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The WHO's International Classification of Functioning, Disability and Health (ICF) provides a standard framework to describe health in terms of functioning and its related domains. The ICF was officially endorsed in the 54th World Health Assembly in 2001. Since then, it has been applied worldwide in a variety of settings at both national and international levels. In the ICF model, "functioning" is viewed as a complex interaction between the health condition of an individual and the external environmental as well as internal personal factors of the individual. Contrary to long-held clinical meaning of "function", the term "functioning" in ICF refers not only to our body functions and structure, but also to our "capacity" to carry out activities in standardised settings as well as our level of "performance" in real-life participation (fig. 1). The ICF model, emphasising the importance of distinguishing between "capacity" and "performance" of an individual, allows us to see the gap between the two as a result of the presence or absence of supportive physical and social environments around the individual, as well as the presence or absence of positive personality traits within the individual.

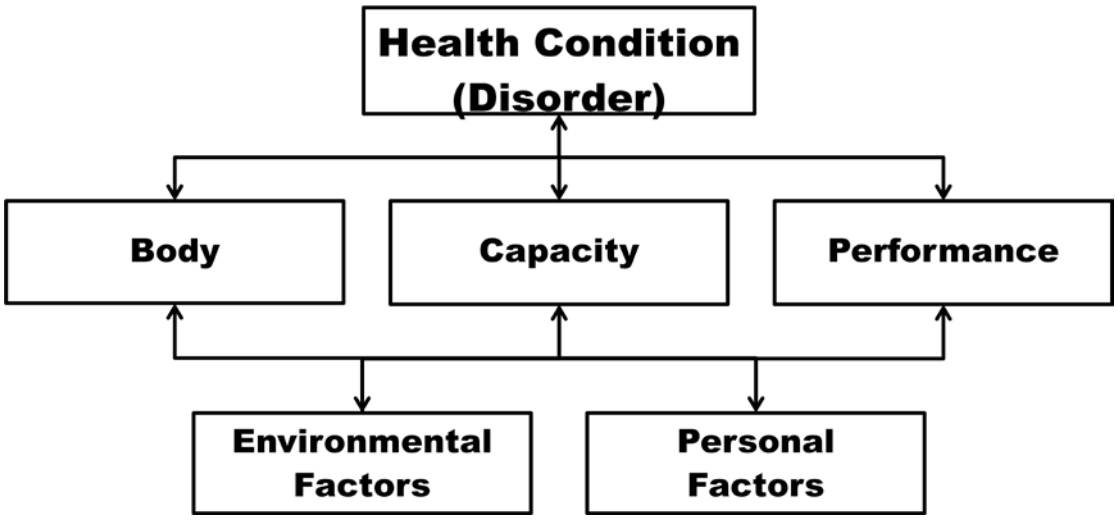

Figure 1 The major components of the ICF model and their interrelationship.

This worldwide accepted model has changed the way healthcare professionals approach their work from a highly specialised multidisciplinary mode to a collaborative mode. At the same time, the ICF model provides us a leverage to position Conductive Education (CE) and articulate its contribution within this framework. CE, originated in Hungary and founded by Prof. András Petö, aims at bringing together different body functions into a coherent whole (hence "conductive")

by employing pedagogical methods in the upbringing (hence "education") of individuals with cerebral palsy (CP).

In SAHK, we attempt to conceptualise CE, from the ICF perspective, as a structured whole-day programme with parallel running of "task-based intervention" that builds capacity and "daily routine participation" that builds performance. The gap between capacity and performance is bridged by pedagogical methods that mobilise and strengthen social resources (primarily parents and peers) of the child as well as strengthening the child's personality development. In CE, we work closely with parents and make every effort to help children with special needs to experience successes in real-life and to build their confidence through daily experience of overcoming physical, mental, and psychosocial challenges. The ultimate aim is to cultivate self-reliant and resilient personalities that increase the children's prospects of autonomy, enabling them to take charge of their lives. These are the essence of CE that are generic to all children with developmental disabilities and not necessarily limited to CP.

For children with motor deficits like CP, CE also works on their body functions and structure through Rhythmical Intention and other manual techniques as well as on their physical environment through the provision of CE furniture and tools. However, for children with other range of sensorimotor deficits like autism, other therapeutic interventions like sensory integration, theory of mind, and executive functioning, etc together with assistive technology like augmentative and alternative communication, etc should also be incorporated into the rehabilitation of these children.

The merits of the task-based intervention in CE can best be explained by the Dynamic Systems Theory which was originated from physics and mathematics and has been applied to developmental psychology by Prof. Esther Thelen since the 80s. Traditional view sees a child's motor development as a passive outcome of a genetically predetermined plan and new motor behaviors can come about as long as the proper environmental conditions exist. Thelen, however, conducted a series of experiments that examined the crucial roles of situational and contextual factors in motor development and demonstrated that human movement was produced from the interaction of "individual", "task", and "environment" (fig. 2). According to Thelen, each child is an active problem-solver who is sensitive to changes in its "environment", in particular, to the "tasks" that are presented to him or her. Within the individual, cognitive, emotional, and motor subsystems form an integrated whole system that cannot be partitioned (fig. 2). Motor development occurs through problem solving in one's own ways, according to one's biological possibilities and daily experience.

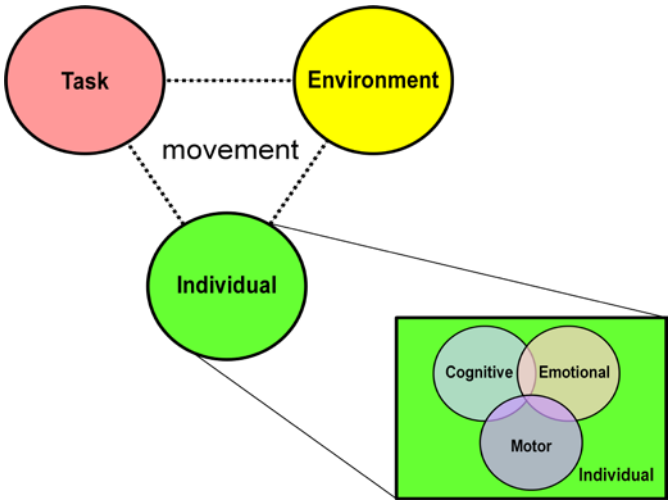

Figure 2 The interaction of individual, task and environment changes the movement. Within the individual, patterns of interactions between cognitive, emotional and motor sub-systems over time lead to changes in motor development.

Dynamic Systems Theory emphasises the child's active effort to coordinate his or her cognitive, emotional, and motor sub-systems during the problem solving process. In other words, to facilitate motor development in children with special needs, we should approach from tasks and environments rather than merely manually-guided facilitation. Moreover, we need to motivate the children to engage in active problem solving and to facilitate their accumulation of essential daily experience, both of which are crucial for the emergence of new motor behaviours. These are exactly what CE has been doing in its task-based intervention that serves to maximise the child's capacity to carry out the prescribed tasks in specific settings.

From the Dynamic Systems perspective, movement patterns of a child are softly assembled and are created and dissolved as the tasks and environment around the child change. New movements will only emerge when the child is given sufficient opportunities to experiment with different movement options in novel situations. In CE, customised daily routine schedule will be established for each child so that sufficient repetitions for the child to practice his or her motor abilities in a variety of real-life settings can be provided. Such a whole day scheduling of carefully selected daily routine participation can effectively promote performance in real-life situations. According to Thelen, dynamic systems principles can also be applied to other areas of development and are not necessarily restricted to the motor aspect.

SAHK introduced CE to Hong Kong since the 80s. With more than 30 years of localisation, it has become our organisational culture that governs our service design and delivery across a majority of our service units and serves as a philosophy in the operation of our transdisciplinary team. Thanks to the support from the Association, the author has recently written a book entitled「當 CE 遇上 ICF：全方位個案管理之腦麻痺兒童篇」 that consolidates our work in aligning CE with contemporary

knowledge and illustrated with clinical applications on children and adolescents with CP. Additionally, the Association has also made a video entitled「引導式教育：培養堅毅個性、孕育正向思維」 that illustrates the long-term outcomes in regard to the personality development on individuals with different types of developmental conditions from a lifespan perspective. Both will be released in 2017 and a book launching ceremony has been scheduled on 12 May 2017 (Fri) at 3:00 – 5:00pm at the auditorium of the Christian Family Service Centre Headquarters, Kwun Tong. For details, please visit the website of the SAHK Institute of Rehabilitation Practice (http://irp.sahk1963.org.hk/) and all physiotherapists interested in CE are welcome.

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