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School readiness in South Africa: Concept analysis and plain language summary

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Background: The concept of school readiness is well-defined internationally. However, it is unclear how the concept is defined and used in South Africa or understood by preschool teachers.

Aim: The aim of this analysis was to develop a clear and accessible summary of the concept of school readiness in South Africa for preschool teachers.

Methods: An eight-step systematic approach, including the use of the preferred reporting items for systematic reviews and meta-analysis guidelines, was followed to identify research conducted in South Africa that defined school readiness, and to complete a concept analysis. A subsequent seven-step process was followed to create a Plain Language Summary (PLS) of the contextual definition of school readiness.

Results: Using ATLAS.ti software, we identified 619 quotations related to school readiness. Through inductive thematic analysis we identified 48 unique concept codes followed by eight categories or attributes of school readiness. The contextual definition of school readiness was developed in plain language and is stated as children who are fully prepared for school can engage in meaningful learning, because they have developed the necessary behavioural, intellectual, language, literacy, numeracy, physical, socio-emotional and classroom skills for formal schooling.

Conclusion: A South African school readiness definition, that is consistent with the way school readiness is understood internationally, was developed in plain language. Although the concept of school readiness is not unique to South Africa, the ways in which it is promoted is contextually bound.

Contribution: This PLS may contribute to sustainable and affordable access to culture-centred preschool teacher training content.

Keywords: school readiness; early childhood development; preschool; contextual relevance; South Africa.

Introduction

School readiness is a pivotal point for a child's learning trajectory and later success in life (Duncan et al. 2007; Heckman & Karapakula 2019; Ramey & Ramey 2004; UNICEF 2019). Benefits of school readiness include later school achievements, better economic, psychological and health outcomes, as well as multi-generational benefits (Belfield et al. 2006; Black et al. 2017; Heckman & Karapakula 2019; UNICEF 2019). The economic investment in school readiness also outweighs the cost implications of remedial input, grade repetition, teen pregnancy, drug use, high school drop-out and long-term unemployment (Campbell et al. 2002; Heckman & Karapakula 2019). Children growing up in poverty are at higher risk of not reaching milestones, such as school readiness (Sambu & Hall 2019). This is a particular concern in South Africa, where about 60% of children are growing up in poverty (Maluleke 2020), and up to 50% of children entering Grade 1, do not test ready for school (Janse Van Rensburg 2015). One of the main contributing factors is a lack of teacher training (Janse Van Rensburg 2015; Ramey & Ramey 2004).

One of the problems with school readiness in South Africa is the lack of consistency in the terms used to define and describe it and related concepts in government documents and research publications. While school readiness is multidimensional, only some dimensions are commonly referred to and included in published research, for example, cognitive development such as grasp of colours and shapes, or socio-emotional or behavioural readiness. These definitions do not represent the scope of school readiness within our context. This contrasts with the UNICEF definition

that includes physical well-being, social and emotional competence and cognitive and communication abilities, overall curiosity and motivation to learn, often referred to as school readiness skills (UNICEF 2012). The UNICEF also includes getting the child, school, and family ready for school. However, in order to do this, there needs to be a common understanding of what school readiness is. This common understanding needs to extend to preschool teachers who may not have a formal qualification but are caring for children in early childhood development (ECD) centres.

The definition of school readiness often referenced in South African publications is from an American publication and is defined as a learner being physically, cognitively, affectively, normatively, socio-culturally and linguistically ready for their school career (Powell 2010). Similarly, Williams et al. (2019) define school readiness within the American context as readiness in the child that includes physical well-being and sensory motor development, social and emotional development, approaches to learning, language development and general knowledge and cognition. Each of these aspects of school readiness in turn includes skills such as early literacy and math skills. These authors concluded that certain qualities are essential for a child's readiness for school, such as physical and nutritional well-being, intellectual skills, a child's motivation to learn, as well as their social-emotional capacity and support. Although definitions of school readiness are available in the literature, these definitions may not be accessible to all preschool teachers and parents of young children. In a multi-lingual society like South Africa, a clear summary of the concept of school readiness and each of its components in easy to read and non-technical language would promote a common understanding of school readiness among all key stakeholders.

A systematic review on the relationship between teacher education and the quality of ECD concludes that higher teacher qualifications significantly correlate with higher quality early childhood education and care (Manning et al. 2017). The UNESCO also prioritised the training of early childhood educators in an effort to improve the quality of early childhood education and care, especially for vulnerable and disadvantaged children (Sun, Rao & Pearson 2015). An important component to this education is knowing what school readiness is, and how to develop it. Excell (2016), however, argues that such a framework lacks definitions that are contributed to and understood by stakeholders and thus, to define quality in ECD, research must include participatory methods which in turn must include all stakeholder groups.

Methods

In order to empower all South Africans who take care of young children and prepare them for school, there needs to be a common understanding of what school readiness is, explained in simple terms. A plain language summary (PLS) of a contextual definition of school readiness could assist in this process and was created by making use of a concept analysis method. A clear, eight-step iterative process to carefully examine a concept, as outlined by Walker and Avant (2011), was used to explore school readiness within a low-resource setting in South Africa to develop a PLS to present to stakeholders. These stakeholders include teachers and caretakers of young children in low-resource communities in South Africa, as well as experts in education and motor development, such as lecturers in education and occupational therapy. A PLS is typically used for stakeholders in consensus methods to make brief, jargon-free information available to a non-expert audience (Edgell & Rosenberg 2022; Kerwer et al. 2021; Löhr, Weinhardt & Sieber 2020).

Concept analysis traditionally follows an eight-step process, as outlined in the work of Walker and Avant (2011) presented in Table 1. However, to create a PLS of these concepts, a seven-step process as suggested by Dormer et al. (2022) is followed, as presented in Table 2. These two processes were followed sequentially to create the nontechnical literature review.

Concept analysis

Selecting a concept

School readiness as it is currently used in South Africa was the preselected concept for this analysis. This term is sometimes replaced with readiness for school.

Determining the aim and purpose of the analysis

The aim of this analysis is to develop a clear and accessible summary of the concept of school readiness in South Africa for preschool teachers in low-resource settings. The purpose of this analysis is to define school readiness in nontechnical terms, within the South African context. Nontechnical terms can also be called PLS.

TABLE 1: Walker and Avant's (2011) concept analysis process.

Number	Steps
1.	Selecting a concept
2.	Determining the aim or purpose of analysis
3.	Identifying all forms of concept usage
4.	Determining the concept's defining attributes
5.	Identifying a model case
6.	Identifying additional cases
7.	Identifying antecedents and consequences
8.	Defining empirical referents – Replaced with a validation process with a reference panel (Hansen, Erlandsson & Leufstadius 2021)

Source: Walker, L.O. & Avant, K.C., 2011, Strategies for theory construction in nursing, 5th edn., Prentice Hall, Upper Saddle River, NJ

Note: Eight-step process for concept analysis.

TABLE 2: Dormer et al. (2022) suggested steps for plain language summary.

Number	Steps
1.	Rationale and scope
2.	Identify your target audience
3.	Consider dissemination channels
4.	Identify key-stakeholders for co-creation – Create a plain language summary team
5.	Write the plain language summary
6.	Disseminate information
7.	Track dissemination and measure success

Source: Dormer, L., Schindler, T., Williams, L.A., Lobban, D., Khawaja, S., Hunn, A. et al., 2022, 'A practical "how-to" guide to plain language summaries (PLS) of peer-reviewed scientific publications: Results of a multi-stakeholder initiative utilizing co-creation methodology', Research Involvement and Engagement 8(1), 23. https://doi.org/10.1186/s40900-022-00358-6

Note: Seven-steps of creating a plain language summary.

Identifying all forms of concept usage

The preferred reporting items for systematic reviews and meta-analysis (PRISMA) (Moher et al. 2016) process were followed to identify the dataset for the concept analysis. The following search terms were developed: 'school readiness' OR 'readiness for school' AND 'South Africa*' within any text of the article. The search was conducted in the EBSCOHOST database which included Academic Search Premier, Africa-Wide Information, CINAHL, ERIC and Teacher Reference Centre. A pilot search was conducted to determine the type and accuracy of the information yielded with this approach. The formal search was conducted on 08 November 2022 and yielded 236 results, which included peer-reviewed literature published in English. An additional publication was added through hand-searching of the literature. Covidence software (2023) was used to manage the selection process of the data set. The title and abstract screening were completed by the first reviewer, and the full text screen was completed by two reviewers. The inclusion criteria were developed through an iterative process and included both a focus on the definition or scope of school readiness and a link to the South African context or partner. After the title and abstract screen, 56 articles were selected for full text screening and 41 included for data extraction. We planned to resolve conflicts by reaching consensus between reviewers. However, there were no conflicts during the full text screening phase. Figure 1 represents the PRISMA process for the selection of the data set, and Table 3 represents a list of the articles included in the data set, along with data categories of title, journal of publication and year of publication as extracted from each article.

Data analysis

All data extraction, analysis and coding were conducted using ATLAS.ti software (2022). The complete data set of 41 articles were uploaded to ATLAS.ti. Any definitions or text related to school readiness were extracted from these articles. The 619 quotations that were extracted were initially coded as school readiness in ATLAS.ti. The 619 quotations were then inductively analysed to identify 48 unique codes or concepts under school readiness. These were then grouped to form eight categories. A contextual school readiness definition was developed for each category, and for the concept of school readiness. Four articles contributed to all eight categories. No single category was represented across all 41 articles. Table 4 represents a snapshot of the analysis process for physical development as an attribute of school readiness.

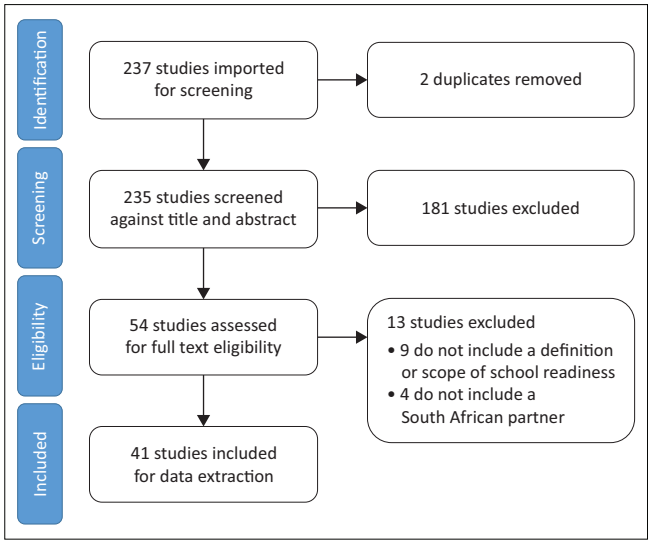

FIGURE 1: Selection of studies according to preferred reporting items for systematic reviews and meta-analysis.

To ensure validity in practice, a Microsoft Form was sent to six stakeholders and experts, who formed a reference panel for the validation of the concepts of school readiness within South Africa. These experts were invited because of their expertise in the field of school readiness and early childhood education. The responses were given after the definition of school readiness and related concepts were presented, along with the case descriptions in email format, to each of the experts. The feedback is presented in Table 5. Each panellist could assess their level of agreement with the included statements, by indicating their agreement with the statement using a 7-point scale. Agreeing to a very small extent would be represented by awarding 1 and agreeing to a very great extent by a 7. Three levels of agreements were clustered as follows: low agreement (indicated by scores of 1–3), non-aligned agreement (indicated by a score of 4) and a high level of agreement (indicated by a score of 4–7). Responses for each question were processed and a median response was calculated for each question.

Ethical considerations

Ethical clearance to conduct this study was obtained from the Stellenbosch University Health Research Ethics Committee (No. S22/08/151).

Review findings

The 41 articles included were published in a variety of South African, African and international journals. Eleven journals published one of the included articles each. Two articles each were published in the *African Journal of Psychological Assessment*, *Early Childhood Education Journal*, *South African Journal of Education* and *Australasian Journal of Early Childhood*. Three were published in *Early Child Development and Care*, and four articles in *Child: Care, Health and Development*. Five were published in the *South African Journal of Occupational Therapy* and 10 in the *South African Journal of Childhood Education*. The included articles were published between 1994 and 2022, with more than 50% (n = 21) published in the last 4 years (2019–2022).

The cumulative definition of school readiness in South Africa, drawn from these articles, is a multidimensional concept that includes readiness considerations in behavioural, intellectual, language, literacy, numeracy, physical, socio-emotional and classroom domains.

Behavioural readiness refers to a child's ability to adapt easily and effectively to the classroom environment without emotional disturbance. A child is expected to be able to manage their own behaviour through inhibitory control, self-regulation and normative adjustment.

TABLE 3: Articles included in data set.

No.	Title	Journal	Year
1	A Parental mHealth Resource Targeting Emergent Literacy: An Experimental Study (Scheepers et al. 2021)	*Early Childhood Education Journal*	2021
2	A study protocol 'saving futures: Developing an integrated model of rehabilitation and paediatric HIV care to foster success at school' (Chetty et al. 2018)	*Pilot and Feasibility Studies*	2018
3	A systems perspective on early childhood development education in South Africa (Venter 2022)	*International Journal of Child Care and Education Policy*	2022
4	Adversity and psychosocial competence of South African children (Barbarin & Richter 1999)	*American Journal of Orthopsychiatry*	1999
5	Bridging the gap between advantaged and disadvantaged children: Why should we be concerned with executive functions in the South African context? (Fitzpatrick 2014)	*South African Journal of Childhood Education*	2014
6	Communication and school readiness abilities of children with hearing impairment in South Africa: a retrospective review of early intervention preschool record (Maluleke, Khoza-Shangase & Kanji 2019)	*South African Journal of Communication Disorders*	2019
7	Contesting schoolification through snapshots of pedagogy-in-participation in early childhood development centres in South Africa (Bipath & Theron 2020)	*Perspectives in Education*	2020
8	Contextualising school readiness in South Africa: Stakeholders' perspectives (Munnik & Smith 2019a)	*South African Journal of Childhood Education*	2019
9	Deficiencies within the Education System with Regard to Perceptual Motor Learning Preparation of Grade R Learners (Erasmus et al. 2011)	*South African Journal of Childhood Education*	2011
10	Development of a Task-Based Bilateral fine Motor Skill Assessment for Grade 0 Children in South Africa (Ratcliffe, Franzsen & Bischof 2013)	*South African Journal of Occupational Therapy*	2013
11	Dominant preference and school readiness among grade 1 learners in Bloemfontein (De Milander et al. 2014)	*South African Journal of Child Health*	2014
12	Early Childhood Development and the Crosstrainer Programme in Rural Mahikeng (De Villiers, Homan & Van Rooyen 2019)	*South African Journal of Occupational Therapy*	2019
13	Early Learning Experiences, School Entry Skills and Later Mathematics Achievement in South Africa (Visser, Juan & Hannan 2019)	*South African Journal of Childhood Education*	2019
14	Emergent Literacy Support for Children from Marginalised Populations (Moonsamy & Carolus 2019)	*Folia Phoniatrica et Logopaedica*	2019
15	Emergent literacy: Why should we be concerned? (De Witt 2009)	*Early Childhood Development and Care*	2009
16	Everyday Literacy Practices: Normalising the School Literate Child (Martin 2021)	*South African Journal of Childhood Education*	2021
17	Inclusive Education and Insufficient School Readiness in Grade 1: Policy versus Practice (Bruwer, Hartell & Steyn 2014)	*South African Journal of Childhood Education*	2014
18	Methodological rigour and coherence in the construction of instruments: The emotional social screen for school readiness (Munnik & Smith 2019b)	*African Journal of Psychological Assessment*	2019
19	Motor skill intervention for pre-school children: A scoping review (Van Der Walt, Plastow & Unger 2020)	*African Journal of Disability*	2020
20	Parents and caregivers knowledge of school readiness for children admitted to Grade R and Grade 1 (De Witt, Du Toit & Franzsen 2020)	*South African Journal of Occupational Therapy*	2020
21	Parents as Partners Building Collaborations to Support the Development of School Readiness Skills in Under-Resourced Communities (Pitt et al. 2013)	*South African Journal of Education*	2013
22	Promoting the development of foundation phase learners in under-resourced environments using Ayres Sensory Integration® principles and custom-designed, low-cost playgrounds (Van Jaarsveld et al. 2021)	*South African Journal of Occupational Therapy*	2021
23	Relationships between academic performance, SES school type and perceptual-motor skills in first grade South African learners NW-CHILD study (Pienaar, Barhorst & Twisk 2014)	*Child: Care, Health and Development*	2014
24	School Readiness and Academic Achievement of Children with Hearing Impairment: A South African Exploratory Study (Maluleke, Khoza-Shangase & Kanji 2021)	*South African Journal of Childhood Education*	2021
25	South Africa's Young Children Winning or Losing (Eckstein 1994)	*International Journal of Early Childhood*	1994
26	South African preschool teacher perceptions of socio emotional development for school readiness: An exploratory study (Goldschmidt & Pedro 2020)	*Journal of Psychology in Africa*	2020
27	The application of positive parenting interventions to academic school readiness: A scoping review (Prime et al. 2021)	*Child: Care, Health and Development*	2021
28	The development of a South African Early Learning Outcomes Measure: A South African instrument for measuring early learning program outcomes (Snelling et al. 2019)	*Child: Care, Health and Development*	2019
29	The effect of a learner-support intervention on perceptual-motor skills of kindergarten learners from deprived environments (Loubser et al. 2016)	*Australasian Journal of Early Childhood*	2016
30	The Effect of a Perceptual-Motor Intervention on the Relationship Between Motor Proficiency and Letter Knowledge (Botha & Africa 2020)	*Early Child Education Journal*	2020
31	The effect of a perceptual–motor intervention programme on learning readiness of Grade R learners from South African deprived environments (Erasmus et al. 2016)	*Early Child Development and Care*	2016
32	The Evaluation of an Intervention Programme for Reception Learners Who Experience Barriers to Learning and Development (Rossi & Stuart 2007)	*South African Journal of Education*	2007
33	The influence of a school readiness program on the language and phonological awareness skills of preschool children in rural areas of South Africa (De Witt & Lessing 2016)	*Australasian Journal of Early Childhood*	2016
34	The relationship between gross motor skills and school readiness in early childhood: making the case in South Africa (Sherry & Draper 2013)	*Early Child Development and Care*	2013
35	The Relationship between School Readiness and School Performance in Grade 1 and Grade 4 (Van Zyl 2011)	*South African Journal of Childhood Education*	2011
36	The School Readiness Performance of a Group of Grade R Learners in Primary Schools in the Gauteng Province of South Africa (Janse Van Rensburg 2015)	*South African Journal of Childhood Education*	2015
37	The South African universal preschool year a case study of policy development and implementation (Richter & Samuels 2018)	*Child: Care, Health and Development*	2018

Table 3 continues on the next page→

TABLE 3 (Continues...): Articles included in data set.

No.	Title	Journal	Year
38	Towards Quality Early Childhood Development for Refugee Children an Exploratory Study of a Grade R Class in a Durban Child Care Centre (Adams-Ojugbele & Moletsane 2019)	*South African Journal of Childhood Education*	2019
39	Transition of children from preschool and home contexts to grade 1 in two township primary schools in South Africa (Margetts & Phatudi 2013)	*European Early Childhood Education Research Journal*	2013
40	Usability of eLearning interventions for teachers and day care workers in Africa a scoping review protocol (De Wit & Plastow 2020)	*South African Journal of Occupational Therapy*	2020
41	Validation of the emotional social screening tool for school readiness (Munnik, Wagener & Smith 2021)	*African Journal of Psychological Assessment*	2021

Source: Please see the full reference list of the article, De Wit, M., Swartz-Filies, S., Van der Walt, J., Clarke, C., Worship, L., Smit, C. et al., 2023, 'School readiness in South Africa: Concept analysis and plain language summary', *South African Journal of Childhood Education* 13(1), a1396. https://doi.org/10.4102/sajce.v13i1.1396

TABLE 4: Snapshot of the analysis process for physical development as an attribute of school readiness.

Concepts within definitions	Coding	Grouping – Attribute
Process		
'gross motor skills' (Venter 2022)	Gross motor skills	**Physical readiness:** A child needs sufficient physical and motor development by the time they enter school, to meet the demands of formal education, which includes motor skills (e.g. gross motor, fine motor), sensory-motor skills, perceptual-motor skills and all writing skills.
'gross motor coordination' (Visser et al. 2019)		
'jumping' (Visser et al. 2019)	Motor skills	
'balancing' (De Witt et al. 2020)		
'motor abilities' (De Witt et al. 2020)	Motor development	
'motor competencies' (Pitt et al. 2013)		
'physical preparedness' (Fitzpatrick 2014)	Physical development	
'physical well-being and growth' (Bipath & Theron 2020)		
'fine muscle development' (Erasmus et al. 2016)	Fine motor	
'fine motor skills' (Van Der Janke et al. 2020)		
'coordinated movements' (Erasmus et al. 2016)	Coordination	
'locomotor and object control skills' (Sherry & Draper 2013)		
'sensorimotor feedback' (Botha & Africa 2020)	Sensory motor	
'sensory-motor' (Sherry & Draper 2013)		
'visual motor integration' (Snelling et al. 2019)	Perceptual motor	
'perceptual motor skills' (Loubser et al. 2016)		
'emergent writing' (Scheepers et al. 2021)	All writing	
'writing' (De Witt et al. 2020)		

Source: Please see the full reference list of the article, De Wit, M., Swartz-Filies, S., Van der Walt, J., Clarke, C., Worship, L., Smit, C. et al., 2023, 'School readiness in South Africa: Concept analysis and plain language summary', *South African Journal of Childhood Education* 13(1), a1396. https://doi.org/10.4102/sajce.v13i1.1396

Intellectual readiness is described as a child's preparation for the classroom setting through previous cognitive and intellectual stimulation, including the development of sufficient general knowledge to engage in the classroom environment. This includes the cognitive skills of attention, concentration, following instructions, reasoning and problem-solving and memory skills.

Language readiness refers to the communication and language skills needed for engaging in classroom activities. Included in this is sufficient vocabulary, receptive and expressive language, phonemic awareness and listening and speaking skills.

Literacy readiness includes a sufficient understanding of concepts needed for learning to read and write. Emergent literacy skills such as interest in reading, alphabet knowledge, reading some words and stories and spelling are included.

TABLE 5: The ratings of agreement among the panel of experts.

Questions for the validation of school readiness concepts in South Africa	Panel of Experts						Median response
	I	II	III	IV	V	VI	
1. How relevant is a definition of the concept: school readiness in South Africa, for research?	6	7	7	7	7	7	7
2. How relevant is a definition of the concept: school readiness in South Africa, for practice?	7	7	7	7	7	7	7
3. How relevant is a definition of the concept: school readiness in South Africa, for clients?	6	6	7	7	7	5	6.5
4. To what extent has the conceptual definition given you a better understanding of the concepts of school readiness in South Africa?	7	6	7	7	6	7	7
5. To what extent are the described model cases meaningful?	7	6	7	7	6	7	7
6. Is the model case recognisable as a description of a child's school readiness attributes?	7	6	7	6	6	7	6.5
7. Is the contrary case recognisable as a description of a child's lack of school readiness attributes?	6	6	7	7	6	7	6.5
8. To what extent do you think that the attributes of school readiness were clarified?	6	6	7	7	5	7	6.5
9. To what extent do you consider that the conceptual definition of school readiness, can be used in practice within the South African context?	7	7	7	7	6	7	7

Furthermore, visual perceptual skills such as spatial orientation, foreground, background and organisation of visual information are also essential for literacy readiness.

Numeracy readiness includes knowledge of basic concepts (such as colours, shapes, sequencing and comparisons) numerical understanding, counting and number identification and number line estimation.

Physical readiness comprises the physical and motor development needed to meet the demands of formal education. This development includes motor skills (e.g. gross motor, fine motor), sensory-motor skills, perceptual-motor skills and all writing skills.

Socio-emotional readiness for school readiness means that a child is not only emotionally, socially and culturally ready for school, but also includes socio-cultural and social emotional readiness for the demands of formal schooling.

A child who is *classroom ready* can meet the challenges of the classroom setting through independence, managing their own activities of daily living, and they have mastered classroom skills and play. They are also classroom ready in terms of their spiritual education and mental well-being.

Identifying a model case

The use of a descriptive model case helps to better understand the concept and contains all the defining attributes of the concept as identified through the analysis (Walker & Avant 2011), which also supports the integrity of the analysis through the illustration of the use of the concept and its attributes.

It is clear that Lihle has all the attributes of a school ready child and that she is ready to face the classroom challenges with eagerness (Box 1).

Identifying additional cases

Walker and Avant (2011) propose the description of different cases, such as a borderline case where, for example, a child does not have all the defining attributes of school readiness as well as a contrary case where a child does not have any of the defining attributes of a school ready child.

Although Samuel is a child with much potential and shows readiness for learning in the areas of intellectual, language, literacy, numeracy and physical readiness, it does seemlike his behavioural development, socio-emotional development and classroom readiness have not matured to the required level where he is ready to enter the formal school setting (Box 2).

Hannah has known developmental delays in the areas of behavioural, intellectual, language, literacy, numeracy, physical and socio-emotional development and classroom readiness (Box 3).

One of the experts contributing to the development of the case studies warned that identifying borderline cases is very challenging, especially within the South African context.

BOX 1: A model case as represented by Lihle's case study.

Lihle is a 6-year-old girl who grew up in a low-resource community in the Western Cape. She has two older siblings and is starting school in two months. During her visit to her new primary school with a group of her peers, it became apparent to the teacher that Lihle could eat a snack and clean and clear the table without help when she was done. She used the toilet independently and was able to wash and dry her hands without being asked by her mother or the teacher. Before they sat down at the table in groups of six, she was able to play with enthusiasm and was able to separate from her mother in this new environment.

It was clear that she had no difficulty understanding the implicit norms of the formal classroom setting and could control her own behaviour when two other learners had difficulty waiting their turn and sharing crayons. Lihle completed a few worksheets after carefully listening to the teacher's instructions and remembered where to hand in her work when she was done. No glue sticks were available at her table to complete the activity and she raised her hand to get the teacher's attention after she has also enquired from her table mates if they had glue sticks and found none.

Lihle was able to answer general questions the teacher asked the group, was also able to talk to her peers at the table, explain how to complete the activity and ask for the glue stick when she needed to. She was able to communicate clearly, and her peers and teacher were able to easily understand her. She could name letter and letter sounds, write her name on the activity page and easily found the required shapes which she had to colour during the activity. She was also able to count specific shapes and identify the associated number by drawing a circle around the correct number. It was clear that she had a comfortable and strong pencil grasp.

During break, they also had the opportunity to explore the playground and equipment. She was able to play throw and catch with a new friend she has made and was also able to throw a beanbag at a target after she was taught a new game. Although Lihle was somewhat shy at times, she could show one of her new friends how to play the game they have just learned and also how she played certain games at home and was sad when it was time to leave, as she would only see her new friends when school officially started in the new school year.

Munnik and Smith (2019a) identified barriers that affect school readiness in South Africa; however, learners are still promoted to Grade 1, regardless of whether they are ready for the formal school environment and for formal learning. Therefore, we included an additional borderline case study as discussed further in the text (Box 4).

Bruwer et al. (2014) argue that there are life-long effects of insufficient language development on formal learning, yet many learners are still placed in formal school situations, where they do not have a sufficient command of the language of instruction.

Identifying antecedents and consequences

Walker and Avant (2011) included both antecedents and consequences as important parts of the concept analysis

BOX 2: A borderline case as represented by Samuel's case study.

Samuel, a friendly boy with curious eyes was also part of the group who visited the primary school with Lihle. His mom and dad were both there and he was happy to participate in the program for the day, as long as his parents stayed within his sight. Samuel is an only child and comes from a middle-class neighbourhood where his mom and grandmother took care of him at home during the day. He had many friends and playdates over the years but has never been to a formal school program. He needed his parents' encouragement to go and play outside during the break. He waited for his mom to open his yogurt and promptly got up to play with a toy when he was done eating. He started crying when his mom insisted that he cleaned the table after he was done with the snack. He could use the toilet independently, but his dad buttoned his pants without giving Samuel a chance to try and do it himself. Samuel also washed his hands by himself when he was asked by the teacher but could not manage to keep the area and his clothes dry in the process.

Samuel had some difficulty understanding the implicit norms of the formal classroom setting and could not wait his turn when someone else was using the red crayon and grabbed it out of the peer's hand. The other child had to relinquish the crayon to keep the peace. Samuel completed a few worksheets after listening to the teacher's instructions and remembered where to hand in the worksheet when he was done. Although shy at times, he was able to communicate clearly, and his peers and teacher were able to understand him. Although reading is not necessary for school readiness, he could read some of the instructions independently already, write his name on the activity page and easily found the required shapes to colour during the activity. He easily counted the specific shapes and identify the associated number by drawing a circle around the correct number. He had a comfortable and strong pencil grasp and could cut accurately.

During break, they had the opportunity to explore the playground and equipment, but Samuel only joined once his parents agreed to stay outside with him. He can play throw and catch, but only wanted to play with his parents. He was able to understand when a new game was explained, but preferred playing by himself, rather than with his peers. He said that he did not enjoy being in the new classroom for the day and started crying when his parents talked about him coming back to school every day once the school year started.

BOX 3: A contrary case as represented by Hannah's case study.

Hannah is a very sweet and timid little girl who came to the primary school visit holding her mom's hand and having difficulty navigating her way through the classroom without help. Her mom explained that they have always known that Hannah was behind in her development. She has received occupational therapy to address her visual perceptual difficulties after she started wearing glasses for severe near sightedness. During the occupational therapy evaluation, it also became clear that Hannah had gross and fine motor difficulties and that sensory processing was difficult.

Hannah was happy to participate in the classroom activities presented on the day, but needed her mother's support with eating her snack, and using the bathroom. She had difficulty finding the basin to wash her hands but was able to wash and dry her hands with some encouragement from her mom. Once seated with a group of peers at the table, she only participated by imitating her peers and not really following the instructions of the teacher. When Samuel, the boy sitting next to her, tried to grab a crayon out of her hand, she gave him the crayon. She then started crying and she could not console herself and needed to go to the playground with her mom to swing in order to help her calm down. She ended up colouring some of the pictures on the worksheets but cannot write her name yet, although she could recognise some of the letters in her name. She circled all the numbers on the worksheet instead of counting the shapes and circling only the correct number.

She loved the idea of playing with her peers but could not play catch and throw with the others without her mom helping. She did not understand the new game the teacher was showing them, and even after Lihle explained and showed it to her again, she just walked over and stood with her mom. She became more and more overwhelmed in the new setting and started crying again before they said goodbye.

BOX 4: An additional borderline case as represented by Mbali's case study.

Mbali grew up in an informal settlement in a family of eight people living in a one-bedroom informal house. His grandmother looks after him and six other siblings, with no parental involvement. Four siblings are in high school and two of his siblings are younger than him. Mbali started daycare close to his home where the language of instruction was in his home language. The grandmother registered Mbali at a school in town where the language of instruction is English and where he was accepted although he could not speak English at all. Mbali's language barrier contributed to his difficulties in learning. Mbali quickly made friends with other children, as many of the learners could communicate with him in his home language. These learners had the opportunity to attend preschool programs where the language of instruction was English, although their home language was not. The transition coming to this school, with English being the language of instruction, was thus not as difficult for them as for Mbali. After the results of Term 1 it was established Mbali was significantly behind with the development of all his learning skills, and they had considered transferring him to a school where the language of instruction was the same as his home language. By now Mbali does not just have a language barrier but many aspects in his learning ability were lacking. His difficulties in learning are currently as follow: difficulty in communicating, difficulty to complete tasks in class and following the teachers' instructions, and difficulty concentrating for a period of time as he couldn't understand the learning material in class. In addition, he finds it difficult to recognise sounds as it is different from his home language.

methodology. Antecedents for school readiness can be described as everything that needs to happen in the first few years of a child's life leading up to formal schooling and consequences would be the outcomes of either being or not being ready for school at the age of school entry.

Both the Abecedarian project (Campbell et al. 2002; Ramey & Ramey 2004) and the Perry Preschool Programme (Belfield et al. 2006; Heckman & Karapakula 2019) are two longitudinal studies that provided quality preschool interventions for at risk pre-schoolers growing up in poverty. These two programmes highlight the short-term and long-term consequences of school readiness. Both of these studies controlled for other variables, for example, providing nutritional support to both the experimental and control groups. The outcomes of both of these interventions at preschool level were higher rates of school readiness compared to the control group.

In return, participants who tested ready for school when starting their formal education had, on average, significantly higher cognitive test scores as young adults, scored higher when tested for reading and mathematical skills, they completed more years of education and were more likely to attend a college. These participants also had a lower likelihood for grade repetition, dropping out of school and had lower rates of teen pregnancy and drug use. Multi-generational benefits were also noted with long-term follow-up, with no further interventions to the treatment group or their children. These included their own children testing ready for school when entering Grade 1. According to Atmore (2019), South African ECD policymakers also claim that interventions can prepare children for formal schooling and enable them as adults to become active participants in the economy. Beyond this, it can reduce poverty and serve as a mitigation strategy for a variety of social problems.

Results of the validation of the South African school readiness attributes

A Microsoft Form was sent to six stakeholders and experts in the field of school readiness and early childhood education. The questions included in this form can be found in Table 5. One panel member has less than 5 years' experience in the field of early childhood education, two have between 5 and 10 years' experience and three members have more than 10 years of experience in the field of early childhood education. All six of the panel members completed the MS Form. The results (Table 5) show high agreement for the relevance of the new contextual definition of school readiness for research, for practice and for clients. The results also confirm high agreement with the fact that the definition has given them a better understanding of the concepts of contextual school readiness. The panel members were in high agreement that the model cases were meaningful and that they described and clarified children's school readiness attributes. The panel members were also in high agreement that this conceptual school readiness definition can be used within the South African context. The results of the validation process confirmed the definition and description of the attributes of school readiness within the South African context and no changes were made.

Plain language summary

Step 1: Rationale and scope

Dormer et al. (2022) emphasised the importance of including the purpose of creating a PLS. For this concept analysis and PLS of school readiness, the needs of the intended audience were considered in terms of their available infrastructure and resource needs and how this PLS would be disseminated to the target community. Thus, the purpose of a PLS of a contextual definition of school readiness is to provide accessible school readiness knowledge to ECD practitioners, within low-resource communities in the Western Cape. The format of this information should be similar to how the intended audience typically access knowledge, such as through social media, community newspapers and radio.

Step 2: Identify your target audience

The White Paper 5 (Department of Education 2001) defines an ECD practitioner as anyone whose roles and responsibilities include teaching or providing care to young children, with or without formal training for such services. The term 'ECD practitioner' is thus an inclusive one for caregiver, teaching assistant and preschool teacher. However, the target audience for this school readiness definition has been pre-defined as ECD practitioners or Grade R teachers without a formal teaching qualification.

Step 3: Consider dissemination channels

It is very important to consider both print and online channels for the dissemination of information. Therefore, two publications were chosen for their publication of content both on websites and physical copies of the information in the form of a community newspaper and a magazine.

Step 4: Identify key-stakeholders for co-creation – Create a plain language summary team

Two stakeholders created the first draft of the PLS, an occupational therapist and a speech language therapist, both with extensive knowledge on the topic of school readiness, as well as experience in the field of ECD. The following stakeholders had an opportunity to review the PLS and give feedback on the second and third (final) drafts of the PLS: five occupational therapists with expertise in research in the development of motor skills for school readiness, as well as with community research projects and carer training and one ECD lecturer.

Step 5: Write the plain language summary

School readiness means a child has developed most of the foundational skills, knowledge and abilities that they need to easily and successfully transition into formal schooling (Box 5). School readiness supports future progress in school and life. A PLS for the South African school readiness definition is presented in Table 5.

Step 6: Disseminate information

An informational article on school readiness, containing the PLS of the definition of school readiness developed through this concept analysis, will be written and published in a local community newspaper with a circulation of 20 000 print copies as well as a regional child magazine with a print circulation of 40 000 copies.

Step 7: Track dissemination and measure success

An email address is provided for any questions or suggestions to the authors of the informational article containing the PLS. Dissemination and impact will also be monitored through future communication via email, as well as citation tracking and downloads of this peer-reviewed publication.

BOX 5: A plain language summary of the South African school readiness definition.

Children who are fully prepared for school can engage in meaningful learning, because they have developed the necessary behavioural, intellectual, language, literacy, numeracy, physical, socio-emotional, and classroom skills for formal schooling.
Behavioural readiness is how easily a child can adapt to the classroom and manage their own behaviour through skills such as sharing, turn-taking, self-control and how they respond to others.
Intellectual readiness is a child's ability to take part in learning through thinking skills such as memory, attention and concentration, following of instructions and problem solving.
Language readiness is a child's ability to communicate in the classroom by following the teacher's instructions, communicating basic needs, asking and answering questions, talking to peers, and speaking clearly.
Literacy readiness is the child's ability to learn reading and writing skills through letter identification, writing of their name, letter-sound recognition and visual perceptual skills.
Math readiness is the child's ability to perform basic math skills, such as sorting, naming, identification and counting of various objects, shapes, colours and numbers.
Socio-emotional readiness is the emotional, social and cultural aspects needed for participation in formal schooling so that the child can engage with teachers and peers, build and maintain friendships and control their emotions.
Physical readiness is the motor, sensorimotor and perceptual-motor skills needed to participate in activities such as throwing and catching, walking, running, jumping, sitting at a desk, writing, drawing, colouring and cutting.
Classroom readiness is the independence in selfcare, such as eating and toileting, in basic classroom skills, such as playing and engaging with peers, and in spiritual and mental well-being.

Implications and recommendations

School readiness has been established as an important milestone in any child's life, as it determines the path to later success in life (Duncan et al. 2007; Heckman & Karapakula 2019; Ramey & Ramey 2004; UNICEF 2019). An increase in available research addressing school readiness and the contextual factors affecting school readiness promotion, within the last 4 years, highlights not only the importance of this milestone, but also the urgency in improving school readiness rates within our context (Janse Van Rensburg 2015).

Although the context of high-income countries and low- and middle-income countries may be vastly different, and the road to school readiness may differ significantly as well, the concept of what school readiness entails is very similar in scope and qualities. In this concept analysis, the definition of school readiness that was developed was broad, and included eight different areas of competence or attributes that children need to attain before they start school. Some of these areas of competence are similar to the way in which school readiness is defined more broadly. However, we also found that only four articles included all eight attributes in some form within their definition. This suggests that most publications focus on only a few contributing attributes and presents a limited scope of contextual school readiness within the South African context.

There were no unique features of the definition of school readiness within the South African context. This is surprising because of the unique context of South Africa, but also confirms that there are qualities that are essential for a child's readiness for school just as Williams et al. (2019) suggest. These findings were significant because the attributes of school readiness do not seem to be context-bound. However, this does not suggest that the promotion of school readiness within a specific context is not context-bound. It is recommended that the definition of school readiness developed through this concept analysis will be used in future publications as the standard, contextual definition of school readiness in South Africa.

The new understanding of school readiness that has emerged from this article is important because a stable, non-contextually bound set of attributes included in a child's readiness for school now shifts the problem of low school readiness rates in South Africa, to the process of promoting school readiness and thus the lack of quality in preschool education in South Africa. The National Integrated ECD Policy (Republic of South Africa 2015) has a goal to provide comprehensive quality, age and developmental stage appropriate opportunities for learning by 2030. This must be accessible for all children from birth until formal school starts and will form the foundation for socio-emotional, physical, intellectual and language development through play and other related, recognised methods for early learning. Their fourth objective is to ensure all caregivers, teachers and ECD

practitioners have the required knowledge and skills to provide quality services to children. Manning et al. (2017) established the link between the quality of teacher education and the quality of ECD education and care. This is also confirmed by Ramey and Ramey (2004), and echoed by most of the articles identified for this concept analysis. Teachers' and caregivers' sustainable and affordable access to culture-centred teacher training content must continue to be a research priority.

Another key outcome of this research was the development of a PLS to open opportunities to collaborate with teachers to identify which components of school readiness they are already working on and increase awareness of those that are frequently neglected. The PLS also opens opportunities to collaboratively develop strategies to improve school readiness in specific schools or areas using a culture-centred education approach. This would entail developing culture-centred teacher training content for each concept within school readiness within South Africa. It also requires a careful approach to the dissemination of information to a wide audience, through magazines, newspaper articles, YouTube content, mobile applications and government publications.

A systematic approach to the concept analysis of school readiness within the South African context as well as the development of the PLS of the new definition was taken. Stakeholders were included and they contributed to the development of the case studies, as well as the PLS definition. Limitations included the fact that the coding of all quotations, concepts and groupings was done by only one researcher, although experts in the method of concept analysis were consulted during each phase of the analysis.

Conclusion

The aim of the study was to investigate the concept of school readiness within the South African context, as well as to develop a PLS for dissemination to stakeholders. The process resulted in a new definition of school readiness in South Africa that included the following concepts: behavioural, intellectual, language, literacy, numeracy, physical, socio-emotional and classroom readiness. This new definition was used to develop a PLS that will be used in future research studies within South Africa, as well as be disseminated through various sustainable channels to promote teachers' access to knowledge and ultimately improve the quality of ECD in South Africa. Future research can strengthen and further refine this PLS of school readiness in the South African context by testing and validating the PLS of school readiness with the intended end-users and within the intended context.

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Authors' contributions

M.D.W. is the primary author contributing to all stages of the research and the writing and editing of the manuscript. S.S.F. also contributed as the primary author for writing and editing of the manuscript, as well as the validation of the data. J.V.D.W., C.C, L.W. and C.S contributed to the validation of the data, as well as the editing of the manuscript. D.V.G. contributed as the supervisor to the editing of the manuscript and N.A.P. contributed as the supervisor to the conceptualisation, methodology, validation and editing of the manuscript.

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Data availability

The data that support the findings of this study are available from the corresponding author, M.D.W., upon reasonable request.

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