EEA and Norway Grants 2009-2014

Programme LV05 “Research and Scholarship Programme”

„Health and Social Indicators of Participation in Physical Activities for Children with Disabilities”

Nr.: NFI/R/2014/070

Project applicant: Latvian Academy of Sport Education (LV)

Project manager:

Name: Aija Kļaviņa

E-mail: aija.klavina@lspa.lv

Address: Brivibas street 333, Riga, Latvia, LV-1006

Project partners:

- Norwegian School of Sport Science
- Institute of Electronics and Computer Science
- Riga Teacher Training and Education Management Academy

The project aims to strengthen bilateral relations between research institutions in Norway and Latvia working in social and health care sector. The researchers will develop and implement innovative interdisciplinary education approach addressing challenges of health related participation in education process for children with disability. While the advances in medicine enable more children with disabilities to participate in the inclusive learning environment, there is evidence that these children have deficiency in daily physical activities. It increases the risk to develop secondary health conditions including heart disease, respiratory problems and emotional disorders that result in deterioration of health status, functional capacity and quality of life. Therefore, this project will focus on exploring the health behavior of children with disabilities including physical skills and psychological, and social correlates. The set of qualitative and quantitative indicators will be developed at the national level, yet applicable at the international level, to identify areas in which health promotion interventions should be implemented. The innovative technologies will be utilized to provide an objective measures of daily physical activity behaviors, thereby avoiding common sources of error in subjective measurement. The project outcomes will provide significant positive contribution to children with disabilities wellbeing and overall health of the society in long term. Also, the project will increase competence level of human resources which will raise the potential for high added value product development leading to scientific evidence based knowledge contributing economical increase.

This project aims to present innovative approach of education and health related physical activity practices for children with different functional impairments in the inclusive learning environment. The innovative interdisciplinary assessment model will be used based on theoretical framework of the International Classification of Functioning, Disability and Health (ICF) containing 3 domains of human function: body functions and structures, activities, and participation. The set of qualitative and quantitative indicators of physical activity participation will be developed to identify areas in which interventions should be implemented to promote the daily physical activity and participation of children in risk of secondary health problems relating to disability. The qualitative indicators will include survey, participant observations and in-depth interview data from students with disability, physical education teachers and health care professionals that will construct the methodology for selecting quantitative indicators (WP1). Furthermore, on-site observations and monitoring daily physical activity of children with disability will present the quantitative data set (WP2). The main focus will be on time spent in moderate and vigorous physical activities (MVPA) associated with energy expenditure.

Additional measure will include physiological parameters (electromyography), psychological and social correlates (e.g., stress tolerance, short and long term memory, self -esteem etc.). Dynamic data obtain of a child's physical fitness, cognitive and psychological status will provide interdisciplinary model for comprehensive physical activity management. The accelerometer-based mobile phone application will be developed to monitor and motivate children involve in moderate and vigorous daily physical activities under free-living physical activity conditions (WP3).