Health Learning Practices in Adolescents Using Physical Activity

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EXECUTIVE SUMMARY

To increase health education we applied blended learning concept by combining physical activity and e-learning technology. Investigation aims to create, apply and assess learning tasks. 201 high school students (15-22 years, 17,6±1.4) were divided in control (CG) and practical (PG) group. PG was exposed to several problems solving using physical activity and technology to accomplish the goals. To evaluate student's knowledge about concepts studied (Caloric Balance-CB; Posture-P, Heart Rate-HR) a specific survey was used. Student's knowledge perception about each concept and their need for acquiring a better knowledge were also observed. A Pre, Post and Retention assessment were made. A performance improvement was observed for PG on HR (88%) and CB (78%), significantly different from CG (p<.000). In retention test for acquisition of more knowledge on health behaviors, PG results were significantly higher than CG (p<.005). The proposed learning tasks were very useful to motivate and promote students success.

Keywords: Blended Learning, Caloric Balance, Health Promotion, Healthy Behaviors, Heart Rate, Learning Environments, Learning Strategies, Physical Activity, Representative Tasks

INTRODUCTION

Problem Statement

In recent years, increasingly urgent call have been made for the need of valid models, information and interventions to assist the development of effective health police, which is becoming a priority for governments that now struggles to cope financially and political with rapidly rising health care cost.

Recent Organization for Economic Co-operation and Development (OCED) reports refer that prevalence of obesity has increased almost 25% in countries such as England, Canada, Ireland and Australia and to over 30% in Mexico and the US (OCDE, 2012).

Obesity is a serious public health subjects, since it is associated with a higher risk of many diseases, with significant costs to the health care- and other sectors. Obesity is also a growing problem in childhood and youth (Veugelers & Fitzgerald, 2005).

There is no doubt about the benefits of physical activity in health. Undertaking physical activity in adolescence is extremely important for health, as it can set standards for physical activity levels in adult, thus influencing health outcomes in later life.

Since physical activity tends to decrease between ages 11 to 15 for most European countries (Organisation for Economic Co-operation and Development, 2012) it is important to develop a health education programs in other to decrease sedentariness.

The major goal of our investigation is to improve learning of health related concepts, such heart rate, caloric balance and postures.

In other to achieve this goal we combine practical situations (that promote exercises) and e-learning in spreading an appropriate information regarding the above health concepts. The use of blended learning allows students to experiment new learning environment, new ways in presenting information and real situations what potentially increases student's outcomes and motivations (Dumont & Istance, 2010).

In general, this case covers three themes. The first theme that will be discussed in the section "Setting the Stage" we will focus on the (1) development of learning environments in other to achieved 21 centuries competences, (2) e-leaning definitions, framework and potentialities, (3) health education in school- based intervention and (4) descriptions of the health concepts selected for these investigations.

In "Case Description" we will presented a) the learning environment created based on blended approach, face to face in other to solve problem-situations and e-learning technology, b) the results and case questions discussion. In the section "Current Challenges," we will explains not only the importance of the work but future work that needs to be done in other to improve health education.

Before we start the discussion of the above-mentioned themes, in the organizational background chapter we will described school context where the case was applied.

ORGANIZATION BACKGROUND

Campos Melo School

This experience was conducted at Campos Melo Middle and High school in Covilhã Portugal (http://www.camposmelo.pt/). The school currently serves approximately 838 students, 104 teacher that have at their disposal 253 computers, 38 laptop and 16 interactive blackboards.

Campos Melo school has a wide academic offer which includes regular education (Sciences and Technologies, Humanities and Languages and Visual Arts), Professional Courses (Technical Design Furniture, Electronics and Computers operator, Specialist in maintain, repair and adapt different equipment in the fields of electricity, electronics, automatic control, robotics and mechanics) and Education and Training courses in other to combine work context with academic and vocational qualifications.

Develop capabilities to improve students professional competence, in a perspective of

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