Article

Access to further education for a diverse group of ECD practitioners

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Abstract: The South African government has undertaken to expand universal access to Early Childhood Development (ECD) with a particular focus on children from socially disadvantaged communities and with disabilities. This requires training and support of ECD practitioners, such that they are equipped 399with the necessary knowledge and competencies to implement effective teaching and learning approaches at ECD level. This research explored an innovative, inclusive approach to ECD practitioner development in which both Deaf and hearing students were enrolled in an ECD practitioner training program facilitated jointly by New Beginnings (an ECD non-profit training organization) and the Deaf Federation of South Africa (DeafSA). The research scrutinized key aspects of the training program, including how it extended students content knowledge on ECD, their pedagogical knowledge; as well as epistemological access for Deaf students. The findings and conclusions have important implications not only for equipping ECD practitioners with knowledge and skills, but also demonstrates how practitioner training itself can be effectively structured to cater for diversity among trainees.

Keywords: Early Childhood Development (ECD); practitioner development; deaf and hearing students; pedagogical knowledge; epistemological access; content knowledge; inclusion

1. Introduction

Early Childhood Development (ECD) is a comprehensive approach to services, programs and policies for young children. The South African Schools Act of 1996 stipulates ECD as being from birth to school-going age (s 91(1)). The aim is to uphold the rights of children to develop their full cognitive, physical, emotional, and social potential. An ECD program in general focuses on nutrition; cognitive development; language development; physical health; mental health and social and emotional development. It may be offered in formal, informal or non-formal settings. Early Child Care and Education (ECCE) services, a key facet of ECD, refers to services that provide care and developmentally appropriate educational programs for young children located either in ECD centers, special schools, community-based centers, or in home-based care facilities (Meier et al., 2015). The programs may be publicly or privately funded. ECD practitioners are individuals working in the field who may or may not be qualified as teachers. These practitioners, therefore, have a range of professional qualifications, with many underqualified or having no training at all, with the result that the quality of ECCE programs in South Africa differs according to context. A central commitment of the South African government is to expand access to ECD programs for all children, particularly for children from socially disadvantaged

communities and children with disabilities (Department of Education, 2001; Department of Basic Education, 2015). There is need for trained practitioners in the ECD sector to meet this commitment. However, currently there is serious shortage of qualified ECD practitioners in the country who are equipped with skills and expertise to provide quality services for all young children, irrespective of diversity.

In a significant first step, the Department of Higher Education and Training (2017) developed its policy on "Minimum Requirements for Programmes leading to Qualifications in Higher Education for Early Childhood Development Educators". In the non-formal sector, ECD qualifications for practitioners are established by the South African Qualification Authority (SAQA) via the National Qualifications Framework. Professional development is offered mainly by Further Education and Training (FET) colleges, and through private and non-profit organizations. In the non-formal sector, minimum standards for ECD practitioner qualification requirements were developed by the Department of Social Development, with the entry-level qualification being the Further Education and Training Certificate (FET) ECD: Level 4. Before 2019, the Department of Social Development (DSD) held responsibility for ECD but in 2022 the South African government mandated that the ECD function would transfer to the Department of Basic Education.

Despite the shift in responsibility, children with disabilities continue to be marginalized and excluded from mainstream ECD programs, losing out on important opportunities to access expert support and services to meet their needs (Bekink, 2022; Karisa et al., 2002). In particular, Maluleke et al. (2021) point out that only a limited number of ECD programs and services provide for the needs of children with hearing impairment. The researchers argue that these children are particularly vulnerable and at risk of not achieving school readiness. Further, the problem of inadequately trained teachers, practitioners and teacher assistants with skills, knowledge and experience to support young children with hearing impairments continues to be a challenge. Currently, South Africa has 250 Deaf Teaching Assistants working in schools for the Deaf (Department of Basic Education, 2015). However, for most of these practitioners, there are no opportunities for further training or career pathing.

The study presented in this paper has as its focus an ECD practitioner development program offered by a community-based organization seeking to cater for the needs of a diverse group including both hearing and Deaf students. New Beginnings was established in 1996 as a "not for profit" ECD organization; it provides technical, professional and organizational skills, and knowledge in ECD to assist practitioners and communities adversely affected by poor state planning, the legacy of apartheid policies, and economic inequalities. This is primarily achieved through the training of ECD practitioners, parents and caregivers working with young children in different settings in various townships, semi-rural and rural areas in the province of KwaZulu-Natal, South Africa.

In 2019, the New Beginnings Training and Development Organization partnered with the Deaf Federation of South Africa (DeafSA) to facilitate access for Black, Deaf women teacher assistants at schools to formal accredited study in the field of ECD. Collaboration between these organizations led to the implementation of an ECD training program, in which Deaf and hearing students were enrolled. The training and development program involved Teaching Assistants from three schools for the Deaf,

all of which are located within the metropolitan region of the city of Durban. This project was implemented within the context of South African policies on ECD and disability, as well as the National Development Plan (NDP) 2030 (Republic of South Africa, 2012). A further significance of the project lies in its focus on empowering and equipping Black African Deaf women practitioners in the field of ECD with skills and knowledge for their own advancement. The project was significant in that by ensuring that first language users of South African Sign Language (SASL) receive quality training in ECD, it contributed to human resource development in an often marginalized community. Given that this was a pilot project, there was a commitment to identify lessons emerging and build the evidence base for access to Further Education and Training in the field of ECD. This is essential as there is a dearth of research on post-secondary education and training for Deaf students in the African context. This research makes an important contribution to furthering the wider agenda of inclusion (Department of Education, 2001; United Nations, 2006) within ECD. While some consideration has been given in South Africa to the inclusion of children with disabilities within ECD early learning programs, very little attention has been paid to the development of inclusive approaches to training of ECD practitioners.

In summary, the key reasons for undertaking the study were, firstly, to assess the effectiveness of the New Beginnings ECD practitioner training program and the extent to which it equips trainees with relevant attitudes and expertise to provide a quality early childhood education. Secondly, the study aimed to document learnings from an inclusive approach adopted in respect of the training itself which was run for a diverse group and included both hearing and Deaf participants. There is growing recognition of the value of ECD, particularly for the most vulnerable children, and a commitment from the South African government to provide quality ECD programs to cater for diversity among children. In this article, the following research questions are explored: What was the impact of the ECD practitioner development program on knowledge and pedagogical practices of Deaf and hearing students? What were the complexities of providing access to further education and training in ECD for Deaf students?

2. Research methodology and design

The research took the form of a qualitative case study as the aim was to obtain an in-depth and multi-layered understanding of the phenomenon in question (Crowe et al., 2011; Priya, 2021). The unit of analysis was the training program for ECD practitioners. Yin (2009) explained that case studies enable a researcher to investigate, explore and elucidate a phenomenon in the real-life context in which it occurs, which was the intention in this study. Participants in the study were the 16 students (6 hearing and 10 Deaf students) who were teacher assistants at rural and semi-rural ECD centers or schools for the Deaf and hearing in the province of KwaZulu-Natal; two members of project management, one each from the New Beginnings Training Center and DeafSA; 2 Sign Language interpreters; 2 trainers; 3 teachers and 3 members of school management at participating schools. Multiple data generation methods were employed, including classroom observation of lessons; semi-structured interviews with each of the Deaf and hearing students, focus group interviews with the Deaf and hearing students; and document analysis of teaching and learning materials such as

student portfolios of evidence and children's artwork. Thus, the strength of the study is that it utilized multiple data generation methods from a variety of data sources, thus bolstering the credibility of the evidence. Further, this allowed for a detailed, multi-faceted investigation of a complex phenomenon in its real-life context from different angles (Crowe et al., 2011). Interviews with the hearing participants were digitally recorded and later transcribed. The focus group interviews and semi-structured interviews with Deaf students, conducted through South African Sign Language, were videotaped, viewed and transcribed for analysis.

The approach to the study was the utilization of the analytical framework of Shulman (1986, 1987), an acclaimed researcher in the field of teacher education, as it offered a pathway to the analysis and interpretation of our data. Through this framework, Schulman elucidated and defined the knowledge that underpins teaching. He proposed that Content Knowledge (CK) is knowledge of the subject matter, which includes knowledge of theories, conceptual frameworks and key concepts. CK represents teachers' understanding of the subject matter taught and why it is taught; for example, in the ECD field, it would include topics such as early mathematics, creative drama, storytelling. Further, Shulman isolated Pedagogical Knowledge (PK), described as knowledge related to classroom practices and processes of teaching and learning, including lesson planning, teaching principles and strategies/techniques, and classroom organization and management skills. Shulman further argued that merely acquiring content knowledge and general pedagogical knowledge was inadequate for teacher development, and that the key to successful teaching lay at the intersection of content and pedagogy (Yin, 2009). Gess-Newsome et al. (2019) explain that the point of PCK is the way teachers interpret the subject matter and find different ways to represent it. However, PCK is a slippery construct, and extremely difficult to identify empirically (Shing et al., 2015). Further, researchers have argued there is an inadequate development of PCK in the novice practitioners (Carpenter et al., 1988; Shing et al., 2015). Upon critical reflection, considering the above perspectives, we excluded the construct of PCK from our analysis.

In the data analysis process, thematic analysis was utilized to identify themes and patterns within the different data sets (Clarke and Braun, 2014; Mishra and Dey, 2022). Firstly, this involved examining, reading and re-reading the transcripts a number of times. The second stage was to explore surface meanings, and then to scrutinize the data analytically to understand the deeper meanings participants made of their experiences, their pedagogical actions, and the assumptions that were embedded in their narratives and actions. Rigorous ethical standards were adhered to in the research. Prior to requesting their participation, the aims and process of the research were explained to all participants. Informed consent was obtained from students and the management of each participating school. A consent agreement was signed by all participants. It was impressed on participants that their involvement in the study was voluntary, and they were at liberty to withdraw their participation at any stage. Pseudonyms were ascribed to each participant to assure their anonymity and confidentiality.

Researching with Deaf participants has the potential to raise complex ethical issues (McKee et al., 2013). The key issue is that Deaf participants may be at risk of marginalization from research due to factors such as lack of language fluency;

constructions of Deafness; and inadequate representation of the Deaf community. The principles of justice, respect for persons and beneficence needed to be upheld. The positioning of the Deaf participants as part of a Deaf community was adopted in the project, and in the schools at which the Deaf participants were employed. In other words, Deafness was viewed as a cultural identity rather than a disability (which often suggests a sense of inferiority). One of the project managers is an active member of DeafSA, a highly recognized organization that represents the Deaf community in South Africa. Thus, there was the presence of Deaf community representation in the research. The fact that the informed consent forms were written in English was not deemed a barrier as all the participants had good proficiency in written English. Furthermore, during the process of informed consent, a Sign Language interpreter was present to support participants where further explanation was required. In advance of the focus group interviews, ground rules were discussed and negotiated with participants in order to ensure confidentiality and anonymity. At the end of the focus groups, a de-briefing session was held during which participants were given the space to raise any issues or concerns.

3. Results and discussion

The presentation, interpretation and critical discussion of the findings are integrated in this sub-section, and presented according to the three key issues embedded in the research questions: The impact of the program on student content knowledge as well as on their pedagogical knowledge; and the extent to which epistemological access was ensured for Deaf students.

3.1. Extending student content knowledge

In the study, we explored two questions related to Shulman's conception of content knowledge: What is the nature of the content knowledge in the practitioner development course? What does the knowledge base in the program reflect in terms of the discourse that informs it, including how the child is positioned in the curriculum? Analysis of various curriculum documents, and interviews with the trainers, managers, and students provided insight into the philosophy and approach underpinning the course. The core developmental domains included socio-emotional, cognitive, perceptual and physical development, which are viewed by the manager of New Beginnings as building blocks for all future learning. Content also included language and literacy, numeracy, contextual knowledge and skills, as well as the creative arts.

The data collected through various methods provided evidence that the curriculum was influenced by developmental psychology and socio-cultural theory. Students were exposed to cognitive theories, including those of Piaget and Erikson. The view taken, according to one of the managers, is that children develop through a natural, innate process, according to general laws, and identifiable universal stages of development. From the perspective of Piaget's theory, the thinking was that children become more mature as they progress through each stage. However, it was clear from our analysis of the curriculum, teaching and learning materials and interviews with trainers and students, that the program content was broadened to include the socio-

cultural theory of cognitive development proposed by Vygotsky (1978). In the interviews, the manager of New Beginnings and trainers explained that insights such as the significance of constructing new knowledge based on present knowledge, learning as culturally, contextually situated, and mediated, and the need for active participation of learners in the learning process were foregrounded in the program. Observation of lessons as well as individual and focus group interviews with students reflected that students gained the understanding that children's cognitive development is advanced through social interaction with peers and adults, and that children construct knowledge actively. The key role of language in children's cognitive development was emphasized in the training program, according to the manager. In the final evaluation feedback, 10 out of 15 respondents identified knowledge and skills related to understanding how young children learn and develop as being a valuable and critical component of their learning. The emphasis on children as active participants in their learning aligns with debates over the past two decades, in countries of the global South. These debates have called for interrogation of the over-emphasis in early childhood education on Eurocentric, individualistic developmental perspectives (Murris, 2019; Viruru, 2000). In these alternate debates, children are positioned as agents and competent in diverse social and cultural contexts. To support this thinking, Murris (2019) argues that in many African contexts, children take on roles that would be viewed as adult responsibilities, to support the interdependent culture of the family—such as caring for younger children, herding cattle and even heading a family as in child-headed households in the context of HIV/AIDS pandemic.

One of the Deaf students stated that her teaching was significantly impacted by the theories of Piaget and Vygotsky, as illustrated in the following narratives. She perceived children as having the potential to be agents of their own learning:

I think children are clever. They can learn by themselves. Sometimes when I teach, they follow, they observe, they learn to do the same way. Sometimes the clever ones can do it by themselves in different ways. They try to change it a little to their way. They learn, they know how to change, they know when they cannot. (Focus group, Deaf student).

Further, students' understanding of the art and value of providing mediated learning experiences (McKee et al., 2013) to children came through clearly in the data, as reflected in the feedback from students:

"Mediation—this has given me new ideas on how to approach learners, and to get them to think and find their own answers." (Deaf student, Reflective competence—evaluation of module 1).

"We learnt to make children think. We do not want just "yes" and "no" answers from children. You got to make kids think out of the box. We learnt about using mediation and bridging questions—this was wonderful." (Interview, hearing student).

One of the managers explained that lesson observations indicated that students were developing the view that learning involves the construction of meaning, and that mediated learning is about the quality of interaction between the learner and the teacher. She commented that students were *"definitely developing an understanding that the aim is to move beyond 'yes' and 'no' answers in classroom dialogue, and to make children reflect and think, by using mediation and bridging questions as teaching*

strategies". The manager explained that the strategy of mediation aims to *"change passive learners into active participants in their own learning, and that the role of mediator can be taken on by the teacher, a child and peers"*. The above reflections of participants suggest that they seemed to understand the process of co-construction, that it implies inter-subjectivity, and that adults, peers and children can play an active role in meaning-making, as underscored by Vandermaas-Peeler et al. (2019).

An important finding of the study was that the information and skills gained by the students through the program did not lie at the theoretical level but were being applied in the crafting of lessons, for example, the understanding that central to learning is the mediating role of dialogue. One of the Deaf students explained how she stimulated dialogue in a lesson that focused on the theme, "Animals":

"I showed the movie, "Lion King" to show children all the different animals. Children asked many questions, and gave their views, they were really thinking. Don't animals feel cold, they do not have houses? The King is like a teacher, he is big. Why is Scar always angry and fighting with Simba? It is not right to fight, we must always be nice to each other. My lesson was a success, it made children give their own thoughts and feelings." *(Deaf student, reflections on a lesson).*

Similarly, a storytelling lesson by one of the Deaf students revealed how she used drama and mime to actively involve learners in meaning-making, to imagine the characters and their emotions and reactions in the story.

The course curriculum foregrounded issues of child protection, child wellbeing and resilience, child rights and critical issues in recent debates in the ECD field. The project manager from New Beginnings explained that in an African context, concepts such as child resiliency, agency and well-being need to be included in a practitioner development program as these are political, multi-dimensional and complex in contexts plagued by social, cultural, gender, race, social class inequalities (Murris, 2019). Further, the lives of children are impacted by different social structures, discourses and views on children and childhoods. For example, in many African contexts, not all children grow up in supportive environments where their rights are respected, where their voices are heard and they can make choices, and where they have intact, strong families that build their resilience, as in contexts of poverty and those impacted by the HIV/AIDS pandemic, and where cultural practices may require children to perform adult duties in the family (Murris, 2019). It was apparent that these issues guided the selection of course content.

In interrogating the curriculum of the ECD program, it was evident that the managers and trainers attempted to create a balance between local and global content to make the curriculum culturally and contextual appropriate which can be seen in the inclusion of topics such as HIV/AIDS, child abuse and children's rights. It is noteworthy that students in the program spoke of the importance of indigenous resources in the context of early childhood, and that the aim was to affirm the knowledge of families and communities. Shulman argued that teachers need to develop not only an understanding of what topics are central to a discipline but also why they are significant (Shulman, 1986). Interviews with students revealed their use of indigenous storytelling, songs and games in the classroom, such as the game *"Magalopha"*, and the song *"Izinyoni"*.

Critical reflection suggested that indigenous knowledge and its embedded theory and philosophy could be extended further in the program content. The manager of New Beginnings agreed that students needed to "*understand the need to promote the holistic development of children intellectually, culturally, socially, emotionally, morally and spiritually*" (manager, interview). In recent years, many researchers have stressed that the social context should be a primary focus in developing and implementing an ECD curriculum for practitioners (Tobin et al, 2009; Yang and Li, 2019). In other words, the curriculum should be rooted in the local culture and situated in the social and cultural context. Research by Tobin et al. (1989) examined preschools in three cultural contexts (Japan, China, and the United States), showing how each interacted with philosophies of child-rearing, cultural patterns, cultural beliefs and values, and other contextual influences.

A significant element covered in the curriculum was in relation to using music and movement in the classroom to enhance lessons. According to the trainers and managers initially music had not been considered as an activity relevant for Deaf students, with the assumption being that their (hearing) impairment would preclude their access and participation. However, through involvement in the course, both Deaf and hearing students learnt about the capabilities of Deaf participants in the movement and rhythm components. The focus group interviews with students indicated that they had come to understand that the arts can bridge the divide between all cultures, including the Deaf and hearing, and contribute to building more inclusive classes, schools and societies.

As evident in the data above and in line with Shulman's framing, content knowledge is dynamic rather than static, and it continues to grow through a reflective process as novice teachers develop and gain experience. In our analysis of the content knowledge in the curriculum, we examined the extent to which the curriculum content was able to meet the needs of Deaf and hearing ECD practitioners in an inclusive environment. Arising from our critique, our contention is that there were particular limitations. All the students in the study were exposed to the same curriculum content knowledge that initially was designed for hearing students employed in mainstream ECD centers. Research into the training of ECD practitioners working with children with disabilities indicates the importance of equipping them with specific knowledge and skills. This includes knowledge and skills for the development, implementation, and ongoing assessment of Individualized Education Plans, use of assistive technology as well as approaches for engaging with families and other professionals (Bruns and Mogharreban, 2007). This is an area of content knowledge that needs to be further developed in the program described in this study.

3.2. Examining pedagogical knowledge (PK)

Pedagogical Knowledge (PK) is about the "how" of teaching and knowledge of teaching methods and strategies that can be used across all subjects and situations (Leijen et al., 2022; Shulman, 1987). In other words, it involves the process of blending of pedagogy and subject content knowledge. PK includes how to plan daily lessons; organize group work; demonstrate a task; transition learners from one task to the next; manage resources and space, and assess learning outcomes. In the context of

the study, the following facets of pedagogical knowledge were observed in lessons: Creation of a motivating and enjoyable atmosphere in the classroom; presentation of lessons in a way that interests children and facilitates understanding and meaning-making; using the strategy of mediation to enhance learning. Below, we discuss selected aspects of PK as they emerged from the data.

The various data sets indicated that the focus of the training program was on sustained reflexive learning, promoting growth and development of students. Document analysis revealed that students were offered a sound curriculum with a range of teaching methodologies, quality resource development and support, constant evaluation and monitoring, and an integrated approach to assessment. Active learning was encouraged through a thematic approach to curriculum topics; group work; hands-on workplace practice in authentic settings; research/inquiry-based tasks; practical work such as the creating resources to promote the holistic development of young children, and encouraging students to be socially aware through tasks such as the creative use of waste and natural materials. During the training sessions, students had the chance to take on the role of teacher of a class in an authentic setting, as New Beginnings has on its premises an Early Learning Center for children from ages 4 to 6. The students prepared and taught lessons using relevant teaching aids, and received critique from peers as well as the trainer, thereby further strengthening their pedagogical knowledge and skills.

Overall, the approach was underpinned by the recognition that "*people learn best when it's done. You can explain and explain but when they do it, they understand*" (interview, project manager, DeafSA). The philosophy of learning-by-doing was observed during field visits and confirmed by the trainer: "*That's what makes our training good. it's not just textbooks… I give them guidelines but they must do their own research*" (nterview, trainer). The feedback from students themselves was overwhelmingly positive with respect to the practical approach to learning, which was identified (in the final evaluation) by 9 out of 15 students as one of the elements that they appreciated most. The value of role-play, in particular, was affirmed, as illustrated in the narrative from a focus group interview:

> "*Role play has helped me to understand kids-the way they think and feel. This has helped to understand how a child feels or reacts in certain ways, this also helps to understand how children learn.*" (Deaf student, focus group interview).

Throughout the training, there was an intentional focus on visual materials, including posters and the use of Microsoft PowerPoint presentations. These were introduced in the course to enhance visual learning and to minimize barriers for those with hearing impairments. Management as well as both Deaf and hearing students found this to be an excellent medium for demonstration, reading and understanding. According to one of the project managers, such visual aids enhanced students' understanding of theory. The focus on visual stimulation extended to the Resource Box, in which resources were printed in colour, rather than black and white, as had been done previously, improving visual stimulation for Deaf children. The emphasis on visual stimulation and learning in the training sessions was significant because visual inputs in ECD are particularly important for the learning of Deaf children, as signed language is a visual and not an aural language.

Given their role as Teaching Assistants in the classroom (viz. to do what is instructed by the teacher), the Deaf students had not previously been required to be pro-active and involved in planning and crafting lessons or selecting pedagogical strategies. The course introduced various components of pedagogical knowledge to students, as explained above. According to the trainers and managers, this had a significant impact on the self-confidence and self-efficacy of Deaf students, in particular, affirming that they have the ability, autonomy and competences to make decisions, plan, problem-solve, and deal with various teaching and learning situations. The substantial amount of time, reflection and effort that students put into planning lessons and the accompanying resources was evident during the lesson observations. Indeed, skills to develop resources for learning, a component of PK, were gained in the course and were an indicator of the growing agency of students, as was evident during classroom observations and interviews:

> *"I learnt how to make my own resources; to add to my own topics; and connect to different themes. So I can make and add on. If I have an idea, I can make my own picture and laminate it. Children can cut, stick, play, match and link it to the topics in different ways."* (Focus group, Deaf student).

A key aim of a professional learning program is to develop practitioners as agents in their own professional development, so that they can make decisions and choices based on their pedagogical knowledge and understanding of their learners and their needs (Toom et al., 2021). The findings of the study reflect practitioner agency as an emerging competence amongst the students, encompassing motivational, attitudinal and cognitive resources. One of the school principals identified resourcefulness as a key change that had occurred in the Deaf student Teaching Assistants since their participation in the program:

> "*The training was hugely beneficial from what I've seen. In general, the task of the Teaching Assistant is to assist the teacher. But after their training, this has changed. They are more resourceful, and they are now making resources.*
> *They have more confidence. They used to just follow instructions, but now that they have had training, it has given them pedagogy. Previously, they lacked the pedagogy. They could do things in the classroom, but they did not know the reasons behind what they were doing. I am very impressed by seeing what they used to do and what they can do [now].*" (Interview, member of school management).

From the analysis of interviews and documents, it was evident that the assessment of student learning outcomes was a rigorous and systematic process undertaken at various key phases. One of the trainers stated that *"built into the assessment process was self-reflection on the part of students at all stages of the course"*. It was significant that trainers used a variety of methods and approaches for assessment of learning outcomes, including self-evaluation, peer assessment, assessment by a registered assessor, and the involvement of an internal moderator and external verification by the quality assurance body. A key finding was that assessment of practitioner competences is an integrated and collaborative process with various actors sharing in the process, and having mutual understandings of learning outcomes and their attainment. Further, our view is that elements of reflective practice and emerging student agency could be observed in the self-assessment and peer assessment practices. Granberg et al. (2021)

confirm that students may emerge as agents during formative peer assessment and self-assessment, and this can be reflected in their feedback to their peers or themselves.

In summary, the study found that the ECD program provided a variety of learning channels such that PK of both hearing and Deaf students was extended throughout the course and in assessment processes, contributing to student's self-efficacy and agentic learning. This required challenging of pre-conceptions about the ability of Deaf students to use music and rhythm to promote learning of young children; as well as understanding the stance of the child as an active participant in the learning process. The PK was deepened through the structure of the program in which Deaf participants studied part-time while also working as Teacher Assistants at various schools for the Deaf in the Durban region.

3.3. Reflections on epistemological access for Deaf students

South African Sign Language (SASL) is the primary sign language used by Deaf people in South Africa, and the medium of instruction for the education of Deaf learners, promulgated in the South African Schools Act, Act 84 of 1996 (Republic of South Africa, 1996). As a signatory of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) (United Nations, 2006), the South African government is legally required to ensure that persons with disabilities have full and equal enjoyment of all human rights. The findings of the study indicated that the training and development program sought to give effect to the UNCRPD imperative through the provision of SASL interpreters during all classes and site visits, to ensure full access to information (Article 9); and facilitate the use of SASL as a preferred method of communication for Deaf participants. Further, interaction through WhatsApp groups enabled communication and sharing of information (Article 21) among both Deaf and hearing participants. The right of Deaf Teaching Assistants to access education on an equal basis to their peers was endorsed, through the provision of an inclusive learning experience that respected their linguistic and cultural uniqueness (Article 24). Document analysis and lesson observations confirmed that numerous steps were taken to ensure access by Deaf students to the ECD practitioner's training curriculum, which included flexibility in the delivery of the program, the use of Sign Language Interpreters, and an appropriate pace followed during training sessions.

A significant issue that was foregrounded in the study is that Sign Language interpretation is not merely a technical process but a relational one as well. The process is intense and thus it is necessary to include more than one interpreter per day. However, this has significant cost implications. In critiquing the program, managers and trainers were of the view that in order to ensure the sustainability and up-scaling of programs that are inclusive of Deaf students in the future, provision must be made by the Department of Education to cover the cost of Sign Language Interpreters.

Another important learning from the study was that epistemological access would be enhanced if program facilitators were oriented concerning teaching practices that are employed when working with Deaf students and a Sign Language Interpreter. It may be helpful for the trainers to have at least basic SASL skills and to understand how to communicate with a Deaf person when an interpreter is not available. The

project managers in their critical reflections conceded that these components should be included as part of staff development.

> *"We have also noted that there is a need for facilitators to be trained and consistently reminded of the specific teaching methodologies that are required for the successful facilitation of Deaf students. This includes speaking a little slower, pause speaking while students write notes or copy information (as they cannot watch the interpreter and write notes simultaneously), and intersperse direct teaching with activities (both to give the interpreter a break and to give their eyes a rest). The physical layout of the classroom and positioning of the facilitator and interpreter have been adapted to ensure visibility for the Deaf students"* (Mid-term review document).

Further, the findings suggest that the same interpreter/s should be used throughout the duration of the training program, in order to strengthen relationships between interpreter, trainer and students, and to ensure continuity and consistency. Similarly, the Sign Language interpreters ideally should have some background on the content area (ECD) so that they are able to accurately explain the content and concepts associated with it. In an interview, one of the trainers critically reflected on this challenge, and explained how it was managed:

> *"It has also been noted that making use of an interpreter who has no background knowledge in educational interpreting nor of ECD theories and practices is a challenge. The quality of the interpreted message can be compromised. These factors therefore have the potential to exclude deaf students from full participation and has to be carefully managed. We do ensure that the content of the lessons for the next session(s) is shared with the interpreter(s) to give them a chance to prepare"* (Trainer, Mid-term review document).

In summary, the key provision to ensure epistemological access for Deaf students was the provision of SASL. However, it was recognized that this needed to be both technical support, with interpreters knowledgeable about the field of ECD, as well as relational support in developing rapport with the student group. This reasonable accommodation was further enhanced by ensuring that other communication channels were accessible to Deaf participants, such as the use of WhatsApp messaging for notifications. Heightened awareness of visual cues and use of colours for ECD resources had a direct benefit both for trainees and for the children for whom they were developed.

The findings of this study have important implications for policy makers, specifically in complying with the legal mandate to ensure inclusion of persons with disabilities at all levels of the education system. As a case study, the program run by New Beginnings and DeafSA itself illustrates the value and role of partnerships in training courses that are inclusive of diverse students. The applicability of CK on ECD to both Deaf and hearing students was confirmed but could be further extended to include specific provisions for young children with hearing (and other) impairments, such as Individual Education Plans and use of assistive technology. Furthermore, PK and epistemological access could only be achieved through the provision of reasonable accommodation of SASL. These are factors that must be taken into account in developing and delivering the curriculum for diverse children and practitioners in the

ECD sector, with political commitment accompanied by the necessary budgetary provisions.

4. Conclusion

This qualitative case study illustrates the possibility and potential of including Deaf and hearing participants in a program that addresses both CK and PK in the field of ECD. While learnings have been made in respect of the content and pedagogy of the program itself, as well as epistemological access, the study also raises questions about access to opportunities for higher education for Deaf candidates in the ECD field, which has been grossly neglected in South Africa. Many of the Deaf students in the program expressed a desire to improve their qualifications (following completion of the current Further Education and Training Certificate), but it is a concern that higher education institutions may not be ready to receive them. It is thus essential to expand study options and career paths which are accessible for Deaf candidates, and which have the necessary support in place, including Sign Language interpretation. As part of realizing its obligations under the Convention on the Rights of Persons with Disabilities (United Nations, 2006), government must work to facilitate such access through colleges and universities. Further, under the UNCRPD there is a mandate to ensure inclusive education "at all levels" including pre-school and tertiary levels. This case study is an example of how reasonable accommodations can enrich the learning environment for diverse students, as well as how Deaf ECD practitioners themselves serve as role models of inclusivity of education for marginalized groups.

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References

Bekink, M. (2022). "The right of children with disabilities to early childhood development: Is South Africa complying with international law?" South African Journal on Human Rights, vol. 38, no. 3–4, pp. 192–214. doi: 10.1080/02587203.2022.2149421

Bruns, D. A., and Mogharreban, C. C. (2007). "The gap between beliefs and practices: Early childhood practitioners' perceptions about inclusion," Journal of Research in Childhood Education, vol. 21, no. 3, pp. 229–241. doi: 10.1080/02568540709594591

Carpenter, T. P., Fennema, E., Petersen, P., and Carey, D. (1988). "Teachers' pedagogical content knowledge of students' problem solving in elementary arithmetic," Journal for Research in Mathematics Education, vol. 19, no. 5, pp. 385–401. doi: 10.2307/749173

Clarke, V., and Braun, V. (2014). "Thematic analysis," in T. Teo, Ed., Encyclopedia of Critical Psychology, New York, NY: Springer, pp. 1947–1952. [Online]. Available: https://www.researchgate.net/publication/269930624_Thematic_Analysis

Crowe, S., Cresswell, K., Robertson, A., Huby, G., Avery, A., and Sheikh, A. (2011). "The case study approach," BMC Medical Research Methodology, vol. 11, Art. no. 100, doi: 10.1186/1471-2288-11-100

Department of Basic Education, Report on the implementation of education White Paper 6 on Inclusive Education. An overview for the period 2013–2015, Pretoria, South Africa: Government Printers, May. 2015. [Online]. Available: https://static.pmg.org.za/160308overview.pdf

Department of Education, The Education White Paper 6 on Inclusive Education, Pretoria, South Africa: Government Printers, 2001.

Department of Higher Education and Training, Policy on minimum requirements for programs leading to qualifications in higher education for early childhood development educators, 2017. [Online]. Available: https://www.dhet.gov.za/Teacher%20Education/Policy%20on%20minimum%20requirements%20-%20ECD.pdf

Gess-Newsome, J., Taylor, J. A., Carlson, J., Gardner, A. L., Wilson, C. D., and Stuhlsatz, M. A. M. (2019). "Teacher pedagogical content knowledge, practice and student achievement," International Journal of Science Education, vol. 41, no. 7, pp. 944–963. doi: 10.1080/09500693.2016.1265158

Granberg, C., Palm, T., and Palmberg, B. (2021). "A case study of a formative assessment practice and the effects on students' self-regulated learning," Studies in Educational Evaluation, vol. 68, Art. no. 100955. doi: 10.1016/j.stueduc.2020.100955

Karisa, A., Samuels, C., Watermeyer, B., McKenzie, J., and Vergunst, R. (2002). "Priorities for access to early childhood development services for children with disabilities in South Africa," South African Journal of Childhood Education, vol. 12, no. 1, Art. no. 1119. doi: 10.4102/sajce.v12i1.111

Leijen, Ä., Malva, L., Pedaste, M., and Mikser, R. (2022). "What constitutes teachers' general pedagogical knowledge and how it can be assessed: A literature review," Teachers and Teaching, vol. 28, no. 2, pp. 206–225. doi: 10.1080/13540602.2022.2062710

Maluleke, N. P., Khoza-Shangase, K., and Kanji, A. (2021). "School readiness and academic achievement of children with hearing impairment: A South African exploratory study," South African Journal of Childhood Education, vol. 11, no. 1, Art. no. 898, doi: 10.4102/sajce.v11i1.898

McKee, M., Schlehofer, D., and Thew, D. (2013). "Ethical issues in conducting research with deaf populations," American Journal of Public Health, vol. 103, no. 12, pp. 2174–2178. doi: 10.2105/AJPH.2013.301343

Meier, C., Lemmer, E., and Gören Niron, D. G. (2015). "Problems and prospects in early childhood education provisioning in Turkey and South Africa," Journal of Asian and African Studies, vol. 52, no. 4, pp. 444–457. doi: 10.1177/0021909615595989

Mishra, S., and Dey, A. K. (2022). "Understanding and identifying 'themes' in qualitative case study research," South Asian Journal of Business and Management Cases, vol. 11, no. 3, pp. 187–192. doi: 10.1177/22779779221134659

Murris, K. (2019). "Children's development, capability approaches and post-developmental child: The birth to four curriculum in South Africa," Global Studies of Childhood, vol. 9, no. 1, pp. 56–71. doi: 10.1177/2043610619832894

Priya, A. (2021). "Case study methodology of qualitative research: Key attributes and navigating the conundrums in its application," Sociological Bulletin, vol. 70, no. 1, pp. 94–110. doi: 10.1177/0038022920970318

Republic of South Africa, National Development Plan 2030: Our future-Make it work, Boksburg, South Africa: Sherino Printers, 2012. [Online]. Available: https://www.gov.za/sites/default/files/gcis_document/201409/ndp-2030-our-future-make-it-workr.pdf (accessed Jul. 14, 2022).

Republic of South Africa, South African Schools Act, Pretoria, South Africa: Government Printers, 1996. [Online]. Available: https://www.gov.za/documents/south-african-schools-act (accessed Jan. 11, 2023).

Shing, C. L., Saat, R. M., and Loke, S. H. (2015). "The knowledge of teaching—Pedagogical Content Knowledge (PCK)," Malaysian Online Journal of Educational Sciences, vol. 3, no. 3, pp. 40–55. [Online]. Available: https://mojes.um.edu.my/index.php/MOJES/article/view/12781/8206

Shulman, L. S. (1986). "Those who understand: Knowledge growth in teaching," Educational Researcher, vol. 15, no. 2, pp. 4–14. doi: 10.3102/0013189X015002004

Shulman, L. S. (1987). "Knowledge and teaching: Foundations of the new reform," Harvard Educational Review, vol. 57, no. 1, pp. 1–23.

Tobin, J., Hsueh, Y., and Karasawa, M. Preschool in three cultures revisited: China, Japan, and the United States. Chicago and London: University of Chicago Press, 2009.

Tobin, J., Wu, D., and Davidson, D. Preschool in three cultures: Japan, China, and the United States. New Haven, CT: Yale University Press, 1989.

Toom, A., Pyhältö, K., Pietarinen, J., and Soini, T. (2021). "Professional agency for learning as a key for developing teachers' competencies?" Education Sciences, vol. 11, no. 7, Art. no. 324. doi: 10.3390/educsci11070324

United Nations, Convention on the Right of Persons with Disabilities, New York: United Nations, 2006. [Online]. Available: https://www.refworld.org/legal/agreements/unga/2006/en/90142 (accessed Mar. 3, 2023).

Vandermaas-Peeler, M., Westerberg, L., and Fleishman, H. (2019). "Bridging known and new: Inquiry and intersubjectivity in parent-child interactions," Learning, Culture and Social Interaction, vol. 21, pp. 124–135. doi: 10.1016/j.lcsi.2019.02.011

Viruru, R. Early childhood education. Postcolonial perspectives from India. London, New Dehli: Sage Publications Inc., 2000.

Vygotsky, L. S. Mind in society: The development of higher psychological processes, Cambridge, MA: Harvard University Press, 1978.

Yang, W., and Li, H. (2019). "Changing culture, changing curriculum: A case study of early childhood curriculum innovations in two Chinese kindergartens," The Curriculum Journal, vol. 30, no. 3, pp. 279–297. doi: 10.1080/09585176.2019.1568269

Yin, R. K. Case study research, design and method, 4th ed. London: Sage Publications Inc., 2009.