

Education and Research in Physical Education and Sports in India

‘Every human being has a fundamental right of access to physical education and sport, which are essential for the full development of his personality. The freedom to develop physical, intellectual and moral powers through physical education and sport must be guaranteed both within the educational system and in other aspects of social life’

-International Charter of Physical Education and Sports, UNESCO 1978.

INTRODUCTION

When we talk about education and research in physical education and sports, we have to look upon some other inter-related aspects of its field, because physical education is ‘education through movement’ within the framework of total education which is both mental and physical. Now it has become an inseparable part of education and emphasis is laid on educational experience rather on just muscle building. The development of teacher education in physical education is also very important area which needs to be discussed as teacher training institutes grow; departments of physical education began to establish. It has had its formal beginning in western countries more than hundred years ago, and the concept traveled to India via Britain. Actually the entire system of physical education experienced transformation along with that of education bearing continental influences. In England, when teacher training programme in general education was formalised and came to be standardised in terms of basic entry qualification for prospective teachers to take teaching assignment at various levels, periodicity of training course, theoretical course content, teaching practice lessons, etc. These developments in England influenced education in India also.¹

DEVELOPMENT OF TEACHER EDUCATION IN PHYSICAL EDUCATION

The developmental phase of teacher education in physical education can be divided in the stages given below:

The Drill Master Days

Physical activity, including some athletic sport, was a part of the general education system in a limited way and it was generally looked after by the ex-service men from the defense services, as physical training instructors in schools. They were known as *drill* masters. They trained students as scouts for school ceremonies. They had no formal teacher training, nor were they fit for it as they lacked educational qualifications and were already over-age when they got discharged from active service. However, they served need of the hour superbly.

The Skill Master Period

This was Mr. Marry Crowe Buck, an American Missionary, who founded Young Men's Christian Association (YMCA) College of Physical Education at Madras (Chennai) in 1920. This College offered one-year teacher training course known as Certificate in Physical Education for the matriculates and Diploma in Physical Education for bachelor degree holders exactly on the western pattern. The Government College of Physical Education, Hyderabad came up in 1931 and in 1932 Christian College of Physical Education, Lucknow was established. In 1938, the Training Institute of Physical Education, Kandivili (Bombay) came into existence - all following the foot-prints of the YMCA College. The new breed of teachers coming out of these institutes of physical education came to be regarded as skill masters who began to replace the traditional drill masters in schools.

The Vyayam Shikshaks

In 1914, Vaidya Brothers founded Shree Hanuman Vyayam Prasark Mandal at Amravati (Maharashtra) to serve the cause of indigenous physical activity system. In 1924, this institution started a five-week summer course in indigenous activities.

Post-Independence Developments

During 1994-95, about 4.3 million teachers were working in different levels of schools. Out of these 2.7 million (66 percent) were engaged in primary and upper primary schools. Between 1990 and 2005, the total strength of teachers at different levels of school education increased from 4.0 million to nearly 5.97 million, marking an

increase of 75 per cent, besides the 4.34 million teachers working in colleges and universities.²

In 1956 the first genuine attempt to suggest general guidelines for the development of teacher education programmes in physical education in the country and to ensure quality teacher education, was made by the Central Advisory Board of Physical Education and Recreation, guided by a very powerful sub-committee of experienced experts, who among other things:

- framed a National Plan of Physical Education and Recreation;
- formulated norms for the recognition of colleges and courses of physical education prepared and got approved from the Government; and
- developed a syllabus of physical activities for primary and secondary schools in the country.

This board (CABPER) not only made sure that there was no mushroom growth of the teacher training colleges of physical education but also recommended to the Government to establish model colleges of physical education one in the centre and one each in four corners of the country - to serve as a standard for teacher education and centres of athletic excellence in university sports. The Laxmibai National College of Physical Education, Gwalior was the brainchild of the CABPER. Later on the replacement of and Central Advisory Board of Physical Education Recreation (CABPER) by Society for National Institutes of Physical Education and Sports (SNIPES), and its merger with the Sports Authority of India (SAI) on 1 May, 1987.³

Training of Teachers of Physical Education: A National Plan of Physical Education-1956 Perspective

Highlights on training of teachers of Physical Education as given in the National Plan of Physical Education-1956 are provided.

Before considering any scheme for the training of teachers of physical education, it is necessary to have a clear conception of the educational significance of physical education. There was a time when physical education was thought of merely in terms of the physical and the emphasis almost exclusively laid on muscles, perspiration

and respiration. Little was it realised that physical education activities apart from their physical values, also influenced the mental, emotional and social qualities of the participants. It was deeply felt that physical education is a part and parcel of the total process of education, and any approach to the question of training of teachers of physical education must necessarily take this comprehensive view.

It would be desirable to have separate institutions for the training of men and women in physical education, but this will not perhaps be possible for some time to come, because of economic and other practical reasons. The present training will have to be provided in common institutions organised on the co-educational basis. Every effort should be made to ensure that the needs of women are adequately fulfilled. The authorities of such educational colleges must also have a sense of wholesome relationship prevails between two genders and further that sufficient supervision is exercised.⁴

Laxmibai National College of Physical Education, Gwalior

With the establishment of the LCPE, Gwalior, in 1957 (now Laxmibai National Institute of Physical Education, Deemed to be university) there began a new era of teacher education in physical education as this College influenced by the American pattern of professional physical education, deviated from the additional one-year C.P.Ed. and D.P.Ed. teacher education courses and instituted an innovative three-year Bachelor of Physical Education with the twin-objective of (I) producing more competent physical education teachers (skilled in number of physical activities and sports and better knowledgeable in foundational sciences and humanities), and (2) offering coaching, scientific and logistic support to the talented young people for achieving excellence in sports. Soon the Punjab Government College of Physical Education, Patiala followed suit, and in addition to the already existing C.P.Ed. and D.P.Ed. courses, it too introduced the three-year Bachelor of Physical Education course in 1958, and with tremendous success in producing inter-varsity champion athletes in various sports.

In 1963-64, In order to make up the insufficiency in duration for B.P.E. course, the LNCPE, Gwalior introduced the two-year Master of Physical Education for physical

education graduates, as distinguished from one-year Master of Education (Physical Education) offered by the Punjab Government College of Physical Education, Patiala to the physical education degree holders with effect from 1963-64. Only recently has the NCTE standardized the duration of various teacher education courses in physical education.

National Council of Teacher Education

The National Council for Teacher Education (NCTE) was established as a National level statutory body by the Government of India in August, 1995 with the objectives of achieving planned and coordinated development of teacher education system, regulation and proper maintenance of norms and standards of teacher education (including physical education) and for matters connected there with. Some of its major functions are laying down norms for various teacher education courses, recognition of teacher education institutions, laying down guidelines in respect of minimum qualifications for appointment of teachers, surveys and studies, research and innovations and prevention of commercialisation of teacher education. As per the provisions of the NCTE Act, four regional committees from the Northern, Southern, Eastern and Western regions have been set up at Jaipur, Bangalore, Bhubneshwar and Bhopal respectively. These Regional Committees consider the applications of institutions of teacher education for recognition/permission in accordance with the provisions of the NCTE Act. The Council has laid down norms and standards for pre-primary, elementary and secondary level teacher education institutions, B.Ed. course through correspondence/distance education mode, and also for C.P.Ed. (Certificate in Physical Education), B.P.Ed. (Bachelor of Physical Education), four year Integrated B.P.Ed. of the Laxmibai National Institute of Physical Education (Deemed University), Gwalior, and M.P.Ed. (Master of Physical Education) as given below.

COURSES IN PHYSICAL EDUCATION AND SPORTS AVAILABLE IN INDIA

In the context of development of teacher education programmes in physical education over the decades in the country, it is interesting to note that the oldest of the professional courses have been Certificate in Physical Education and Diploma (now Bachelor's degree) in Physical Education, both of one year duration. The Master's

Degree in Physical Education came up in 1963-64 as a step forward towards development of physical education as an academic discipline as well as a profession at par with other professions like as medicine, engineering, technology, law, etc. Since then it has been known by various names like as, Master of Education (Physical Education) of one-year duration offered by the Punjab Government College of Physical Education, Patiala under the Punjabi University, Patiala (later several-other institutions introduced it, and called it M.P.Ed.); Master of Physical Education of two year duration offered by Laxmibai National College of Physical Education (now Laxmibai National University of Physical Education), Gwalior; Master of Arts (Physical Education) brought into existence at Panjab University, Chandigarh, etc. In order to bring about uniformity and also remove the misconception from the minds of people as well as to facilitate the administration make appointments in educational institutions without any hassle about basic qualifications, the National Council of Teacher of Education have standardised the postgraduate degree in physical education in terms of its course structure, nomenclature, duration, etc., and directed the all concerned institutions to fall in line or face derecognition. Finally, the course is known as Master of Physical Education (M.P.Ed.) of two year duration with effect from 2002. The M.P.Ed. course is run on yearly examination basis but several university departments of physical education and, even some colleges, have switched over to semester system as per general policy of the University Grant Commission on the structure of post-graduate courses.

Not much change has been brought about in Certificate of Physical Education and Bachelor of Physical Education courses except that the duration of the C.P.Ed. course has been enhanced two years. Most of things in teacher education programmes continue to remain the same as envisaged in the National Plan of Physical Education-1956, which laid down standards for the under graduation teacher training courses i.e. certificate in physical education and diploma/degree in physical education. Introduction of Master's degree in Physical Education was a later development as already explained.

Brief information about various recognised professional courses in physical education, sports (coaching), yoga, and sports sciences available in India is given below:

Table- 3.1
Recognised Courses in Physical Education ⁵

Sr. No.	Name of the Course	Eligibility Condition	Duration	Job Prospective
1.	Certificate in Physical Education	Senior secondary or +2	2 years	Primary schools
2.	Bachelor of Physical Education	BA/B.Sc./B.Com or equivalent	1 year	Secondary schools
4.	Master of Physical Education	B.P.E./B.P.Ed.	2 years	Senior secondary schools/colleges universities
5.	M.Phil., i.e. Master of Philosophy	M.P.Ed.	1 year	Colleges/universities

Ph.D., facilities exist at most of the Universities and affiliated colleges of physical education either under the Faculty of Physical Education wherever it exists, or under the Faculty of Education, both on part-time and regular basis. Time requirement for Ph.D. varies from a minimum of two or three years to any length of time permitted by the academic bodies of a particular university.

Courses in Yoga

Yoga has always been an important aspect of physical education both in school physical education and in professional courses of teacher education. As a result all prospective physical educators have to acquire the knowledge of some selective principles and practices of yoga, both in theory and practical, during the training course. However, over the years the Government have given special emphasis on yoga education for school students and allowed the appointment of specialisd yoga teacher in schools. As a result specialisd yoga courses have been introduced at selected institutes and colleges and departments of physical education in universities. Yoga education as such does not fall under the purview of NCTE; it exists as a special arrangement, but not as a part of the professional physical education programme.

Table 3.2
Courses in Yoga Education ⁶

Sr. No.	Name of the Course	Eligibility condition	Duration	Job Prospects
1.	Diploma/degree in Yoga	+2 B.A., B.Sc.	One/Three years	Yoga Teacher in schools.
2.	M.Sc. Yogic Science/M.A. Science of Living, Meditation and Yoga	Graduate in Yoga	Two years	Teaching Yoga/Research in Yoga

There is a wide range of courses available in Yoga at various institutes of Yoga/university departments of physical education the prominent among them are the Yoga Institute, Kaivalya Dham, Lonavala, and Lonavala Yoga Institute (India), Lonavala and others, the product of these institutes is competent to teach and practice Yoga to others.

Courses in Sports Coaching

For sports coaching there is only one institute in the country - the Netaji Subhash National Institute of Sports, Patiala with its regional centres at Bangalore, Gandhi Nagar and Kolkata-offering specialised coaching courses in selected games and sports, along with courses in sport sciences. The Institute was brought into existence by the Government of India in 1961 with a view to produce a cadre of competent coaches to help raise the standard of sports in the country. The NIS offers the following coaching courses in sports.

Table 3.3
Courses in Sports Coaching ⁷

Sr. No.	Name of the Course	Eligibility Condition	Duration	Job Prospects
1.	Diploma/PG Diploma in Sports Coaching	B.P.Ed./M.P.Ed./International performance in sport	One year	Coaching a specialised sport from school level to national level
2.	Master of Sports	Diploma in Sport Coaching	Two years	Coaching sport
3.	Certificate in Coaching	A teaching degree/proficiency in sport	Six weeks	Part-time coaching

Apart from above mentioned various courses in Sports management, sports economics, sports marketing, sports journalism and public relations, sports law etc. are widely available.

Need for Restructuring of Courses in Physical Education

Physical education in our country has remained neglected and if any attention is being paid, it is in step motherly manner. This is one of the significant causes as to why we are lingering back in the field of international sports.

A good structure of courses available in physical education and sports can help to give a push to the field. Thus a need for restructuring of these courses is being felt.

Deshpande has recommended a new pattern which is given below:

Table – 3.4

Recommended new pattern for Courses available in Physical Education⁸

Sr. No.	Level of teacher education	Entrance eligibility	Duration	Name of the course
1	Primary level	10 +2(HSSC)	2 Years	C.P.Ed.
2	Secondary level	10 +2(HSSC)	4 Years	B.P.Ed.
3	College/University level	10 +2(HSSC)	6 Years	M.P.Ed.

PROFESSIONAL ETHICS IN PHYSICAL EDUCATION AND SPORTS

All the fields like health, physical education, recreation, and sport do not have a common code of ethics; codes are available to several fields within this group. Such codes can be applied on related fields. The International Society of Sport Psychology (ISSP) provides sport psychologists with a code of ethics, which offers specific guidance for practice, including significant attention to ethics in testing, interpretation of vital psychological data gathered on various categories of sportspersons. The National Physical Therapeutic and Rehabilitation Society provides physiotherapists with a code of ethics that is particularly useful to those who practice in clinical settings in sports and elsewhere. Similarly there is a code of conduct for sports coaches, athletic trainers, physical educators, sportspersons, media persons, referees, managerial staff and sports fans prescribed by their guiding and governing associations.

In educational institutions, physical educators, who engage classes in play, fitness and sport activities on the fields and also do some classroom teaching, face variety of situations where shared values and professional responsibilities take precedence over the assigned work. Consequently, they routinely take actions that require moral reasoning. Instruction about personal health fitness, fair play, and even how one ought to use leisure hours calls upon moral reasoning and the articulation of values. The answers that professionals offer demonstrate both individual character and the collective values of their profession. These values can assert a unifying orientation to a collective group of specialised fields of practice.

Being well-cognizant of the code of ethics and the responsibilities enjoined upon by the profession, a physical educator, when working with young people, ought to:

- put up as a first priority the health, safety and welfare of the child or young athlete
- avoid treating children as simply small adults but be aware of the physical and psychological changes that occur during maturation and how these affect sporting performance.
- do not set targets for a child unrelated to his or her capacity to meet them.
- provide an activity or sporting experience for children that encourages a life long commitment to health related physical activity.
- put the enjoyment of the participant as a priority and never place undue pressure which impinges on the rights of the child to choose to participate.
- take equal interest in the less talented as in the talented and emphasise and reward personal levels of achievement and skill acquisition in addition to more overt competitive success. to devise their own incentives and sanctions for fair or unfair play; and to take personal responsibility for their actions.
- provide the child and young person and child's family with as much information as possible to ensure awareness of the potential risks and attractions of reaching levels of high performance.

- support the modification of rules to meet the special needs of the very young and immature, and put the emphasis on fair play rather than competitive success.
- ensure that safety measures are in place within the context of an overall framework of support and protection for participants, to protect them from sexual harassment and abuse and to prevent the exploitation of children, particularly those who demonstrate precocious ability.
- ensure that all those within or associated with the organisation who have a responsibility for children and young people are qualified at an appropriate level to manage, train, educate and coach them.

Report of Dr. Deshmukh Committee on Physical Education

The Committee on Physical Education was appointed by the University Grants Commission under the chairmanship of Dr. C.D. Deshmukh in December, 1965, to examine the facilities of physical education and standards of games and sports in Indian universities and colleges and to recommend measures to be taken to improve the standard and level of performance in this important field or activity of students.

It cannot be said that the contribution of physical education to a programme of general education has been fully appreciated in India. Nor can the facilities for physical education provided in our universities and colleges be considered in any way adequate. There is also a lack of interest on the part of students and teachers in programmes of physical education, which are at best considered to be only a useful ancillary activity of the university or college. The committee submitted its report in February, 1967.

The information regarding grounds at different colleges and universities collected by the committee is given in the following table:

Table 3.5**Universities/Colleges with the Maximum Number of Grounds/Courts: 1965-66⁹**

Games	Percentages of universities having grounds/ courts	Percentage of colleges having grounds/ courts	University with the maximum number of grounds/ courts	College with the maximum number of grounds/courts
Hockey	83	66	Kurukshetra (4)	T.D. College, Jaunpur (4)
Football	74	65	Mysore (3)	T.D. College, Jaunpur (6)
Cricket	70	55	Mysore (3)	Hans Raj College, Delhi (3)
Basketball	78	68	Kurukshetra (6)	Madras Christian College, Madras (5)
Volleyball	87	90	Annamalai (12)	T.D. College, Jaunpur (31)
Tennis	65	66	Lucknow (15)	Madras Christian College, Madras (7)
Badminton	78	85	Jammu & Kashmir (17)	Cotton College, Gauhati (20)
Squash	9	12	Roorkee (6)	C.M.S. College, Kottayam (3)

Summary of the Main Recommendations given by the Committee¹⁰

1. The development of physical education in the universities and college should be given the highest possible priority and regarded as an essential and integral part of education and human development.
2. It should be compulsory for every university/college student to participate in one activity or the other covered under physical education viz., games, sports, exercises, N.C.C., drill, P.T. etc.
3. N.C.C. which is at present compulsory in the universities and college will have to be reorganized on a voluntary basis.
4. Certain norms should be developed to ensure optimum utilization of the available resources. It is necessary that each college should aim at having about 8 to 10 acres of land for playgrounds. Generally speaking, each university should have at least 2 cricket fields, 2 hockey fields, 2 foot-ball fields, 4 basketball courts, 6 volley-ball courts, 12 tennis courts, a sports stadium with a

running track, a cricket pavilion and a gymnasium hall for gymnastics, badminton, table tennis and wrestling pits. Similarly, each college should have at least one cricket-field, one hockey field, one foot-ball field, 2 basket-ball courts, 2 volley-ball courts, 2 tennis courts, a sports stadium with a running track, a swimming pool and a gymnasium hall.

5. As the universities and colleges do not have enough resources to make provision for basic facilities and amenities in the field of games and sports, a suitable system of grants for augmenting the present facilities will have to be formulated. The government has to provide a substantial proportion (say 80 percent) of the total expenditure required for an effective programme of compulsory physical education.
6. Suitable incentives should be provided to students and teachers to participate in games, sports and other forms of physical education and to create in them a sustained interest in these activities.
7. It should be possible that, other things being more or less equal, preference may be given in matters of admission and employment to those students who have taken active and regular part in games and sports.
8. In judging the suitability or otherwise of candidates for admission to university courses, the authorities concerned should take into account their performance in games and sports along with the marks at the qualifying examination and other criteria of their aptitude and ability.
9. In the degree awarded to a candidate there should be a mention of his record in games and sports apart from marks or division/class in the regular subjects.
10. More students should be encouraged to participate in national and international events in the field of games and sports.
11. Young lecturers in the universities and colleges should be encouraged to take a more active part in games and sports and in other extra-curricular activities.
12. It would be necessary to have an estimate of the required manpower in the field of physical education in order to have in idea of the extent to which facilities have to be expanded. This exercise could be profitably undertaken by the Institute of Applied Manpower Research, New Delhi.

13. The University Grants Commission should appoint a review committee to carry out a comprehensive review of the courses offered by the colleges/departments of physical education, to evaluate the standard of training and to make suggestions for the improvement and upgrading of standards.
14. While the existing colleges/departments of physical education should be strengthened by the provision of additional facilities in terms of staff and equipment, no new college or department of physical education should be set up till a review of the existing courses and standards of training has been carried out by an expert committee.
15. It might be useful if some of the existing colleges/department of physical education pay adequate attention to training in yogic exercises, the development of which would be in the interest of our youth and society at large.
16. Where colleges are not in a position to employ special coaches for individual games, an arrangement could be made for the pooling of resources at the university level.
17. The universities might also consider the organisation of short-term coaching camps for the benefit of students in the affiliated colleges.
18. The minimum qualifications for appointment as instructor/director of physical education in a university or college should be a master's degree in physical education.
19. In order to give physical education its due status, universities and colleges should revise the salary scale of their physical education teachers to bring them at par with those of the other teacher. Persons with requisite qualifications (as mentioned above) should be appointed in the same scale of pay as lecturers. Directors of physical education in the universities could be appointed in the scale of pay of readers.
20. While organisation of games and sports is largely a matter of local needs and conditions, it is of the utmost importance that students are given due representation on these bodies. The boards should encourage inter-college sports as well as youth festivals and other activities such as labour and social service camps.

DIFFERENT MODELS FOR TEACHING PHYSICAL EDUCATION

At different times different models for teaching physical education to students have been implemented for a successful physical education programme. Some such models have been discussed as under:

Motor Skills and Game Models

Although they are substantially different from each other, several models share a similar focus: motor skills, sport, game, and play.

The Competitive Achievement Model

The competitive achievement model emphasised the ends rather than the means of competition, the product rather than the process. Simply said, it emphasises winning and winners. In the extreme, this emphasis results in rules violations and worse.

Competitive achievement is strong strand in the ethos of society and institutions, more so than in most other societies, although it is by no means supported by everyone. Of course, sport has provided a very visible vehicle for the promotion of competitive achievement, now sport has become a big business, even outside the professional arena.

The Multi-activity Model

The goals of the multi-activity model are exposure to many different activities and active participations in general supporters argue that this kind of program reduces student boredom because of its diversity and the novelty of new units every 2 or 3 weeks. The approach of this model is flexible and changeable without affecting rest of the programme.

The Sports Education Model

By tradition, much of physical education has been sport-related, and the recently popular elementary physical education skill themes model strongly suggests that sport is the eventual goal of physical education.

The sports education model is intended to help students become skilled sports participants and good sport persons to teach them to be players in the fullest sense of that term.

To do this, as many of the institutionalised aspects of sport as possible must be incorporated into the physical education programmes. Units are replaced in the sport education model. Students belong to teams that practice together and play together. A formal competition of some sort is conducted.

Personal-Social Development Model

Personal-social development refers to a large category or loosely connected such as self-image, motivation, cooperation and sportsmanship; it has often been referred to as the affective domain. Unlike the other perspectives we have discussed so far, personal-social development as a central purpose for physical education cannot stand alone.

The Responsibility Model

A third model of personal-social development focuses on teaching self-and social responsibility by empowering students to take more responsibility for their own bodies and lives in the face of a variety of barriers and limitations, and by teaching students that they have a social responsibility to be sensitive to the rights, feelings and needs of others.

Moral Education Models

A recent line of research suggests a different model of personal social development: moral education. Two different approaches are described. One, based on social learning theory, utilises modeling and reinforcement to teach pre-determined moral values, such as playing fairly and winning graciously.

Another way is to create moral dilemmas in game situations. A third way is to have students create their own games by following fair play guidelines, such as that everyone participates and has fun. Critics question the allotment of time given to discussion, although some evidences suggest that time may not be an important factor.

The Self-Esteem Model

The nature of self-esteem is still under investigation, but it appears that everyone possesses a number of more specific feelings about various aspects of the self. Four components- sport competence, physical strength, physical condition, and attractive body contribute to physical self-esteem, which in turn contributes to global self-esteem.

Other Personal-Social Development Models

Outdoor pursuits and adventure education emphasise competition against one self or nature, challenge and risk, and mutual dependency. Some research has shown that personal-social development occurs as the result of wilderness sport activities, especially among youth at risk.

The Concepts Model

Teaching concepts to students emphasises the how and why of movement, not just the doing of it. This model has a strong cognitive component in addition to the usual emphasis on psychomotor activities in physical education classes.

Motor learning concepts such as practice and feedback, and bio-mechanical concepts such as leverage, spin, and rebound, can also be taught. Sometimes students are asked to problem-solve and then to discuss and discover the basic concept. Like personal social development, the conceptual model, sport education, or fitness. Adequate time and proper planning is required.

The Fitness Model

This model has left its mark on physical education programmes. Youth are generally going unfit due to sedentary lifestyles beginning in childhood contributes to the risk factors associated with cardiovascular disease. In this model suggested that health related fitness can be achieved by regular participation in low- intensity activities.

Warm-Up

A few of these models such as organised recess, the multi-activity model, and competitive achievement are probably familiar to us, because we have experienced them and perhaps even taught according to them. Others such as, fitness and sport education are based on familiar concepts, even if they are not very much in evidence in most physical education programs.

The Eastern Approach

This approach offers an alternative to the ancient Greek sound-mind-in-sound-body perspective. Arguing that most of the models promote a mind-body dualism, this

model draws on Eastern philosophies such as Buddhism and Taoism, which in different ways advocate the abandoning of self, the unity of mind and body, and flowing with the experience rather than trying to control it.

SUB-DISCIPLINES OF PHYSICAL EDUCATION, EXERCISE SCIENCE, AND SPORT

The discipline of physical education, exercise science, and sport consists of 12 sub-disciplines. The cross-disciplinary nature of physical education, exercise science, and sport is evident from the names of the sub-disciplines. Theories, principles, scientific methods, and modes of inquiry from many other academic disciplines were used by researchers and scholars in the development of these specialised areas of study. Knowledge and research methods from the hard sciences of biology, chemistry, physics, anatomy, physiology, and mathematics strongly influenced the development of the sub-disciplines of exercise physiology and sport biomechanics. Physiology, sociology, history, and philosophy, often called the social sciences, formed the foundation for the development of sport and exercise psychology, motor development, motor learning, sport sociology, sport history, and sport philosophy. The rehabilitation sciences, particularly physical therapy, applied an important influence on the development of sports medicine and adapted physical activity. Educational research significantly affected the development of sport pedagogy. In the sub-disciplines of sport management, the influence of management, law, communication, and marketing is evident.¹¹

The 12 sub-disciplines of physical education, exercise science, and sport are briefly described below:

Exercise Physiology is the study of the effects of various physical demands, particularly exercise, on the structure and function of the body. The exercise physiologist is concerned with both short-term and long-term adaptations of the various systems of the body to exercise. The effects of different exercise programmes on the muscular and cardiovascular system, the immune system, and the health status of different population groups. Clinical exercise testing, design of rehabilitation

programmes for post cardiac patients and planning of exercise programmes to prevent cardiovascular disease are among the responsibilities of exercise physiologists.

Sports Medicine is concerned with the prevention, treatment and rehabilitation of sports-related injuries. Athletic trainer's responsibilities are broader than just administering treatment to the injured athlete on the playing field. From the stand point of prevention, the athletic trainer works with the coach to design conditioning programmes for various phases of the season, to correctly fit protective equipment, and to promote the welfare of the athlete, such as counseling the athlete about proper nutrition. With respect to treatment and rehabilitation, the athletic trainer assesses injuries when they occur, administers first aid, works collaboratively with the physician to design a rehabilitation programmes, provides treatment, and oversees the athlete's rehabilitation.

Sports Biomechanics applies the methods of physics and mechanics to the study of human motion and the motion of sport objects (e.g., baseball or javelin). Biomechanists study the effect of various forces and laws (i.e., Newton's Laws of Motion) on the body and sport objects. The musculoskeletal system and the production of force, leverage, and stability are examined with respect to human movement and sport object motion (e.g., spinning across the circle to throw a discus). Analysis of movements with respect to efficiency and effectiveness is used to help individuals improve their performance.

Sport Philosophy examines sport from many different perspectives. Sport philosophy encompasses the study of the nature of reality, the structure of knowledge in sport, ethical and moral questions, and the aesthetics of movement. Sport philosophers critically examine the meaning of sport for all participants involved and enjoin us to question our beliefs and assumptions about sport. Sport philosophers engage in systematic reflection, use logic as a tool to advance knowledge and arrive at decisions, and seek to understand the relationship between the mind and the body. Sport philosophers debate questions of ethics, morals, and values.

Sport History is the critical examination of the past, with a focus on events, people, and trends that influenced the development and direction of the field. These

facts when placed in the social context of the time help us better understand the present and gain insight regarding the future.

Sport and Exercise Psychology uses principles and scientific methods from psychology to study human behavior in sport. Sports psychologists' help athletes improve their "mental game," that is, develop and effectively apply skills that will enhance their performance. Motivation, regulation of anxiety, rehabilitation adherence, cohesion, is among the topics studied by sport psychologists. Recently, sport psychology has become more closely aligned. Exercise psychology is concerned with addiction, adherence, and other psychological issues affecting the well-being of people who are physically active.

Motor Development studies the factors that influence the development of abilities movement. The role of early movement experiences, heredity, and children's development of motor skills throughout their lifespan. Professionals use theories of development to design appropriate movement experiences for people of all ages and abilities.

Motor Learning is the study of changes in motor behavior that are primarily the result of practice and experience. The effect of the content, frequency, and timing of feedback on skill learning is a critical area of study. Motor learning is concerned with the stages individual progresses through in moving from a beginner to a highly skilled performer. The most effective conditions for practicing skills, the use of reinforcement to enhance learning, and how to use information from the environment to modify performance, are investigated by motor learning specialists.

Sport Sociology is the study sport in society, its impact on participants in sports, and the relationship between sport and other societal institutions. Sport sociologists examine the influence of gender, race, and socioeconomic status on participation in sports and, more recently, physical activity. Drug abuse by athletes, aggression and violence, the effect of the media on sports, and player-coach relationships invite interest of sport sociologists. The experience of the millions of children involved in youth sport has also drawn the attention of sport sociologists.

Sport Pedagogy can be defined broadly to include the study of teaching and learning in school and non-school settings. Sport pedagogy studies how physical educators and sport leaders provide an effective learning environment, achieve desired learning goals, and assess programme outcomes. It seeks to determine the characteristics and skills possessed by effective teachers and coaches and how these influence student/athlete activity and student/athlete learning. The curriculum, its goals, its organisation, and how it is implemented, are studied. The preparation of teachers is a major focus of this area.

Adapted Physical Activity is concerned with the preparation of teachers and sport leaders to provide programmes and services for individuals with disabilities. Specialists modify activities and sport to enable people with different abilities to participate. Adapted physical educators have a role in designing an individualised educational plan for students with disabilities so that they can participate to the fullest extent they are able in school physical education. Advocacy secure services and leadership to create more opportunities in physical education and sport are important aspects of this field.

Sports Management encompasses the man managerial aspects of sport. These include personnel management, budgeting, facility management and programming. Other aspects of sport management are law, policy development, fund raising and media relations. Knowledge from this area can be used by professionals in many different aspect of the sport enterprise, including interscholastic and intercollegiate sports, professional sports, fitness and health clubs, community sport and recreation programs, and sporting goods sales.

The Name Debate

Some scholars expressed concern that the traditional name of physical education was too narrow in scope and did not clearly convey the growing academic nature of the field. The title physical education also fails to reflect the expanding scholarly interest in sport and exercise science, which have emerged as vital areas of study. Moreover, the name was too closely linked to the traditional profession of teaching in the schools. Teaching, which was once our primary profession, is now one of many professions

associated with the discipline. However, other scholars favoured the retention of the traditional title physical education. Instead of changing the title, these scholars and professionals wanted to focus on changing the image of physical education to more accurately reflect its evolving nature, expanding scope, and changing focus. In short, physical education was experiencing an “identity crisis.”

Starting in the 1960s, some physical education departments in colleges and universities began changing their name to kinesiology which is defined as the study of human movement.

In 1989, after years of debate, the prestigious American Academy of Physical Education voted to change its name to the American Academy of Kinesiology and Physical Education; and recommended ‘Kinesiology’ as the title of the discipline.

Exercise Science, sometimes in conjunction with sport science, became a popular term used by departments in the 1990s.

Physical education and sports is also a popular title for the field. This designation retains the traditional term physical education that is familiar to the public. It includes the term sport, which has emerged as a prominent area of scholarly study. Physical activity science is another suggested name for the discipline.¹²

RESEARCH IN PHYSICAL AND SPORTS

The Role of Sports Sciences in Supporting Research

If athletes are to attain world class level of performance, information from the continuous assessment of training and competition must be made available to aid in the evaluation of how players are performing and progressing. To this end, many countries possess a nationwide framework of state of the art sport science support service to coaches which are designed to help foster the talents of elite athletes and improve how they perform. Two notable examples are the Australian Institute of Sport and the English Institute of Sport. Such centres provide the framework for delivery and application of multi disciplinary support services that are now deemed essential by contemporary coaches and athletes if sporting excellence is to be achieved and maintained. The wide range of support services on offer to elite athletes at these centres

includes applied physiological, biomechanical and motor skill testing as well as medical screening and consultations. The provision of other services such as nutritional advice, performance analysis, psychological support, strength and conditioning, sports vision and life style management is also readily available.¹³ Meyers (2006) has stated that it is the merging of sports sciences with coaching that will allow today's athletes not only to excel and compete at higher levels, but also allow the athlete to prevent injury and maintain health.¹⁴

Role of Emerging Technologies

The technological developments in all the fields have brought revolution especially in the field of research. The field of sports is not untouched from it. Such technological advancements have become a hallmark of sports and exercises sciences. Therefore, it is important for sports persons and sports scientists to be able to look ahead and position themselves at the forefront of new developments so that these may become part of everyday assessment. Such technology has been a very useful method for measuring sports performance. Some state of the art technologies, which are used in assessment and increase of sports performance, rehabilitation and for getting information for research purposes are given below:

- Portable laboratories
- Ingestible sensors
- DNA analysis
- Virtual reality
- Internet
- Online databases
- Remote coaching
- Simulated Internet-enhanced instruction
- Expert systems, etc.

The Gap between Research and Practice

One of the major problems facing the profession is the need to close the gap between research and practice. A significant time lag is often seen between the publication and presentation of research and the utilization of relevant findings. If our programmes, regardless of their setting, are to be based on sound principles, and then this gap must be narrowed.

Factors responsible for the gap between research and practice are many. Some of these factors may be attributed to the practitioner, while others are associated with the researcher.

Practitioners, in both their undergraduate and graduate preparation, may not have been adequately instructed in research methods and the technical and conceptual skills necessary to conduct and interpret research.

The lack of preparation hinders communication between researchers and practitioners and the consumption of research reports by practitioners. Practitioners who receive a sound background in research and statistics will be better equipped to communicate with the researcher who conducted the study and to interpret the findings.

Another factor that contributes to the gap is a negative attitude toward research held by practitioners. This attitude may deter them from using information revealed through research. Several reasons have been suggested to account for this negative attitude.

The lack of time and resources to apply research findings to practical situations also contributes to the gap between research and practice.

The lack of facilities and equipment with which to implement many of the research findings exacerbates the problem. Other physical education, exercise science, and sport professionals face similar constraints.

Application of research findings to practical settings is also hindered by the limited availability of the research findings. Many researchers publish their results in prestigious professional journals, many of which are not readily available to

practitioners. Another source of research are theses and dissertations. Although theses and dissertations are available at college and university libraries, these unpublished sources of research are readily available to practitioners at a distance from these sites. One promising development is growth of the Internet as a medium for the dissemination of research findings. Shodh Ganga by INFLIBNET makes available online the Ph.D. theses submitted to Indian universities.

Finally, the unwillingness of researchers to be concerned with the application of their findings contributes to the gap between research and practice. The failure of investigators engaged in basic research to be concerned with the application of their findings might be a cause of a lag in some cases. Complicated theoretical proposition that are sometimes advanced by researchers engaged in pure or basic research without some explanation of their practical uses are of little value to practitioners. If significant information provided by basic researchers is to be useful, investigators engaged in basic research should devote a portion of their time to development and dissemination.

How can we close the gap between research and practice? We have taken the initial steps by recognising that the gap does exist. There are several means by which this gap can be reduced. Professional preparation programmes can do a better job in preparing professionals to read and interpret research. A thorough background in research and statistics will enable physical education, exercise science, and sport professionals to develop knowledge of research theory and statistics, locate research reports, and evaluate research studies and interpret their findings. Another approach is for practitioners and researchers to work cooperatively on joint research projects. Researchers also must make a concerted effort to bridge this gap. Researchers should endeavour to address the practical implications of their work when reporting their investigations in journals.

Finally, individuals are needed to serve as translators of research findings. These translators consolidate research findings, identify practical applications, and disseminate this information to practitioners in an easy-to-understand language format. This job needs to be done on a large scale if research findings are to be put to use without the normal research lag.

International Scene in Research in Physical Education

Apart from above mentioned, some studies have been conducted by the researchers to know the research trends in physical education at national and international levels. With such studies standing of Indian physical education research can be compared with international research in the field. One such study was conducted by Martin (1987) on the investigation of the future of doctorate study in physical education. Specifically investigation for specified time period in the future of physical were the (a) goals of doctoral study (b) areas of concentration (c) the knowledge of the course of the study.¹⁵

Gillis (1987) conducted a study on trends in doctoral theses in physical education. The study was designed to describe selected characteristics of doctoral theses written by the students of physical education in the departments of physical education in the United States from 1964 to 1983. In results it was found that descriptive research was the most frequently used research strategy, functional effects were the most frequently used, most of the research degrees were Ph.D.¹⁶ A study on critical examination of published sports motivation research 1975-86 was conducted by Warren in 1989 to determine the state of the art motivation and to identify strength and weaknesses in the empirical support for practices in support motivation and to prepare future directions.¹⁷

Another study was done by Carther (1990) with a purpose to examine special characteristics of sports psychology doctoral dissertations produced graduate programmes in the United States between 1966 and 1985.¹⁸

Universities and Higher Education in India

There were 20 universities and 500 colleges at the time of independence. At present there are 620 universities are established in India, out of which 298 state universities, 130 deemed to be universities, 44 central universities and 148 private universities as on 11.02.2013. Fifty two institutes of national importance established under acts of parliament, and five institutions established under various state legislations.¹⁹ Total number of colleges was 33023 in India during 2012.²⁰

Research in Physical Education and Sports - Indian Scene

Research in any field is the path of its progress and it is absolutely applied in the field of physical education and sports. Purposeful and sustained research efforts are the means to solve the problems and these open new avenues in the field. Paragaonkar (2005) rightly emphasises to always remember the “PACE” where ‘P’ stands for planning, ‘A’ for actions, ‘C’ for check and ‘E’ for eliminating errors for progress.²¹

Major part of research in physical education in our country is undertaken in the universities and their affiliated colleges, by the students as requirements of certain degrees like M.P.Ed., M.Phil. and Ph.D., almost all in the universities, requires only a thesis for which a scholar must work for at least two years. M.Phil. and M.P.Ed. degree requires some of the courses related to research work and one dissertation.

M.P.Ed. was instituted in India in 1969. Thus we have a history of about 40 years. However, it is surprising to note that still some thinkers deny physical education the status of a university discipline. The fundamental research according to them is not possible in physical education. It is a fact that, at present almost everybody recognizes physical education as a very important area of study.²²

Doctoral Research Trends in Physical Education and its Related Disciplines

Research trends help the researchers in identifying thrust areas to be investigated. Such trends guide researchers to what has been done and what remains to be done. The trends analysis reveals the clear picture of a discipline and predicts the future of a subject. These can help to sort out the limitations, fill up the gaps in the subject and provide guidelines for future research.

Physical education in India is in a progressive stage, but has shown a rapid growth in the last few years. Till 1980 doctoral research programmes in physical education were ignored. After 1980 only, the inception of doctoral research took place.

Laxmi Bai National College of Physical Education, Gwalior was established in 1957 and started the M.Phil. programme. The M.Phil. programme was started in 1980. The registration for Ph.D. in physical education was seen in 1976 or 1978, but it was in 1980-81 year, when outcome of doctoral research in physical education was noticed.

After 1982 there was a rapid growth of departments of various universities, colleges and institutes. The momentum of research was started but it was predominated by Northern India with little support from South and East. There is no significant review on quality, need and practical applications of research at the national level. There is uncontrolled growth of research without any direction. Best reason may be the absence of national policy and guidelines on the same. At present Ph.D. and master degrees in physical education started at many places in various universities and research potential have taken multiple applications and are accelerating at a good pace.²³

In the recent years some research work had been going on in the basic disciplines pertaining to sports. The establishment of NIS Patiala played a major role in this direction. The establishment of research wing at this institute was initiated in 1964. The NIS has promoted research in sports in India in other ways too. Apart from publishing journals, the institute has organised international congresses concerning research in sports. In India this has been the main centre of international meetings of sports scientists from various parts of the world. A total of 16882 coaches have passed out from NS NIS Patiala and its regional centres at Bangalore, Kolkata and Gandhi Nagar (Gujarat).²⁴

The department of Human Biology of Punjabi University, Patiala is also responsible for activating sports and sports research in India. Apart from all these, there are some other institutions activating research in sports in the country, chief among them are Defense Institute of Physiology and Allied Sciences, New Delhi, Kaivalyadhama of Lonawala, Pune, the Departments of Physical Education in the various universities and other educational institutions.²⁵

In 1998, Shaw and Jain conducted a study to analyze the nature and type of statistical procedures used in conducting the research by sports psychologists in India. It was a very important research work of its kind which was carried out by Shaw and Tomer in 1998 entitled 'Doctoral research trends in physical education in India from 1980-1997.' It is appropriate to mention here that doctoral research in this field was initiated in 1980. This study provides a detailed account on physical education research in India. Main findings of this study are given under:

Only 16.6% universities awarded Ph.Ds. in physical education in India, while 83% universities were not awarding Ph.Ds. in physical education. Jiwaji University, Gwalior awarded highest number of Ph.Ds. (31%) in physical education followed by Punjabi university (18.5%), Kurukshetra University (11.9%) and Panjab University (8.8%) etc.

In block year wise category till 1984 only four universities awarded Ph.Ds. degrees in physical education.

State wise Madhya Pradesh awarded highest number of Ph.Ds (32.7%) followed by Punjab (27.4%) and Haryana (11.8%). Physical Education departments registered highest number of Ph.Ds. (80.1%) followed by education departments. Maximum number of Ph.Ds are awarded to male researchers (80.5%) and (19.5%) to female researchers. In case of research supervision, supervisors from physical education guided maximum number of Ph.Ds (64.4%) followed by Education (19.4%), Psychology (4.7%), Sport Sciences (2.8%) and SAI NIS (2.3%). Maximum number of PhDs were awarded in Psychology (20.2%) followed by Fitness (18.8%), Anthropometry (14.7%), Physiology (12.7%), Exercise and training (10.1%), Skill test and norms (6.0%), Teaching and coaching (3.1%). Highest number of Ph.Ds awarded in Athletics (12.8%) followed by volleyball and Hockey (3.9% each) badminton (1.3%), handball, Judo, kabaddi and wrestling (0.8%).

Highest number of Ph.Ds were awarded in Physiological variables (64.0%) followed by cardio-respiratory function (24.0%), Hematology (6.0%), Physical fatigue and recovery (4%) and Skeletal maturity (2%) on the basis of sex of sample, maximum studies were done on combined (male/female) sample (60%) followed by male (24.6%) and female sample (15.3%).

Maximum number of Ph.Ds were of Survey type (60%) followed by experiment type (26%), normative type (5.2%), test construction type (4.3%), historical type (1.7%), descriptive type (1.3%) and case study type (1.3%).

Year wise distribution of doctoral research reflects that maximum number of doctoral research were published in the year 1992-93 (7.14%) and lowest number of doctoral research was published in the year 1994-95 (4.95%).²⁶

Cardinal, Powell and Lee (2009) have given trends in international research presented through the Research consortium of the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) (1965-2008). The extent of international research on the research consortium's programme from 1965 to 2008 has been documented.

A total of 9132 abstracts were reviewed and 657 (7.19%) had an international component. Inclusion of International research ranged from a low of 1.97% in 1983 to a high of 14.24% in 2007. There was a decrease in the amount of international research presented between 1965 and 1983; after which there was an increase through 2008. Most growth was from increased contributions coming from researchers in South-East Asia.²⁷

Challenges

The challenges facing physical education, exercise science, and sport professionals will increase as we move into the future. These main four challenges are: providing high-quality daily physical education; promoting our programs; working to achieve the nations' health objectives; and encouraging lifespan involvement for all people.

CONCLUSION

Education and research in Physical education and Sports in India is growing at a rapid pace. Sports institutes with great potential are imparting education in this field and research is also being carried out in such centres. But when we think little about our standards of education and research at the international level, the outcomes are not satisfactory. We have to restructure our curriculums, excellent research facilities to be provided to the sports scientists, formulation and proper implementation of the policies are important matter for contemplation. All the shortcomings at every level should be eliminated. In brief we can conclude that a lot has to be done in the field of education and research in Physical Education and Sports in India.

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