

Chronological background of test and measurement in the field of sports

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Abstract

An examination is an assessment intended to measure a test taker's knowledge, skill aptitude, physical fitness. A test may be administered orally, on paper, on a computer or in a confined area that requires a test taker to physically perform a set of skills.

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Introduction

An examination is an assessment intended to measure a test taker's knowledge, skill aptitude, physical fitness. A test may be administered orally, on paper, on a computer or in a confined area that requires a test taker to physically perform a set of skills.

A test may be administered formally or informally. An example of an informal test would be a reading test administered by a parent to a child. An example of formal test would be a final examination administered by a teacher in class room or a test administered by a psychologist in a clinic. Formal testing often results in a grade or a test score (1) A test score may be interpreted with regards to a norm or criterion or occasionally both. The norm may be established independently or by statistical analysis of a large number of participants.

A standardized test is any test that is administered and scored in a consistent manner to ensure legal defensibility. Standardized tests are often used in education. Physical education, sports, professional certification, psychology, the military and many other fields.

Anthropometry

A French mathematician, Quetelet coined the term anthropometry. (Anthro means man and metry means measurements) in India and Egypt the earliest anthropometric studies were undertaken to find one part of the body, which would predict or become a common measurement of all other body parts--e.g. the length of middle finger was considered a common measure of body proportion in Egypt.

Hippocrates was the first Greek expert in the test and measurement who introduced a method of body classification in which the human beings were divided into two body types. Phthisis dominated by horizontal dimension. A physician, Dr. Edward Hitchcock who occupied the first chair of physical education created in USA in 1861 at Amherst College, Ohio, first introduced anthropometry in physical education.

Muscular strength and Endurance

In the last quarter of the 19th Century, there has been a marked shift in the emphasis of measurement away from anthropometry to strength testing. Sargent in 1880, along with Brigham devised a strength test battery in which the legs, back, hand's grip and arm's strength as well as vital capacity were measured during the period 1880 to 1920, strength and end

urance testing was very popular and inter college competitions were held in Sargent's strength tests.

Cardio vascular measurements

In the beginning of 20th Century the interest of measurements and evaluation shifted away from anthropometry muscular strength and muscular endurance to athletic ability testing and the cardiac function tests. Crampton in 1905 published the first test of cardiac function which was followed by the development of many new similar tests. In 1970 Dr. Kenneth Copper developed a field test for cardio vascular endurance measurement. Copper developed a simple 12 minutes run walk test to evaluate individual cardiovascular endurance.

Athletic ability Testing

In the last quarter of 19th century laws making physical education mandatory in many schools of U.S.A. were passed. This resulted in the development of interest in athletic ability testing of children. The YCMUA and the turners developed pentathlon test for the measurements of athletic achievement during 1890s.

The American playground association developed the athletic badge tests in 1913 and provided standards for 60th boys and girls. These tests included mainly the track and field events and a few other items like rope climb and pole vault. In 1920 more scientifically constructed tests of athletic ability were developed with the help of the newly developed statistical techniques.

Sports Skill Testing

As already mentioned above in the historical review of athletic ability testing, the athletic badge test developed in 1913 was the beginning of sports skill testing. Keeping in view the need and importance of sports skill testing AAHPER initiated the sports testing project in 1959 to measure sports standards for at least 15 sports activities.

Power Measurement

Dr. D.A. Sargent published the first test of Power Measurement in 1921. Recently, measurement of power has been divided into two categories of tests one dealing with the measurement of athletic power and second deals with the measurement of work power.

Knowledge Testing

The history of knowledge testing is almost as old as Physical Education itself and tests of measuring Physical Education knowledge have been available in literature since 1929. Since then a large number of knowledge test have been presented for testing of different games, sports and physical fitness etc.

Social Measurement

The Physical educators attempted the measurement of character, personality and other social values in order to measure the improvement in these variables after participation in games and sports. It was in 1930, when C.H. McCloy who emphasized the need of character building through physical education reported the first measurement of social qualities.

Programme Evaluation

The History of programme evaluation may be traced back to 1930. Since then, many evaluation instruments have been improvised for the evaluation of all types of school physical education programmes, athletics intramurals and youth sports.

Reaction Time and Speed Movement

Measurement of reaction time and speed of movement in the field of physical education is of recent origin.

The speed of movement has been mostly studied with the help of 50 yard dash. Recently a large number of electronic and electrical laboratory equipments have been developed for very accurate measurement of hand and foot reaction time.

Balance Measurement

The history of balance measurement is only about 70 years old. In 1939 Dr. Ruth Bass probably measured the static and dynamic body balance for the first time.

Physical Fitness

Human efforts for improving through Physical activities has been quite old. The great service in this direction had been done by the Turner Societies in 1800s in Germany. Due to human desire of becoming more Physically Fit, the German Gymnastic Societies could easily sell their programmes of physical fitness to the school.

Samatoty Ping

W.H. Sheldon introduced somatoty Ping, a practical method of measuring rather classifying human physique, in 1940. The Sheldon technique was based on nude standardized photographs showing front, side and rear views of some 4000 college students. The method is quite subjective but very impressive for the study of classifying human Physique.

Flexibility Measurement

The History & flexibility measurement dates back to 1941 when Dr. T.K. Cureton included flexibility. Among the components of Physical Fitness and described many performance oriented flexibility tests. The test measuring the back and leg flexibility with the help of a horizontal scale which provided flexibility score in negative and positive units.

Kinanthro Pometry

As per standardized definition kinanthropometry is the study of human size, shape proportion, composition, maturation and gross function, in order to understand growth, exercise, performance and nutrition. W.D. Ross coined the

Termkinanthro-pometry in 1972 in the Balgicm Journal Kinanthro-pologic.

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