*The Global Journal of Health and Physical Education Pedagogy*
Vol. 3, No. 4, pp. 380–386

# BEST PRACTICES ~ FROM THE FRONT LINES

## Kinderkinetics: Best Practice in South Africa

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In 1996, physical education (PE) was removed from the school curriculum in South Africa. The cessation of this much-needed service delivery to children from professionals with specialized knowledge in the field of movement and physical activity led to the development of a new professional field called kinderkinetics in South Africa, which emerged from human movement science (Pienaar, 2009). Although PE was reintroduced in the South African school curriculum in 2012, after an absence of more than 10 years, the delivery of PE programs in South African schools is currently lacking and also in an unacceptable state of affairs, complicating the situation (De Ridder & Coetzee, 2013).

Physical activity and participation in structured movement development programs are, however, critical to developing fundamental movement patterns, perceptual motor skills, and self-confidence in children (Pienaar, 2009) and to rectifying problems in this regard.They are also a critical aspect of children's school readiness makeup as they are related to a positive cognitive outcome and associated with health consequences (Coe, Pivarnik, Womeck, Reeves, & Malina, 2006).

## Kinderkinetics as a Science

The word *kinder* refers to the specialization area that is focused on 0- to 13-year-old children, and *kinesis* (movement) refers to optimizing and rectifying children's movement from birth. Kinderkinetics is mostly focused on the development of typically developing children. Children with developmental needs are assisted in the profession of kinderkinetics through scientifically based and individualized exercise programs in their psychomotor, physical, and neuromotor development. Physical activity is the key to realizing these goals within a kinderkinetics program, adapted according to the developmental needs of the child and the specific program that is offered.

Kinderkineticists also use physical activities as the key to developing success in children who deviate from the norm, but in an adapted form, based on individual needs. Movement offered

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in the form of adapted physical activity is consequently service delivery, coaching, learning, or empowerment by a qualified person to increase the physical activity goal achievement of children aged 0 to 13 years with movement limitations or social obstacles (Pienaar, 2009). Thus, to achieve the goals of physical activity programs, children must use cognitive, affective, and psychomotor abilties. The ability-based treatment method is prominent in practicing this profession, where the focus is on the person, not the problem, and holistic and person-centered thought is emphasized (Pienaar, 2013). Kinderkinetics is the professional field that, from a health perspective and based on educational principles, is focused on increasing the total well-being of children aged 0 to 13 years by stimulating, rectifying, and optimizing and promoting age-specific neuromotor and physical movement (Pienaar, 2009).

## Best Practice

The following principles distinguish kinderkinetics from other programs that are focused on the motor development of children in South Africa.

### Scientific-Based Training Curriculum

Kinderkinetics, as a pediatric exercise science, is studied intensively over a 4-year period, guided by motor learning principles (Auxter, Pyfer, Zittel, & Roth, 2010; Cheatum & Hammond, 2000; Gallahue & Ozmun, 2006; Malina & Bouchard, 2004; Sherrill, 2004), dynamic systems and biopsychosocial theories (Bronfenbrenner, 1979), and the physical activity guidelines for children as stipulated by the World Health Organization (2013). Kinderkineticists are trained to use these principles to promote functional growth and development, to use movement activities that promote/facilitate perceptual and appropriate motor development and sport-specific skill development, and are trained to implement appropriate rehabilitation strategies for children with growth and/or developmental disabilities and specific motor deficiencies. Aspects of kinderkinetics such as obesity and developing a healthy and balanced lifestyle in children are addressed in evidence-based kinderkinetics programs that are offered individually or in groups. This specialized program is delivered by highly trained health practitioners (Pienaar & Strydom, 2012). Kinderkineticists deliver services in a professional manner, in one-on-one or small group situations and in special classes that are usually set in the general or normal schooling environment.

### Specialist vs. General Knowledge Based

To become a qualified kinderkineticists, students are trained at four South African universities/tertiary institutions following a 4-year degree integrated with laboratory and practical experience in various centers, and they are required to complete hands-on practical experience to obtain professional registration. The professionals who are trained to be kinderkineticists are thoroughly trained in childhood development and pediatric exercise science. They are also trained with the scientific knowledge that some children will have more motor delays and will struggle more with certain motor skills than others and that these delays will influence their development and total well-being. The training of a kinderkineticist is in three areas: (a) remedial, where the focus of the program is solely on children's needs (kinderkineticists are also trained to work with children with special needs such as learning problems, obesity, motor handicaps, disabilities, and posture deviations); (b) health improvement, where the focus is on improving the quality of life and health risks; and (c) optimization, where the focus is to improve the motor skills of the typical child without motor delays. Before students may apply

for professional registration as kinderkineticists, they must obtain 300 in-service practical hours. See Figure 1 for the scope of practice of a kinderkineticist. Kinderkineticists thus provide additional expertise to the field of physical education because of their specialized training in pediatric exercise science, for children from birth. Kinderkineticists are health practitioners who have applied their skills successfully not only in private practice but also as employees in school settings since 1995.

## Professional Guidance

After kinderkineticist have finished their degree, they must register at SAPIK (South-African Professional Institute of Kinderkinetics). The vision of SAPIK is to be a scientific-based profession operating in a professional, excellent, and practical way to serve the community nationally and internationally with the following core mission:

- to sustain and develop the profession to a nationally and internationally recognized modality of pediatric exercise intervention and prevention through physical activity,
- to benchmark kinderkinetics against world-class standards,
- to provide outstanding education and training, and
- to contribute to society nationally and internationally.

Kinderkinetics has already gained substantial recognition as a potential health discipline, and more than 150 practitioners are already working in this field, ranging from self-employment in the private sector, to employment in primary and pre-primary schools. Parts of the SAPIK website are open to the public with information regarding registered kinderkineticists and kinderkinetics in general, and registered kinderkineticists may obtain further information regarding the profession on a restricted part of the website.

## Evidence-Based Practice

Kinderkineticists are guided by applied research where the growth, neuromotor development, and physical activity of children, as well as interventions to improve developmental delays and shortcomings, have been extensively researched within this pediatric exercise science. In this regard, researchers have studied obesity among children of different age groups and from different perspectives for a better understanding of the problem (Pienaar & Strydom, 2012), including the prevalence of childhood obesity in different age groups (Du Toit & Pienaar, 2003); relationship of childhood obesity with motor (Du Toit & Pienaar, 2003), fitness (Truter, Pienaar, & Du Toit, 2010), psychological (Kemp & Pienaar, 2010; Pienaar & Eggar, 2007), physiological (Kemp & Pienaar, 2010), and academic (Du Toit, Pienaar, & Truter, 2011) abilities; and relationships of obesity with diagnosed motor delays such as developmental coordination disorder among children (Pienaar & Eggar, 2007). Furthermore, researchers have published studies on children with motor development delays, such as developmental coordination disorder and the effect of intervention programs on the developmental coordination disorder status of these children (Coetzee & Pienaar, 2010, 2011, 2013; Peens & Pienaar, 2007; Peens, Pienaar, & Nienaber, 2007; Pienaar & Ernst, 2007; Pienaar & Lennox, 2006), and the effect of age-appropriate perceptual motor development programs on the motor and cognitive abilities of preschool children (Pienaar, van Rensburg, & Smit, 2011). The protocols of these intervention programs have been successfully implemented as intervention programs and are used by kinderkineticists countrywide. The students are also introduced to a practical internship during their final year of studies, where they experience what will be expected from them in practice.

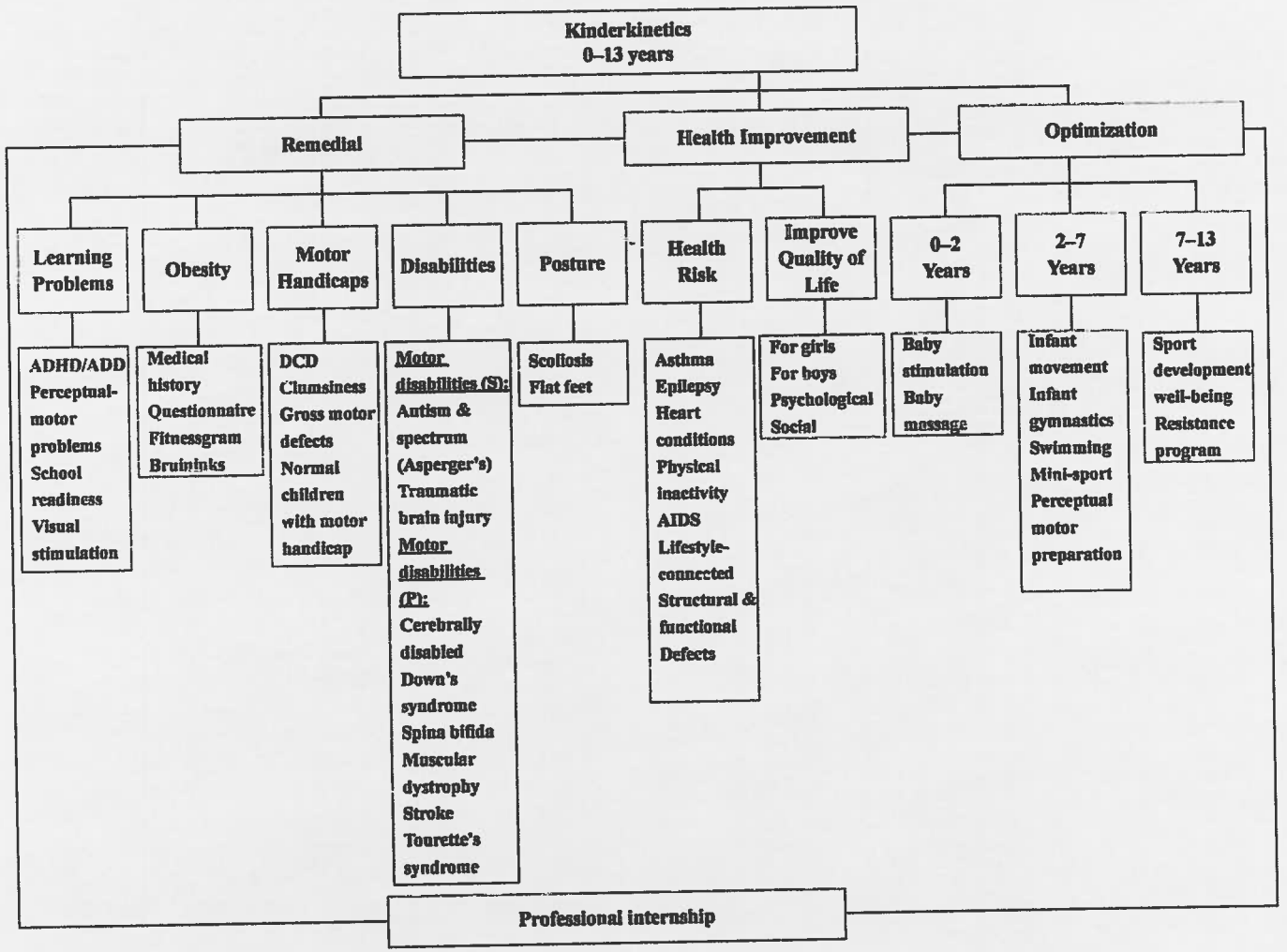


*Figure 1.* Kinderkinetics scope of practice. DCD = development coordination disorder. S = secondary. P = primary.

### Practice-Based Evidence

Tertiary institution officials also work closely with kinderkinetics practitioners to provide them with relevant input regarding the challenges, as well as the opportunities, that kinderkineticists experience in practice, to make sure that the needs of children are addressed appropriately. Practitioners also play an important role on the professional board of this profession (SAPIK) offering guidance and relevant training in kinderkinetics.

### Continued Professional Development

In pursuing excellence in this profession, SAPIK personnel support professionals on an ongoing basis to be better equipped personally and professionally by providing them with evidence-based programs that are relevant to the needs of the profession and society and by increasing opportunities for and participation in lifelong learning throughout their careers. To keep up with the latest research, graduate kinderkineticists are required to participate in professional development workshops and obtain a specific number of continued professional development points each year to improve their professional development.

## Conclusion

This profession emerged due to the lack of physical activity in the schools after 1996. Kinderkineticists strive to apply the science of exercise in a way that children fully unlock their health promotional development and potential. This profession is not without challenges. One of the biggest challenges for kinderkineticists is understanding each generation of children and the demands that their lifestyles and socioeconomic status put on their development and well-being. Although the profession is still entrepreneurial in nature, the knowledge of trained kinderkineticists is sought after and they are employed in many working environments, and the current demand for their expertise outweighs the supply. To promote the value and increase the service delivery of this profession, more people must be made aware of the field of kinderkinetics in South Africa and internationally.

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