected through criterion-based sampling.

Methods: An explanatory mixed-methods design was employed, and the data were interpreted using complexity theory as a lens. Quantitative data were evaluated using statistical software, and qualitative data were analysed using a thematic analysis approach.

Results: The findings indicated factors that favour the policy's implementation, as well as challenges at various systemic levels.

Conclusion: The policy's successful implementation fundamentally requires building a competent ECCE system, which necessitates intervention at all levels of the system. We recommend advocacy and pressure from different stakeholder groups to adequately resource key areas of ECCE, and specific actioned interventions to avoid the policy becoming a 'missed opportunity' for professionalising the sector.

Contribution: Conditions for successful policy implementation, aimed at supporting a professionally qualified ECCE workforce, are identified.

Keywords: early childhood care and education (birth to four); policy on minimum requirements for ECCE programmes; qualifications in higher education; MRQECDE; professionalisation; complexity theory.

Introduction

Improving the qualifications of early childhood development (ECD) practitioners is recognised by education specialists and researchers in the field as one of the measures that can improve the quality of ECD programmes in general and the educational preparation of preschool children more specifically (Slemming, Biersteker & Lake 2024). In South Africa, as in many other countries, the majority of ECD practitioners are not adequately qualified to ensure optimum outcomes for the children in their care. The national ECD census (Department of Basic Education [DBE] 2022) shows that only 52% of ECD practitioners have a relevant qualification. The government has thus intervened by publishing the Minimum Requirements for Programmes leading to Qualifications in Higher Education for Early Childhood Development Educators (MRQECDE), (Department of Higher Education and Training [DHET], 2017).

The ultimate aim of the policy is to have sufficient numbers of *professionally* qualified ECD educators to improve the quality of early learning programmes and to advance the professionalisation of the Early Childhood Care and Education (ECCE) sub-sector (DHET 2017). The MRQECDE policy is being implemented within a complex, dynamic and evolving system, consisting of different interrelated and interdependent contexts. The research on which this article is based investigated the presence or absence of essential processes and conditions within the

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system, which might support the successful implementation of the policy or militate against it and made recommendations in this regard. The main research question of the study was:

What conditions need to be in place to enable and/or promote the successful implementation of the Policy on Minimum Requirements for Qualification in Higher Education for Early Childhood Development Educators? (DHET 2017)

The MRQECDE policy implementation environment

The policy provides a set of higher education qualifications for ECD educators, ranging from Level 5 to 10 on the National Qualifications Framework (NQF). The qualifications in the MRQECDE policy have been assigned the qualifier 'Early Childhood Care and Education (ECCE)' (DHET 2017:8), which distinguishes them as qualifications for those working with children from birth to 4 years. At present, the occupational Further Education and Training Certificate: ECD (NQF level 4) is deemed the appropriate entry-level qualification for ECD practitioners (Education and Training Development Practices Sector Education and Training Authority [ETDP SETA] 2020). The required qualification for recognition as a qualified teacher for Grade R (reception year) to Grade 12 is a Bachelor of Education (BEd) degree, registered at Level 7 on the NQF (DHET, 2015).

The MRQECDE policy is the latest in a suite of policies developed by the DHET, including the Minimum Requirements for Teacher Education Qualifications (MRTEQ) policy (DHET 2015) and the Policy on Professional Qualifications for Lecturers in Technical and Vocational Education and Training (TVET) (DHET 2013). These policies outline the qualification programme requirements for different education sub-sectors.

The policies are all implemented in different sub-sectors of education and while the schooling and TVET sub-sectors are relatively well regulated and structurally stable, the same cannot be said of the ECCE sub-sector. Unlike the school and TVET sectors, the ECCE sub-sector is not formally structured and government-regulated in terms of employment and post provisioning (ETDP SETA 2020). The provision and maintenance of physical premises and other infrastructure are devolved to the local municipal level where the inclusion of ECD in the municipality's Integrated Development Plan (IDP) is not guaranteed (Mantje 2022; Project Preparation Trust [PPT] 2019). Notwithstanding these marked differences in the regulatory environments of the different education sub-sectors, the MRQECDE policy is patterned on the same general principles as the policies mentioned here. For example, the qualifications described in all three policies range from Initial Teacher Education (ITE) Qualifications to Continuing Professional Development or Post Professional qualifications, and Postgraduate degrees. The qualifications correspond in terms of levels of complexity to similar qualifications available for teachers, as described in the exit level competences set out in the Higher Education Qualifications Sub-Framework (HEQSF) (Council for Higher Education [CHE] 2014).

For ECD practitioners working in settings with a focus on ECCE or persons considering a career as an educator in ECCE, there are no incentives to undertake higher education studies comparable to those operating in the schooling system (Biersteker 2019). This includes state-funded employment in a regulated sector with possibilities for advancement, compensation and benefits commensurate with a professional qualification (ETDP SETA 2020).

If the aims of the MRQECDE policy are to be realised, a number of other policies in different sectors of the education system will need to align with the MRQECDE policy. In addition, parallel processes by relevant government departments for supporting the policy implementation will be required. The DHET's recommendation in this regard is that salary structures and post provisioning in the ECD setting should be adjusted in response to the demand that will be created when educators graduate with ECCE qualifications (DHET 2016). The introduction of new qualifications through the MRQECDE policy therefore requires system-wide change in the ECCE sub-sector of education that needs to be sustainable.

Professionalisation of the early year's workforce through a demand for higher education qualifications therefore has far-reaching implications, among others the recognition of the professional status of ECD educators (Evetts 2018).

Professionalisation of the Early Childhood Care and Education workforce

The literature of the sociology of professions tends to position professions as competing interest groups, each with a unique body of knowledge, training and education requirements, regulated entry to learning opportunities, professional body registration requirements, and relatively higher compensation, status and prestige than non-professionals (Ingersoll & Collins 2018). Professionalisation is, therefore, a process through which occupations become acknowledged as professions, which includes meeting the accepted societal norms of professions, improving the service offered and thereby consolidating the status of the workforce (Boyd & Newman 2019; Irvine 2023). The occupation of ECCE practitioners is at present not recognised as a profession as it does not meet the indicators of a profession.

The professionalisation of ECCE educators as a means to improve the quality of ECCE programmes and increase the employment benefits, salaries and occupational status of the workforce is an ongoing challenge in many countries (Government of Ireland 2021; Oke, Butler & O'Neil 2021; Simmie & Murphy 2021). These issues are also pertinent to the current narratives around the professionalisation of ECD practitioners in South Africa.

Policy implementation

Education policies are frequently criticised for creating a policy-implementation divide that leads to policy failure

(Viennet & Pont 2017). The reasons offered for this policy implementation gap are numerous (Hudson, Hunter & Peckham 2019). They include an assumption that public policies can be introduced in a top-down manner and follow a linear implementation path (Hudson et al. 2019); a notion that policy processes can be disaggregated into parts or stages and that the sum of the parts will provide an adequate understanding of the whole (Braithwaite et al. 2018); and a belief that policies will simply be received and applied by the targeted recipients (Rakolobe 2022).

These assumptions ignore the interconnected and interdependent elements of complex social systems and the way in which structures and behaviours emerge from the interaction between multiple actors or elements in a system (Viennet & Pont 2017). In short, the complexity of policy implementation processes is not considered. Conventional notions of policy implementation ignore the unpredictability of the outcomes and the fact that unintended phenomena may emerge (Hudson et al. 2019; Mueller 2019). Furthermore, Braithwaite et al. (2018:1) asserted that 'Complex systems thinking provides a view of policy implementation which compels us to factor in multiple forces, variables, and influences' in any change process. This means that policy implementation cannot be viewed as a linear, causal, predictable process, but that it needs to factor in uncertainty, unpredictability, non-linearity and adaptability (Mueller 2019).

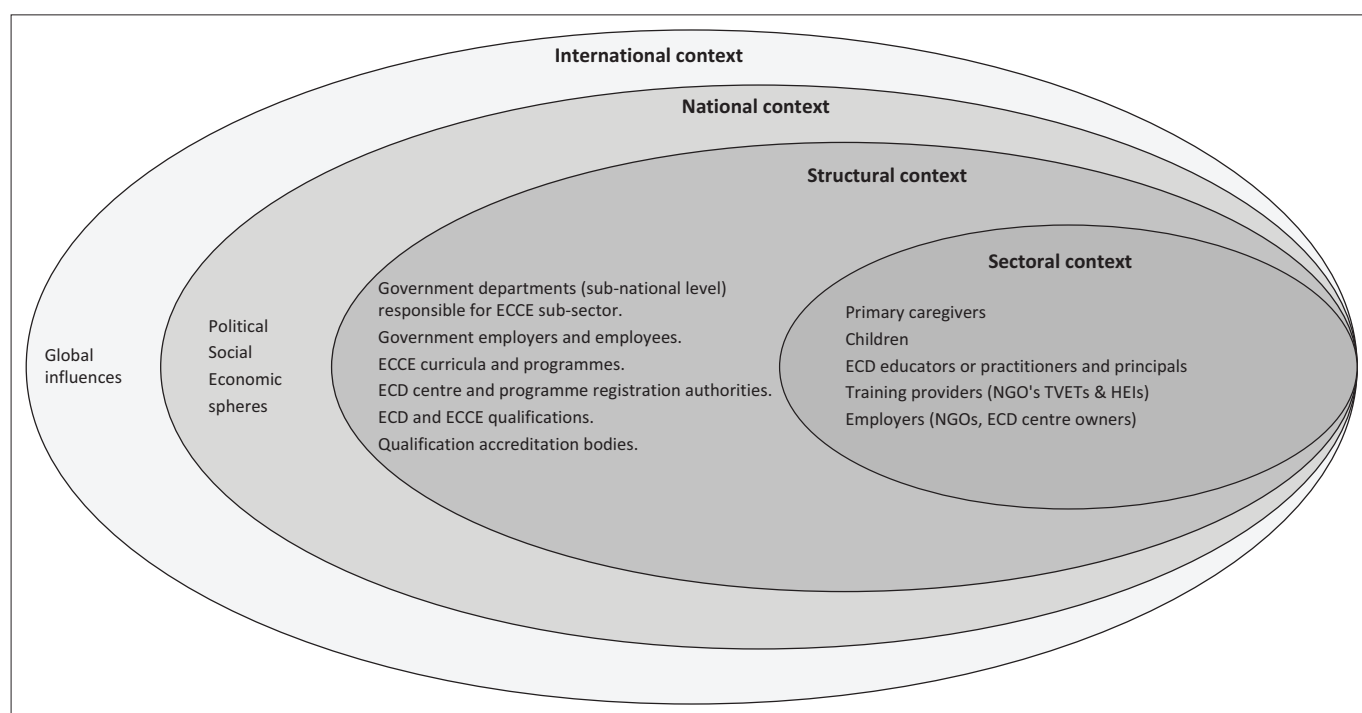
Early Childhood Care and Education as a complex system

In this study, the ECCE sub-sector is discussed and described as a complex system consisting of different nested layers.

Each layer of the ECCE system represents a different context that collectively constitutes the whole system. The different layers consist of the global, national, structural and sectoral contexts (Figure 1).

The *sectoral context* is made up of the contextual realities of the children and parents, as users of the services provided by ECD centres. Centre-based positions are the ECD principals or managers, ECD practitioners and assistant practitioners who are all providers of services in the sectoral context. It also includes training providers, non-government organisations (NGOs) and private employers. Centre owners are considered to be private employers, and although they may not necessarily be working with the children on a day-to-day basis, they are also providers of services. The *structural context* consists of the systems governing the provision of early childhood education, systems of monitoring and accountability, accredited ECCE programmes, ECCE funding, etc. The *national context* encompasses the policy environment and the economic, political and social contexts which influence decisions taken in the structural context, in particular. Finally, there is the *international context* of agreements, charters and policies, which has increasingly prioritised the welfare of children and influenced nation states to place ECD at the apex of development plans.

Each of the contexts operates as a system, which also consists of different sub-systems. Each sub-system, in turn, consists of a diverse range of elements or agents, which are constituent parts of the sub-systems. The contexts are interrelated and interdependent, and similarly, the different components, or constituent elements and agents within a context, are interconnected. The interactions between the components of



ECCE, Early Childhood Care and Education; ECD, early childhood development; NGO, non-government organisations; TVET, Technical and Vocational Education and Training; HEIs, Higher Education Institutions.

FIGURE 1: Contextual layers of the Early Childhood Care and Education system in South Africa.

each context, and across contexts, are key to understanding the dynamics of the whole system.

Theoretical framework

Complexity theory concerns itself with environments, organisations, or systems that are complex in the sense that very large numbers of constituent elements or agents are connected to and interacting with each other in many different ways. (Mason 2016:43)

It provides a well-founded framework of analytical concepts that enable a coherent understanding of 'what conditions need to be in place for sustainable, positive, system-wide change and development in education' to take place (Mason 2016:52).

Complexity theory was used as an analytical lens for viewing the interactions, actions, reactions and responses between the component parts (constituent elements or agents) of the ECCE system and across the different contexts within this system as a result of the new conditions introduced into the system by the MRQECDE policy implementation. Concepts integral to complexity theory were examined in relation to the explanatory power they might have for how the system is responding to the implementation of the MRQECDE policy.

A brief overview of the key concepts of complexity theory

Complex systems respond to the introduction of any new circumstances, events or changes into any part of the system, in a manner that has been aligned with chaos theory (Lorenz 1993). Slight changes introduced into complex dynamic systems can be amplified and produce an effect that is far greater than the sum of each part (Condoirelli 2016). Chaos theory has therefore contributed to an understanding of how non-linearity arises out of the non-proportional relationship between cause and effect. This can result in unexpected outcomes that could not have been planned for and can unfold in far-reaching directions. The defining feature of the outcome of changes introduced in complex systems is the unpredictability of that outcome (Turner & Baker 2019).

In a complex system, changes in the initial conditions through, for example, the introduction of new properties (Mason 2016) set off a myriad of interactions between the different contexts and among the constituent parts within and across the contexts. The number of connections or potential interactions among the elements or agents in a system 'multiply exponentially' (Mason 2016:44) until a sufficient degree of complexity in a particular environment is reached, which leads to new properties, behaviours and patterns emerging in that environment.

A crucial feature of complexity theory is that change happens far from equilibrium and is boosted by positive feedback, which sets in motion a 'looping' effect, bringing increasing returns and reinforcing new trends (Mason 2016). Condoirelli

(2016:423) explained that a positive feedback loop '... amplifies change, breaking up existing structures and behaviours, creating unexpected outcomes in the generation of new structures and behaviours'. Negative feedback regulates the system and perpetuates the existing *status quo*, which means that nothing changes and the societal system, organisation and/or policy environment remains stable, but unable to adapt. Positive feedback thus moves the system away from its equilibrium and is a driver for change and instability, '... which may lead to a reconfiguration of the system' (Condoirelli 2016).

The state of disorder and disequilibrium triggers processes of self-organisation and emergence within the system (Condoirelli 2016). Complex systems tend towards order or self-organisation from which emerges new patterns, behaviours, structures or properties. Two further important principles of self-organisation and emergence are that it happens without centralised control or external regulation and that the emergent phenomena cannot be predicted and may or may not be desirable (Mueller 2019).

Complexity theory also argues that systems co-evolve with other systems. Co-evolution can be described as '... the tendency of several systems, or several sub-systems within one main system, to move together towards new forms of existence or new states of development' (Turner & Baker 2018:8). Complex systems evolve because of the connections and interrelationships between the different components of the same system. 'This co-evolution requires connection, cooperation and competition: competition to force development, and cooperation for mutual survival' (Morrison 2008:17).

The spontaneous emergence of new phenomena as a result of the interactions between large numbers of elements or agents in dynamic non-linear complex systems is associated with increasing complexity in the system environment. When a sufficient level of complexity (also known as a critical mass) has been reached, a phase transition takes place (Mason 2016) and new phenomena emerge, but in order for *sustainable* change to take place, the 'inertial momentum' of existing or dominant structures needs to be replaced or redirected (Mason 2016).

Inertial momentum refers to the dominance of an existing culture, dispensation, social arrangement or behaviour in a system; therefore, 'the prevailing *status quo*, of the way things are ... enjoys the dominant inertial momentum over other competing phenomena' (Mason 2016:45). The concepts of 'lock-in', 'path dependence' and the 'snowball effect' are allied to the notion of inertial momentum. Once a phenomenon has gained inertial momentum, it may become 'locked in' by maintaining its direction and speed along a certain path (path dependence) even gathering seemingly insignificant phenomena along its path and thereby increasing its power (snowball effect), unless and until '... the point where sufficient inertial momentum of a competing phenomenon results in a redirection of that path' (Mason 2016:45).

Research methods and design

The methodology used in the study assisted in illuminating the complexity of the system and in identifying the conditions that could enable and/or promote the successful implementation of the policy. Figure 2 depicts the key features of the methodology used in this study.

The study used a mixed method research approach that involved collecting, analysing and interpreting both quantitative and qualitative data and integrating the two forms of data to understand the research problem (Creswell & Creswell 2018). An explanatory sequential mixed method design was used. This entailed collecting quantitative data in the first phase and qualitative data in the second phase of the study, using the first form of data collection to inform the second (Creswell & Creswell 2018). This design enabled the collection of demographic data of a large number of ECD practitioners as well as quantifiable data of their opinions about the MRQECDE policy. In this explanatory sequential design, the initial emphasis was on the quantitative methods, with the qualitative data used to clarify and explain the quantitative findings (Creswell & Plano Clark 2018).

In phase 1 of the study, a quantitative survey questionnaire (Humble 2020) was administered to 184 ECD practitioners from three different metropolitan municipalities in Gauteng. The researcher was invited by different ECD organisations to address four different groups of ECD practitioners in Tshwane, Johannesburg and Ekurhuleni, respectively. The questionnaires were distributed at these forums of predominantly black participants and returned at the end of the meeting.

A non-probability sampling strategy was employed as the researcher required access to a large number of respondents who were typical of the target population, that is, ECD practitioners (Creswell & Plano Clark 2018). Non-probability sampling is a purposive sampling method that uses a subjective approach in which the researcher selects a sample based on the knowledge that the respondents have the information that is needed to answer the research question

(Berndt 2020). Each participant had an equal chance of being selected for the interviews that were conducted in the second phase of the study.

In phase 2 of the study, two qualitative data collection methods were employed, that is, semi-structured interviews and administering open-ended questionnaires. Results from the quantitative survey data were used to select 10 participants for conducting semi-structured in-depth interviews (Magaldi & Berler 2020). This selection was based on purposive sampling, which aims to select information-rich cases for further in-depth study (Magaldi & Berler 2020; Nyimbili & Nyimbili 2024). The researcher employed convenience sampling, which is a purposive sampling strategy where participants who are readily available and whom the researcher has access to are selected (Golzar, Tajik & Noor 2022). This was necessitated by the lockdown imposed by the government as a result of the coronavirus disease (COVID) pandemic (Republic of South Africa 2020). As an alternative to face-to-face interview, telephonic interviews were conducted with participants who could be reached by phone and who had supplied email addresses to which the interview transcriptions could be forwarded in order for them to check that responses to the interview questions had been captured accurately. The interview questions were informed by the data obtained from the survey questionnaire. Therefore, integration also took place at a methods level, '... using one data collection procedure to inform the other data collection procedure' (McCruden & McTigue 2018:2).

The open-ended questionnaires were administered to 15 participants from TVET colleges, NGOs, universities, officials from the DBE and ECD education specialists. These participants represented other stakeholder groups and were selected based on purposeful sampling, using a criterion-based strategy. According to Nyimbili and Nyimbili (2024), this type of sampling requires the researcher to set specific criteria according to which the participants are selected. The criteria used for selection were participants had to be involved in the implementation of the MRQECDE policy, or affected by the policy implementation, *albeit* at different levels, and needed to respond to its implementation as a part of their core business. The participants from the different stakeholder groups were assigned the following codes 'T' for TVET colleges, 'H', for HEIs, 'D' for DBE, 'N' for NGOs and 'S' for ECD specialists and each was assigned a number.

In observance of the ethical consideration in conducting research, the researcher obtained ethical clearance from the Ethics Committee of the University of Pretoria and followed the guidelines prescribed by the committee. Written permission to conduct research was received from the DBE and from TVET college principals. The purpose of the study was explained to all the participants, and informed consent forms were signed before the collection of data. To ensure the confidentiality and privacy of personal information related to the participants and to guarantee their anonymity, codes were used.

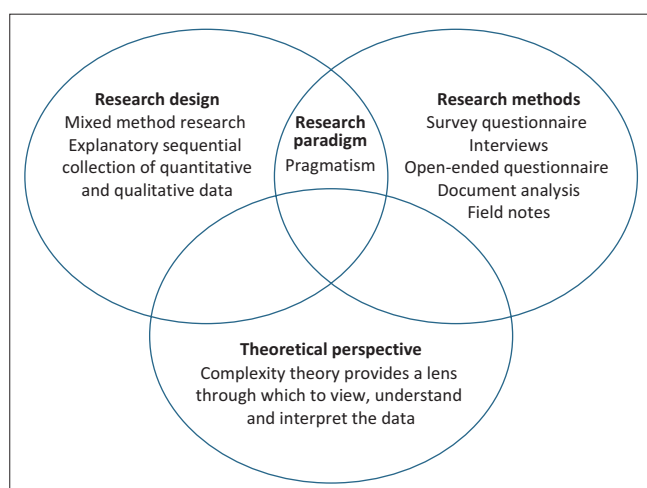


FIGURE 2: Diagram of research methodology.

Analysis of the data

The analysis of all the data and the integration of the quantitative and qualitative data took place in four stages and are described in the section that follows:

Stage 1: The quantitative interview data were analysed, using a Statistical Package for Social Sciences (SPSS). The method used was exploratory data analysis, presented in descriptive tables showing frequencies and percentages (Komorowski et al. 2016). The data analysis highlighted features of the existing conditions in the ECCE sub-sector that were corroborated by the literature about the ECCE context. Participants were labelled by using a code, which indicated the Metropolitan area, the location of their ECD settings and a number. Thus, participant TIS25 is from Tshwane and works in an informal settlement and the questionnaire was numbered 25. In this manner, the specific questionnaire could easily be retrieved.

Stage 2: The second stage was divided into two parts. In the first part, the interview data were analysed. This was followed by an integration of these results with the results of the quantitative questionnaire data analysis. The process and procedures engaged in during this stage are explained next.

The interview questions were based on the participants' responses to questions in the survey questionnaire and enabled a deeper understanding of some of the survey questionnaire responses. The participants were identified by the same codes as used for the questionnaires. It is important to notice that the interview questions focused on each individual's survey questionnaire responses, and thus, if respondents had selected 'knowledge of theory and practice' as an indication for being a professional ECD practitioner, they were asked to clarify that particular response in the interview.

An adapted version of Braun and Clarke's (2006) six phases of thematic analysis was used to analyse the qualitative interview data (Table 1).

The researcher opted for a semantic thematic analysis approach, which according to Braun and Clarke (2006):

... [I]nvolves a progression from *description*, where the data have simply been organised to show patterns in semantic content, and summarised, to *interpretation*, where there is an attempt to theorise the significance of the patterns and their broader meanings and implications. (p. 13)

TABLE 1: Procedure of thematic analysis of interview data and integration with survey questionnaire data.

Phases
1. Familiarising yourself with your data
2. Generating initial codes
3. Quantitative and qualitative data integration and developing data categories
4. Searching for themes
5. Defining and naming themes
6. Producing the report

Source: Adapted from Braun, V. & Clarke, V., 2006, 'Using thematic analysis in psychology', *Qualitative Research in Psychology* 3(2), 77–101. <https://doi.org/10.1191/1478088706qp0630a>

This first part of the analysis process entailed becoming familiar with the data through repeated reading of the responses of individual participants to each of the questions and recording them in a table. Initial codes were assigned to similar responses, for example, any responses that indicated that the participants considered themselves as professional ECD practitioners because of their care, compassion, kindness and love for children were assigned the code 'PS' as it indicated values linked to professionalism. Every instance where a practitioner indicated that they would register for a higher education qualification to improve their knowledge as ECD practitioners was coded as 'PD', for 'professional development'. This procedure was carried out with the complete data set.

From the table of verbatim responses and the codes assigned to them, the researcher was able to produce a summary of the responses to each interview question. The qualitative summaries were aligned with and compared to the most significant trends and insights revealed by the quantitative data (Table 2). In this way, the interview results that confirmed, disconfirmed or further illustrated the quantitative findings were made apparent.

Data categories were identified for each of the results shown in Table 2 through a process of interpretation. This entailed '... theorising the significance of the patterns [*that were revealed in the table*] and their broader meanings and implications' (Braun & Clarke 2006:13). Colour-coded data categories were thus generated to represent the findings of the *integrated quantitative and qualitative data*, and each was given a descriptive label.

The next step in the analysis and integration of the data focused on identifying themes and assigning names to them. The emergent qualitative data categories could therefore be meaningfully integrated with the significant findings from the quantitative survey questionnaire results. Mixed method research integration therefore took place at the interpretation level, when the two data sets were integrated.

Table 3 illustrates the data categories that were generated to represent the findings of the integrated quantitative and qualitative data and the three emergent themes.

Stage 3: In the third stage of data analysis and interpretation, the qualitative *open-ended questionnaire* data were analysed and interpreted. The open-ended questionnaire was divided into two sections. Section A focused on the implementation of the policy, with questions related to the implications that the policy might have for the participant's work, whether they see the policy as a positive initiative for the ECD sector and what they see as constraining and enabling factors for the implementation of the policy. Section B focused on the participant's views on the professionalisation of the ECCE workforce.

TABLE 2: Comparison of quantitative questionnaire results and the qualitative interview results.

Quantitative results	Summary of qualitative follow-up interview results
Practitioners ≤ 35 years old have the lowest qualifications. 21.6% ≤ 35 years old; 17.7% of total respondents had qualifications below level 4, including skills courses, or no qualifications.	Eight of the 10 participants were under 30 years of age when they started working in an ECD centre and had no qualifications.
The majority of practitioners have an ECD NQF Level 4 certificate as the highest ECD qualification (44%) Diplomas (17.7%) Degrees (5.2%)	Only 2 of the 10 participants have a qualification above NQF Level 4
Prevalence of unregistered and unsubsidised centres (34.6% received subsidies; 67% indicated a DSD registration status but dual and conditional registration status is unknown).	Six of 10 centres were registered or conditionally registered; 2 had started the application process, 1 thought she didn't have to apply to register her centre as it was a private ECD centre; 1 was unsure of the registration status; 3 of the registered centres were receiving a subsidy; and 2 centres did not have any children who qualified for the subsidy.
Prevalence of privately owned ECD centres. (30.6% of the principals/managers were also owners of centres, while only 9.7% of principals/managers did not own the centres where they worked).	All 5 principals owned ECD centres. The 5 practitioners worked in privately owned centres and 4 of these hoped to open their own centres.
Parent fees charged to supplement income or as main income (52.8%).	Nine of 10 centres charged parent fees; 1 centre, affiliated to a church, relied entirely on donations and fundraising.
Majority of practitioners receive very low monthly salaries. The two highest frequency scores were between R0 and R1000 per (23%) and between R1001 and R2000 (20.6%). Only 18.5% received in excess of R6001 per month.	Seven of 10 participants expressed concerns over income security linked to the inability of parents to pay even a minimal amount for fees on a regular basis.
Practitioner's understanding of registration is often limited	One ECD practitioner was uncertain about the registration status of the centre. One principal did not know that she could apply for a subsidy. One thought that she did not need to apply for registration because her centre was private. One principal was in the process of applying in spite of operating for almost 20 years.
Quantitative questionnaire and qualitative interview question: Reasons for registering for a professional qualification	
Become a better practitioner (68.1%)	Six interviewees chose this response option in the survey questionnaire. The interview responses were related to: (1) a desire to be able to assist children in their development through improving their own knowledge of ECD and (2) their own professional development and personal growth.
Specialise in care and education of the birth to four child (60.9%).	Four interviewees chose this response option in the survey questionnaire. The interview responses were related to a concern for professional development, as above. However, in one instance, it showed a misguided notion of the purpose of the higher education qualifications in ECCE as the interviewee was under the impression that she would be able to also teach Gr R classes. This was seen as a possibility for career advancement.
Use the opportunity to build a career in ECCE (59.7%).	Seven interviewees chose this response option in the survey questionnaire. The desire for professional development once again featured strongly. One principal believed she would be able to promote her centre as offering a quality service if she completed the Dip ECCE. Four practitioners chose this response and clarified that they hoped to open their own ECD centres when they have completed one of the ECCE qualifications. One unqualified practitioner hoped that she would earn a better salary if she completed a Higher Cert ECCE. One other practitioner's motivation was aligned with job security and an expectation for change in perceptions of ECD practitioners.
Earn a better salary (44%).	Three interviewees chose this response option in the survey questionnaire. They clarified that they would be able to offer a better-quality service if they have higher education qualifications. This would attract more children to their centres and they would therefore be able to earn better salaries.
Earn status and respect for the work I do (41.5%).	Three interviewees chose this response option in the survey questionnaire. The interviewees expressed feelings of being undervalued and the conviction that acquiring a higher education qualification would place them at the same level as teachers who command a greater status. Three other interviewees who had not selected this response in the questionnaire volunteered that respect and status in the community were not dependent on qualifications as they were already respected and valued.
Become permanently employed (39.9%).	Two interviewees chose this response option in the survey questionnaire. Hoping to be permanently employed was mentioned in relation to being able to teach Gr RR or Gr R at a school as it was a more stable environment. This was linked to a desire for income, job security and career advancement.
Quantitative questionnaire and qualitative interview question: What makes an ECD practitioner a professional?	
Continually improving knowledge and understanding of your work by undergoing training (77.4%).	Seven interviewees chose this response option in the survey questionnaire. They emphasised the importance of gaining new knowledge to better equip themselves and keep up with the latest developments through studying (new qualifications) and attending workshops. The responses were all aligned to a desire for their own professional development and growth.
Care, compassion, kindness and love for children (75%).	Three interviewees chose this response option in the survey questionnaire. The importance of care, compassion, kindness and love for children featured in the interview responses, as these were seen as necessary traits in this field.
Dedication and commitment to the work you do, including putting the children's interests above your own (69.9%).	Two interviewees chose this response option in the survey questionnaire. There was a marked emphasis on providing a service to the community and to the children, regardless of the challenges.
Knowledge of Early Childhood Development theory and practice (74.6%).	One interviewee chose this response option in the survey questionnaire. The response was linked to a desire to improve her own knowledge and understanding of ECD theory and practice for the benefit of the children.
Knowledge of ECD policies and legislation (66.9%).	None of the interviewees chose this response option in the survey questionnaire.
A thorough knowledge and understanding of the programme or curriculum which you use and the ability to implement it (65.7%).	One interviewee chose this response option in the survey questionnaire. She indicated that although she had received training in the NCF, she felt she needed further training. She considered it an important factor of being a professional as it enabled one to discuss and share your work with colleagues.
Abiding by an agreed-on Code of Conduct (62.9%).	One interviewee chose this response option in the survey questionnaire. The interviewee said that abiding by a code of conduct meant that you were required to set an example in your centre and in your community by exhibiting 'good' behaviour and showing responsibility, so that you are respected.
Obtaining a qualification that is described in MRQECDE (62.5%).	Four interviewees chose this response option in the survey questionnaire. Only two of the four participants considered obtaining a qualification that is described in MRQECDE as a necessary requirement for being a professional ECD practitioner.
Being a registered member of a professional body (61.3%).	One interviewee chose this response option in the survey questionnaire. Being a registered member of a professional body was viewed as important as it meant practitioners guilty of misconduct could be barred from practising. The question was posed to one other participant who responded that SACE could not make decisions about de-registering practitioners who are guilty of misconduct as they were not employed by the DBE. She stated that the community would make such decisions.

Table 2 continues on the next page →

TABLE 2 (Continues...): Comparison of quantitative questionnaire results and the qualitative interview results.

Quantitative results	Summary of qualitative follow-up interview results
Number of years of experience working with young children (48%).	Three interviewees chose this response option in the survey questionnaire. Number of years of experience was not considered a factor for being a professional, although experience was considered an important factor for being a 'good' ECD practitioner by three participants. However, two of the three participants considered an ECD qualification to be the most important factor for being a professional. (This did not, however, signify a higher education qualification.)
Do you consider yourself a professional ECD practitioner? (76.6% affirmative).	Eight participants considered themselves professional ECD practitioners. The manner in which they communicate with parents and staff and confidentiality were rated as highly desirable conduct and were cited as reasons why they thought they were professionals. Two participants did not think they were professionals because their qualifications were too low.
Reasons for not wanting to do a Higher Education qualification	
I can't afford to pay for further studies (4.4%).	Only practitioners who wanted to study further were selected because of the convenience sampling strategy employed; however, six participants did express some concern over the affordability and were relieved to hear that they would be able to apply for the NSFAS bursary scheme.

ECD, Early Childhood Development; NQF, National Qualifications Framework; ECCE, Early Childhood Care and Education; NCE, National Curriculum Framework; MRQECDE, Policy on Minimum Requirements for Programmes leading to Qualifications in Higher Education for Early Childhood Development Educators; SACE, South African Council for Educators; NSFAS, National Student Financial Aid Scheme.

TABLE 3: Data categories and themes from integration of quantitative and qualitative data.

Emergent themes	Colour-coded data categories
A. Expectations related to completion of higher education qualifications	A.1. Expectations for upward social mobility (improved job security, income security, recognition and status within the community) A.2. Expectations for professional development A.3. Expectation for change in the sub-sector initiated at government level (salary/status/ recognition/ employment/career advancement)
B. ECD practitioners' professional identities	B.1. Values commonly linked to professionalism B.2. Appreciation and respect shown by parents or community B.3. Limited understanding of what constitutes a profession B.4. Misguided notion of the purpose of the MRQECDE policy
C. Marginalisation of the ECCE sub-sector	C.1. Underfunding of ECCE services C.2. Lack of management of, and support for ECD centres C.3. Low qualification levels C.4. Opportunity for unskilled women with few other prospects

ECD, Early Childhood Development; MRQECDE, policy on Minimum Requirements for Programmes leading to Qualifications in Higher Education for Early Childhood Development Educators; ECCE, Early Childhood Care and Education.

Following Braun and Clarke's (2006) six phases of the thematic analysis approach, responses to each question were captured in a table and each participant was identified by a code. For example, H3 was the third participant from an HEI who had completed an open-ended questionnaire. Similar responses were assigned the same colour code. This process was performed separately for each group: DBE, HEIs, TVETs, etc. For example, responses such as 'lack of government capacity to support and monitor the workforce and the sector', 'lack of data on supply and demand of ECD educators in provinces to inform planning' and 'absence of a system that provides standards for appropriate remuneration' were assigned the code 'Sys' and listed under 'systemic barriers', colour coded in pink.

The coded data were then checked for consistency in patterns across all the stakeholder groups (Kiger & Varpio 2020) and assigned to a data category, based on an interpretation of the meaning. By grouping meaningful and coherent data from these data categories together (Braun & Clarke 2006), four themes were identified. The data categories and emergent themes are depicted in Table 4.

Stage 4: In the final stage, the emergent themes resulting from the integration between the quantitative survey questionnaire data and the qualitative interview data were integrated with the themes from the open-ended questionnaire data. Figure 2 illustrates how this integration was achieved.

The three themes from the interview data on the left (A, B and C) of Figure 3 feed into the four themes that emerged from the open-ended questionnaire data on the right. The arrows indicate which themes they are integrated with. The findings of the merged data enabled the answering of each of the sub-questions of the research, namely:

1. *What are the enabling factors that could affect the implementation of this policy?*
2. *What are the constraints that could affect the implementation of this policy?*
3. *How can the identified constraints be addressed to enable and/or promote the successful implementation of this policy?*

Discussion of findings in relation to the research sub-questions

The most salient findings are discussed in the section that follows.

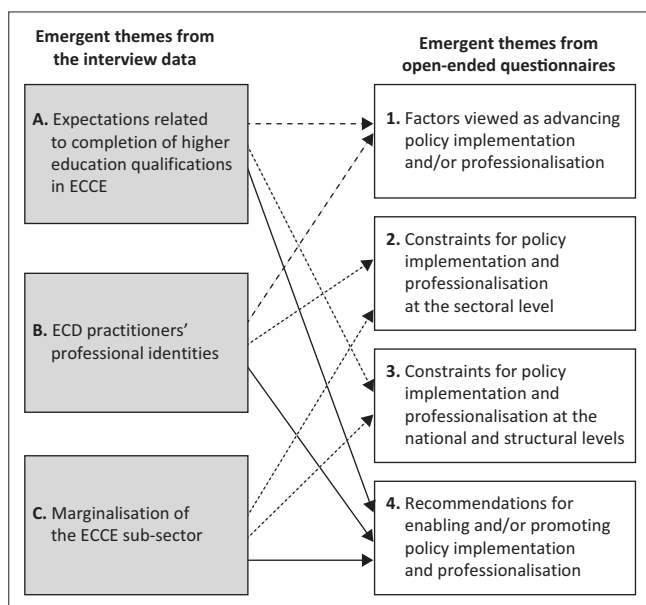
What are the enabling factors that could affect the implementation of this policy?

Expectations from practitioners for upward social mobility (improved job security, income security, recognition and status within the community) and expectations of professional development were positive indications for advancing both the implementation of the MRQECDE policy and the professionalisation of the ECD workforce. Principals and/or centre owners viewed themselves as entrepreneurs who were delivering a service in their communities, with a mix of altruistic and business motivations. Completion of a higher education qualification was viewed as an opportunity for professional

TABLE 4: Data categories and emergent themes from open-ended questionnaire data.

Emergent themes	Colour coded-data categories
1. Factors viewed as advancing policy implementations and professionalisation	1.1. The policy contributes to the professionalisation of the ECD workforce (professional qualifications, status and recognition of the workers, a career path without a 'ceiling'). 1.2. Higher education qualifications contribute to quality ECCE programmes. 1.3. The policy contributes to the quality of and standardisation of ECCE programmes. 1.4. The policy enables articulation opportunities for ECD learners who have obtained occupational ECD qualifications at NQF Levels 4 and 5. 1.5. The policy implementation process has encouraged collaboration among stakeholders and a focus on sector needs. 1.6. The policy is expanding the education and training provider landscape.
2. Constraints for policy implementation and professionalisation in the national and structural contexts	2.1. Data challenges related to lack of information about ECD centres and practitioners. 2.2. Funding and resource constraints for policy implementation. 2.3. A lack of sustainable employment opportunities and remuneration by government. 2.4. A lack of inter-sectoral collaboration at the structural level between organisations, government departments and entities responsible for quality assurance. 2.5. Absence of a plan for professional body registration.
3. Constraints for policy implementation and professionalisation in the sectoral context	3.1. Tensions between various training organisations. 3.2. Possible resistance from practitioners to the MRQECDE policy implementation and professionalisation of practitioners. 3.3. Poor status and recognition of the work of ECD practitioners. 3.4. Low qualification levels of practitioners. 3.5. Capacity of ECD educator education providers. 3.6. HEI operational systems issues.
4. Recommendations for enabling and promoting policy implementation and professionalisation	4.1. Develop a system with the capacity to fund, regulate, monitor, evaluate and support the sector. 4.4. Address challenges within the education and training domain. 4.5. Allow for incremental professionalisation. 4.6. Professionalisation of the ECD sector as a whole for quality provision.

ECD, Early Childhood Development; NQF, National Qualifications Framework; ECCE, Early Childhood Care and Education; HEI, Higher Education Institution.



Note (key):

- Factors advancing policy implementation and/or professionalisation
- Constraints for policy implementation and professionalisation at the sectoral level and at the national and structural levels
- _____ Recommendation for enabling and/or promoting policy implementation and professionalisation

ECD, Early Childhood Development; ECCE, Early Childhood Care and Education.

FIGURE 3: Integration of emergent themes from interview data with themes from open-ended questionnaire data.

development, which would: (1) improve their practice, (2) result in added benefits for the children in their centres and (3) promote their centres. Practitioners and principals had similar motivations, but the focus for practitioners was on improving their practice, enabling them to feel more confident and competent to open their own centre and, to this end, gain the support of the communities in which they worked.

Practitioners who considered themselves as professionals owing to the construction of their professional identities around a care and nurturing orientation were nevertheless committed to obtaining a professional ECCE qualification.

Participants from other stakeholder groups were overwhelmingly positive in their responses to the question about whether the MRQECDE policy was a necessary initiative for the ECCE sub-sector. The general view was that the policy would contribute to professionalising the ECD workforce by enabling the achievement of professional qualifications, improving status and recognition, and providing a career path in higher education. They were also in favour of the standardisation of programmes that the MRQECDE policy calls for and the fact that it is expanding the education and training provider landscape. Participant H1 saw an opportunity for '... building networks and being part of the community of providers offering ECCE qualifications' as an exciting new phase in the offering of qualifications for universities.

Technical and Vocational Education and Training colleges and NGOs in particular welcomed the fact that the policy enables and advocates articulation and access rather than constraint and exclusion. Participant N1 welcomed the fact that the policy '... will provide articulation opportunities for ECD learners who have obtained both historical and occupational ECD qualifications ...'

The NGO, TVET and HEI sectors have traditionally worked in isolation although they have all had a stake in education and training in the ECD sector (Harrison 2017). The DHET encouraged collaboration among these stakeholders through support for the development of a programme framework for the Dip (ECCE) and BED (ECCE) in line with the minimum

requirements stipulated in the MRQECDE policy. This was made possible by participation in the Project for Inclusive Early Childhood Care and Educations (PIECCE) consortium (PIECCE 2019). The policy implementation therefore enabled collaboration and stimulated a renewed focus on sector needs. Participant S2 (female, ECD specialist) mentioned '... new conversations on harmonising systems for the educator workforce ...' as a positive spin-off of the collaborative programme framework development process.

What are the constraints that could affect the implementation of this policy?

Numerous challenges that are indicative of the continued marginalisation of ECD in the national and structural context were cited as constraining factors for the implementation of the MRQECDE policy. These are, among others, the absence of sustainable employment opportunities and adequate remuneration; the continued ECD centre registration challenges; the human resources and funding challenges for supporting and mentoring ECD centre activities; and the inadequate subsidisation funding of children from low-income families, resulting in a reliance on parent fees to support the day-to-day running of centres. Utterances such as 'The children must have food and the principal must pay salaries and electricity' (TIC21) and 'No, it [*the subsidy*] is not enough, what about the electricity and the gas for cooking and the food?' (TIS27) illustrate the fact that the cost of running their centres could not be met by either parent fees or a subsidy alone. This marginalisation of the ECCE sub-sector also reinforces the poor public perception of the value of ECD and of the ECCE workforce and may discourage potential new entrants to the sector, as well as existing practitioners and educators, from taking up higher education qualifications.

Signe (2017:20) considered funding and resources a necessity for successful policy implementation, as '... without it there is often an inability to mobilise other aspects of an implementation strategy'. This appears to be the biggest stumbling block identified by all participants across the different stakeholder groups. Participant N3 maintained that there was a need for '... funding to pay professional salaries and appropriate subsidies to sustain ECD provision across the board ... otherwise there will not be sufficient uptake of the professional qualifications'. A related financial concern that was raised by the DBE was the absence of a costed policy implementation plan for the MRQECDE policy. Higher Education Institutions (HEIs) also considered this as a necessary measure to further support the programme implementation, particularly with regard to Recognition of Prior Learning (RPL) and Work Integrated Learning (WIL).

The restrictive admission policies of HEIs were raised as a constraining factor by TVET participants, as it has in the past prevented access for prospective NQF Level 4 and 5 candidates. In addition, RPL policies are not widely implemented by universities and many existing Level 4 qualified practitioners may require RPL for access.

These sentiments were captured by several of the NGO and TVET participants:

'While the policy allows for recognition of occupational qualifications for entry into the diploma and degrees, in reality the universities still have their own criteria.' (N3, female, ECD programme specialist)

The low qualification levels of prospective candidates are, however, a concern for universities in terms of RPL and academic capabilities.

A further constraining factor was the perception that there was a certain amount of '... disharmony and turf guarding ...' among training providers. Participant H5 (female, researcher) was concerned that the training of ECD practitioners was the livelihood of some NGOs, and they may, therefore, resent the fact that HEIs will now be attracting students from the same target market. Furthermore, it was felt by some that HEIs may not be able to adequately support ECCE students because of the universities' modes of delivery and the fact that most university lecturers have little practical experience in this field. Non-government organisation providers, in particular, were perceived by some to have more practical expertise in these areas. Participant H5 felt that NGO providers '... do not necessarily have the capacity to offer training at higher educational levels'. A very telling comment by participant N1 highlighted a particular tension between NGOs and TVET colleges, as this participant was of the opinion that NGO and private ECD training service providers were '... marginalised and disregarded in the professionalisation of the ECD Workforce'. The participant maintained that '... resources for training are channelled [*sic*] to TVET Colleges who does not [*sic*] have expertise, skills and experience in Early Childhood Development'.

A lack of inter-sectoral collaboration at the structural level between organisations, government departments and entities responsible for quality assurance and regulation of the sector, including the absence of a plan for professional body registration was raised as a concern for successful policy implementation. Participant S1 found that the successful implementation of the policy was dependent on, among other factors, 'Departments and entities working together in the implementation of the policy'.

How can the identified constraints be addressed to enable and/or promote the successful implementation of this policy?

The recommendations for successful policy implementation ranged from the allocation of sufficient financial resources for the necessary activities at various levels of the ECCE system, to developing norms and standards for ECCE education and training.

Financial resources were seen as a non-negotiable issue. Firstly, in order to enable the appointment of adequate numbers of *appropriately qualified professional staff*, at provincial and municipal levels, with a large enough budget to enable them to:

- monitor and support ECD centres with registration matters;
- monitor and evaluate the quality of programmes being delivered;
- collect information needed for a national ECCE database on infrastructure, registration and qualifications.

Secondly, the allocation of sufficient financial resources to significantly increase the subsidy for children from low-income families was seen as essential. This would enable ECD centre owners to operate as viable, registered micro-businesses and employers and support the recruitment and retention of employees by improving their career prospects, salaries and working conditions.

A costed implementation plan for the MRQECDE policy formed part of the recommendations as it would enable increased collaboration between NGOs, TVETs and HEIs for effective programme delivery. This would be particularly important for the implementation of WIL and providing financial support to universities in the short term for developing systems and mechanisms for the effective implementation of RPL.

The development of an ECCE workforce plan that outlines a career framework for ECD practitioners and educators was linked to possibilities for both vertical and horizontal career mobility. It included recommendations for differentiated roles and responsibilities and designations for different positions within the profession, which should be linked to specific qualifications at the different NQF levels. Stipulated minimum wage requirements should also be prescribed for each position. As one participant said:

‘Qualifications ought to be linked to job opportunities and remunerations.’ (Participant N2, female, NGO director)

Furthermore, ECD practitioners and educators should be able to register with a professional body that takes responsibility for promoting the professional development of ECCE practitioners and educators and that maintains and protects ethical and professional standards for ECCE practitioners and educators.

Incremental professionalisation was seen as an important condition in order to ensure that existing practitioners are assured of a means for career advancement. In this regard, it was recommended that minimum entry requirements be stipulated for different occupational and professional qualifications in ECCE. Qualifications should be aligned to positions at different levels on a career ladder and practitioners should be able to obtain the required qualifications for each position through flexible pathways, which include the implementation of RPL and Credit Accumulation and Transfer (CAT).

With regard to the tensions around ECCE education and training, it was recommended that norms and standards be developed, which should allow for: (1) standardised ECCE

education and training programmes at the different NQF levels, (2) monitoring and evaluating the implementation of education and training providers and programmes and (3) stipulated minimum qualification requirements for trainers, mentors and lecturers.

A final constraint that was addressed centred around the challenge of access to HEIs for holders of occupational ECD qualifications. In this regard, the following was recommended:

- Collaboration between DHET, the Quality Council for Trades and Occupations (QCTO), ETDP SETA, DBE, South African Council for Educators (SACE), TEVETs, HEIs and NGOs for the purpose of aligning the NQF Level 4 and 5 occupational qualifications to the Dip (ECCE) and the BEd (ECCE) knowledge and practice standards.
- HEIs should revise their admission criteria to minimise barriers to access where possible.
- HEIs should be required to implement RPL and CAT in accordance with the various RPL policies.
- HEIs need to develop bridging programmes for students who need additional support to meet the academic demands of higher education studies, possibly in collaboration with NGOs or TVETs.

In essence, the recommendations point to the need for the development of a competent ECCE system in order to create an enabling environment for the MRQECDE policy.

Lessons from complexity theory on the implementation of the MRQECDE policy

Using a complexity theory-based analytical lens to scrutinise the findings of the study and to explain how the ECCE system has responded to the introduction of the MRQECDE policy can shed light on what might be required to enable the system to adapt to accommodate the desired changes that are part of the policy goals.

Policy implementation in complex systems happens across numerous spheres of operation that are interconnected and interdependent

Numerous spheres of operation need to be influenced in the different contexts of the ECCE system to enable the successful implementation of the policy, that is, sufficient uptake of the higher education qualifications leading to sufficient numbers of professional ECD educators working in different areas of responsibility to create an impact on the quality of ECCE. Consider, for example, all the human agents, social, economic and historic factors, civil society organisations, HEIs (both private and public), other government policies, government departments at the national, provincial and local levels that are situated in the different contexts of the ECCE system. One of the recommendations for enabling and promoting successful implementation of the policy is that there is an urgent need for the DBE, DHET, CHE, ETDP SETA, QCTO and SACE to collaborate. Participant N3, for example, was of the opinion that:

'... [T]he quality assurance bodies do not appear to understand the necessity for a co-ordinated and collaborative approach ... and seem unwilling to be part of a truly consultative and inclusive process of ensuring quality across the entire qualifications system.' (Participant N3, female, ECD programme specialist)

The same participant also articulated the importance of collaboration between different stakeholders within the system: 'The holistic, integrated nature of early childhood demands that we work together' (N3). Collaboration and cooperation across all the spheres of operation were thus viewed as a critical element in creating a more enabling environment for the policy's implementation.

Policy implementation outcomes are unpredictable and influenced by cognitive bias

Cognitive bias is defined by the Cambridge Dictionary (n.d.) as 'the way a particular person understands events, facts, and other people, which is based on their own particular set of beliefs and experiences and may not be reasonable or accurate'.

Participants in this study viewed the allocation of adequate financial resources as an essential requirement for the development of an effective system for the ECCE sub-sector. However, despite government policies that place ECD at the apex of priorities, the funding to implement resolutions for strengthening the ECD sector has not materialised. One of the recommendations by participants was that the ECCE sub-sector needs to ensure that ECD remains on the government's priority list in order to mobilise:

'[T]he political will to fund the sector in the same way as government does for the 'FET Band.' (Participant N2, female, NGO director)

Viewed from the perspective of complexity theory, this marginalisation of ECD could be ascribed to cognitive bias. Allas et al. (2018) maintained that in the public sector, unlike the private sector, governments do not significantly change their spending allocations from year to year. This is ascribed to cognitive biases, '...particularly those that promote continuity or stability, which make us more attached to the *status quo* than we should be...' (Allas et al. 2018:2). They furthermore suggest that in allocating resources, the perceived value of different programmes in terms of returns on investment is a key consideration. Furthermore, government funding allocations are influenced by the fact that '... certain issues and solutions are more likely to be salient to policy actors, regardless of whether they are the most urgent or important' (Hallsworth, Rutter & McCrae 2018).

Policy implementation processes therefore need to factor in economic, political and social influences, which can make implementation uncertain and unpredictable and possibly result in failure (Hudson et al. 2019; Mueller 2019).

1.FET is the abbreviation for Further Education and Training and refers to education and training from Grade 10 to 12.

Policy systems and sub-systems must evolve and co-evolve

In the context of this study, the policy implementation is driven by the DHET in the *structural* context of the system and implemented in the *sectoral* context by HEIs. However, each of the recommendations emerging from this study for successful implementation of the MRQECDE policy requires all the different contexts and sub-systems of the overall ECCE system to co-evolve, in order to support and enable the implementation processes. This may, however, not happen spontaneously in policy processes where the introduction of a policy has far-reaching implications for sub-systems and their components that are not ready to adapt to the changes that impact them, as is the case in this study.

Relevant components of the DBE, the DSD, the SACE and the DHET, as sub-systems within the structural context, need to co-evolve in the policy implementation process. This will crucially require the national sector to commit sufficient funds to meet the recommendations that emerged from the study. See recommendations on how the identified constraints can be addressed to enable as discussed earlier.

Although the results of the quantitative survey questionnaire and the semi-structured interviews indicated that salary, status, recognition and employment were not the only or even the foremost, motivation for practitioners to take up higher education qualifications, they did nonetheless feature in some of the interviews and were a clear concern among the other stakeholders' groups. These indicators of 'professionalisation' feature prominently in the recommendations for enabling and/or promoting policy implementation and professionalisation both in this study and in the international literature reviewed (Government of Ireland 2021; Kumpulainen 2018; Oberhuemer & Schreyer 2018; Onnismäa 2018; Simmie & Murphy 2021; Wondemetegegn 2016). It is widely recognised that public policies that encourage a professionally qualified workforce are unlikely to achieve the intended purpose, unless the issues of poor pay and working conditions are addressed (Oberhuemer & Schreyer 2018). The participants who completed the open-ended questionnaires were very vocal about the remuneration and employment of professionally qualified ECD educators.

The recommendation for developing and implementing an ECCE workforce plan as part of the Human Resources Development (HRD) strategy for ECD similarly requires that the DBE sub-system co-evolves with the DHET sub-system in the structural context and with the university sub-system in the sectoral context. As discussed earlier, research participants articulated the need for a workforce plan, which outlines a career framework, indicating the different positions for ECD practitioners and educators and the required qualifications for each position.

The DHET has developed and started to implement the MRQECDE policy, but to date no coherent or targeted

strategy related to the employment prospects of future graduates has been formulated by the DBE. From a complexity theory perspective, the different systems and sub-systems must co-evolve to adapt to the introduction of new ideas and developments within the ECCE system, in order to ensure that the policy remains relevant and implementable.

There were some indications of co-evolution taking place between the HEIs, NGOs and TVET sub-systems, which are all part of the education and training sector, situated within the sectoral context of the ECCE system. The NGOs and TVET sectors are also affected by the introduction of the policy and therefore have a vested interest in ensuring that they are not marginalised through the implementation process. The collaboration between the different stakeholders as part of the (PIECCE) process enabled each institution and organisation to rethink their positions within the ECCE sub-sector and consider the role that they could play in the developing ECD education context. The PIECCE consortium consisted of representatives from public universities, TVET colleges and NGOs (PIECCE 2019). Having agents within each sub-system taking an active part in the multi-stakeholder PIECCE enables each sub-system to continue, not only to have an impact within the ECCE system but also to positively enhance the possibilities of that impact. One of the NGO participants commented: 'Having brought the NGO sector into the frame [*through the PIECCE*] paved the way for increased TVET collaboration possibilities' (N4). By co-evolving with each other and with the system as a whole, they are acting dynamically in the interest of remaining relevant.

The emergence of new properties and behaviours in a complex system is spontaneous and manifests through a process of self-organisation

The public universities that were part of the PIECCE, and part of this study, embraced the changes in the qualifications environment introduced by the MRQECDE policy by accepting the DHET's proposal for funding to develop ECCE programmes aligned to the policy. This is a strategic decision taken by the management of the universities and the Faculties or Schools of Education in order to remain relevant in the area of ECD education. The universities' willingness to develop these programmes points to the ability of systems and sub-systems to 'self-organise' in order to accommodate new circumstances, events or behaviours introduced into the system.

The forming of partnerships between HEIs and NGOs with regard to mentoring students, which were beginning to emerge as part of the PIECCE, was likewise not driven by external regulation, but emerged spontaneously, which is a key feature of self-organisation (Braithwaite et al. 2018). Through the processes of self-organisation and emergence, new system states evolve that are potentially sustainable (Turner & Baker 2019).

Emergent properties are reinforced through positive feedback loops

The TVET colleges and NGOs have dominated the ECD training provider landscape with the offering of occupational and vocational qualifications. As they are not permitted to offer qualifications at higher education NQF levels 6 to 10, they too have to adapt to the changes introduced by the MRQECDE policy. Their support for the policy is linked to the fact that the policy stipulates that the NQF level 4 and 5 ECD qualifications may be presented for consideration for admission to the Dip ECCE and the BEd ECCE. The NGOs and TVET college participants in this study therefore welcomed the fact that their students should, in theory, be able to embark on furthering their studies through a route that allows for RPL and CAT.

The TVET and NGOs sectors, within the sectoral context of the ECCE system, may therefore adapt and assume the role as 'feeders' to the universities for students to register for higher education qualifications in future. If this proves to be mutually beneficial, '... a positive feedback loop will be created, which could well become autocatalytic (self-creating) and self-sustaining' (Mason 2016:47), resulting in the emergence of new behaviours and conditions that could benefit the ECCE sub-sector in different ways. It could, for example, lead to the recurriculation of the NQF level 4 and 5 qualifications to:

'[N]arrow the gap between the lower level and higher level qualifications.' (Participant N4, NGO director)

It could also lead to collaboration between NGOs and HEIs, as:

'NGOs could assist in relation to the workplace-based component of the qualifications. BEd and Dip ECCE students who are placed in centres where trained practitioners work, can be mentored by these practitioners.' (Participant N4, NGO, director)

Positive feedback loops are drivers for change (Turner & Baker 2019).

The cognitive bias identified earlier, which seems to suggest that it has become the norm to marginalise ECD, is a negative feedback loop at present that could perpetuate the existing *status quo*, rendering the impact of the MRQECDE policy negligible.

Policy implementation outcomes are unpredictable and do not follow a linear causal logic

Unpredictability and non-linearity are two of the complexity theory principles that are operative in any complex system when changes are introduced. One of the key unpredictable factors for the successful implementation of the policy is the uptake of the higher education ECCE qualifications. This study gauged the interest of existing practitioners in furthering their studies in ECCE through the pursuit of higher education qualifications that have been made available through the MRQECDE policy. A total of 95.5% of the

respondents indicated that they would avail themselves for this opportunity; however, there are some constraining factors within the system that may prevent this from happening. For example, uncertainty regarding bursary funding for furthering their studies and uncertainty about financial support for the continued operation of the ECD centres were expressed as concerns by the interviewees. Absence of directives in this regard adds to the unpredictable nature of the impact that the policy implementation might have.

In the present context of uncertainty that results to a large extent from the DBE taking over the responsibility for ECD from the DSD, the role that the MRQECDE policy will play in the ECCE system is not at all predictable. Further uncertainty has been created by the introduction of a pre-Gr R year. The absence of clear directions regarding the qualifications that may be required for working in the pre-Gr R context is a factor that adds to the unpredictability. Two of the interviewees expressed the view that the reason for the introduction of the MRQECDE policy was that higher education qualification as described in the MRQECDE policy will likely be required for pre-Gr R. There is, however, no clarity in this regard at present.

If higher education qualifications become a requirement for pre-Gr R educators or should pre-Gr R become incorporated into '... the formal education management and remuneration structures' of the DBE as proposed in 2014 (Richter & Samuels 2017:13), this will promote the successful implementation of the policy. The indications are, however, that at present, the focus of the DBE is on ensuring that all practitioners have attained, as a minimum, an NQF level 4 ECD qualification. Furthermore, it has been stated that the DBE will *not* become the employer of ECD practitioners as a consequence of the function shift from DSD to DBE. Thus, in the medium term, the policy is not likely to have a significant effect on the practitioners working with children from birth to 4 years.

These less-than-desirable conditions for the successful implementation of the policy may however be resolved or become more enabling, should political decisions taken in the national context favour the ECD sector, provided that a credible portion of the national budget is committed to ECCE. In this case, the policy implementation process will be set on a much firmer base, which will support the offering and uptake of ECCE qualifications.

Complexity theory also asserts that the influence of the constituent parts of a system on one another, in complex 'messy' systems, is not necessarily knowable and is not causal in a linear sense. Therefore, whether it is a small or significant change that is introduced into the system, it will not necessarily produce a proportionate effect (Mueller 2019). The MRQECDE proposes a major change in the qualifications environment of the ECCE sub-sector; however, the overall effect in the long term cannot be confidently predicted and may not produce a proportionate effect in the system as desired.

The power of an existing dispensation or social arrangement to sustain itself and to increase its purview of influence or control is directly related to its inertial momentum

As explained earlier, complexity theory tells us that the interactions between large numbers of systems and between components within these systems result in the emergence of new phenomena. This is associated with increasing complexity in the system environment, which may lead to a phase transition, which makes possible the emergence of new properties and behaviours and a new direction of self-sustaining momentum' (Mason 2016:43). However, in order for sustainable change to take place, the 'inertial momentum' of the existing or dominant structures needs to be replaced or redirected (Mason 2016:45). If a graduate ECCE workforce is to become the norm, a 'critical mass' would have to be reached in the ECCE system to replace the current dominant (path dependent) culture of low-level qualifications and the associated conditions that prevent ECCE from being recognised as a profession.

The historic arrangement of ECCE provision, coupled with the fact that it became an ideal opportunity for unskilled and low-skilled women to earn an income (Gustaffson 2017), has led to a socially constructed perception that becoming an ECCE practitioner requires little more than nurturing and mothering skills as it entailed taking over the unpaid care work of mothers (Frindte & Mierendorff 2017). Any women with few other job prospects can therefore be trained to become a practitioner. This may be especially true in the case of caring for babies, as indicated by participant TIS 27, who had no qualifications and was unable to find work until she approached the principal of a crèche who assigned the care of the babies to her, or as she put it, '...she said I can look after the babies'. This situation that has developed in the ECCE sub-sector is directly related to the complexity theory principle of 'inertial momentum'. In order for sustainable change to take place, such existing or dominant perceptions, behaviours and standards need to be replaced. Additionally, from a complexity analytical perspective, the manner in which the ECCE sub-sector was established and evolved over many decades has determined a particular 'path dependence' (Mason 2016), namely, entrepreneurial endeavours through setting up and managing ECD centres as a livelihood strategy. The ECD practitioners and principals who were interviewed were overwhelmingly responsive to the perceived opportunities of furthering their micro-businesses through the attainment of higher education qualifications. The introduction of the MRQECDE policy is therefore just as likely to reinforce this path, as it is to redirect it. This affirms the notion that although public policies are intentionally planned to fulfil a specific purpose, complexity theory asserts that they are nonetheless '... subject to lack of control and predictability, often producing unintended results' (Mueller 2019:316).

Recommendations for successful implementation of the MRQECDE policy and professionalisation of early childhood development educator workforce

The findings indicate that meeting the identified conditions would require developing a competent ECCE system to support the policy implementation. This would, however, necessitate the involvement of actors from all the relevant contexts and components of the ECCE system. We therefore recommend that greater attention should be paid to '... the systemic relationships between all actors and institutions ... [and not only] ... the individual practitioner[s]...' and their qualifications (Urban et al. 2017:15), in order to redirect the current dominant dispensation of low-level qualifications and deplorable working conditions of ECCE practitioners and to develop a professionalised ECD educator workforce.

Conclusion

If a graduate ECCE workforce is to become the norm, a sufficient 'critical mass' would have to be reached in the ECCE system to replace the current dominant culture of low-level qualifications in the sub-sector and the associated conditions that prevents ECCE from being recognised as a profession.

Interventions at all possible levels of the ECCE system are therefore needed to bring about the desired changes that would enable the building of a competent ECCE system, within which the MRQECDE policy will fulfil its goals. This would necessitate advocacy and pressure on the public fiscus from different stakeholder groups to adequately resource key areas of ECCE as outlined in the conditions for developing a competent ECCE system. It would also necessitate conscious intervention by the DHET, particularly in the structural context, to ensure that the policy does not become relegated to a missed opportunity for professionalising the ECCE sub-sector.

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Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

Z.A. conducted the research and wrote the first draft; K.B. conceptualised the project and reviewed the article.

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Data availability

The data that support the findings of this study are available from the corresponding author, K.B. upon reasonable request.

Disclaimer

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