Motor Learning and Motor Development as a Motor Competence Problem Throughout Lifespan

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Submission: July 10, 2018; Published: October 29, 2018

Opinion

Motor learning and motor development are processes dealing with motor behavior changes through time. In fact, both phenomena are distinguished when some new behavior is overt in observable motor actions. In motor development, the changes are associated with given lifetime periods and in the motor learning the changes are associated with some specific practice experience. Still, for both phenomena, it is not enough to perform a new action, but such action must to meet it aim reliably; i.e., the performer must be frequently successful, even if there are demands challenging him/her. Thus, motor learning and motor development deal with the motor skills acquisition and/or their adjustments, in an elaborate and incremental open-ended trajectory throughout lifespan [1].

Some scholars must be accessed when one talks about motor skill. In one most remarkable book to motor behavior field written in 1940’s decade, but acknowledged some decades later, Bernstein stated that the dexterity/skill, is the ability to adequately solve any emerging motor problem correctly, quickly, rationally and resourcefully. Elliott & Connolly [2] offered a confirmation more piece of the puzzle about what is the skill by assuming it is “an ability to achieve defined goals with an efficiency beyond that of inexperienced person” (p.135) and hypothesizing that “… skill entails an ability - a competence - which underlies assessed performance on specific tasks” (p. 135/136). For Elliott & Connolly [3] competence is related to the organization underlying the child’s behavioral adjustment to his/her environment.

Following the Bernstein’s and Elliott & Connolly’s[3] theoretical propositions, Keogh [4], ingeniously and beautifully, offered a more encompassing view about skill and motor competence by adding the explanations about the consistency and the constancy of movement, both expressions of motor competence. Movement consistency is the competency to perform sequences of movement patterns, which are suitable for solving everyday motor problems, e.g., standing up, walking, grasping or other elementary motor skills. In fact, for the infant or young child to meet such movement consistency is the main problem to be solved at that time [4]. In order to show stable motor patterns, consistency is the first and main expression of motor competence in childhood. Next, a harder problem to human motor competence is to achieve the movement constancy, i.e.; the flexible use of the movement consistencies in a variety of circumstances. In such view, consistency and constancy are closed linked: the constancy is only possible if there is consistency of movements firstly, and movement consistency must be increased when a movement patterns can be fitted in numerous circumstances, as movement constancy develops. In sum, in a competent motor performance, the consistency and the constancy are crucial and harmonizing. Still, if the constancy follows the consistency, one can expect the operational measure of motor competence must to contemplate such developmental issue [5].

In 2008, one very hot paper to motor behavior field titled “A Developmental Perspective on the Role of Motor Skill Competence in Physical Activity: An Emergent Relationship”, written by Stodden et al. [6], recovered the motor competence study in a very strategic way, by relating it with the physical activity, perceived motor competence and physical fitness. They proposed an operational definition to motor competence, as the proficiency in fundamental motor skills involving object control and locomotor skills. This definition is very fitted to theoretical model proposed, as well as it is aligned with the empirical data from literature at that time which based the proposal. In that paper, Stodden et al. [6] explored the early and later childhood phases of life, and for typical children in such phases to meet the consistency in gross fundamental motor skills is a genuine problem to solve. In fact, the main tools used to assess motor competence in childhood deals with gross motor performance, e.g., Test of Gross Development 2nd edition, (TGMD-2) [7] and Körper ko ordinations test für Kinder (KTK) [8]. One should to take care to use these two tools interchangeably, because they deal with different aspects of gross motor competence, as recently remarked (Ré et al. [9]). Conversely but complementary, some researchers have proposed the importance to include the fine motor skills in the theoretical definition of motor competence, like D’Hondt et al. [10] and Sigmundson et al. [11].

The propositions of the Stodden et al. [6] has been confirmed markedly. Robinson et al. [12] in a critical review, showed the success of that theoretical model to the scientific community. This renewed view about the emergent relationship (as the article’s title deliveries) is a change of view between physical activity and motor behavior areas. The closed link between energetic element...
In fact, the phenomenon of motor competence revisited seems old age, a very promising one, which needs to be more investigated. Skills, throughout lifespan. Recently, Sigmundson et al. [11] have assumed the life span examination an important issue is about the operational definition of motor competence, which, needs to include both consistency as constancy, gross and fine motor skills. A developmental perspective on the role of motor skill competence in physical activity: an emergent relationship. Quest 60(2): 290-306.

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