



# BRINGING THE KNOWLEDGE COMPONENTS OF PHYSICAL ACTIVITY EDUCATION (INCLUDING SPORT) TO THE PRACTICING PHYSICAL ACTIVITY EDUCATOR

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## Abstract

*The field of physical (activity) and health education, or whatever it is called in any one of the world's countries, has undergone a "determined" but often "confused" development in the 20<sup>th</sup> century. After Sputnik went up in 1957, the field sought help from a variety of disciplines (e.g., kinesiology) and professions (e.g., management) in an attempt to truly define itself. Building on what Arthur Steinhaus (George Williams College) stated were its four "principal principles" in the early 1950s, the author asserts that some 14 "principal principles" of the field can now be affirmed. Searching for consensus, a proposed taxonomy for "developmental physical activity in exercise, sport, and physical recreation" is offered here for consideration as the field moves along in the 21<sup>st</sup> century. The author argues that the field also needs to make available to the professional practitioner a computerized inventory of generalizations that represents a distillation of the field's scientific and scholarly literature.*

**Key words:** Field, discipline, profession, principle, taxonomy, generalization

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## Introduction

The professional practitioner in sport and physical education, as well as the related research scientist and scholar, have been gradually overwhelmed by periodical literature, monographs, books, and similar materials. This knowledge and information is typically interesting, and much of it would undoubtedly be valuable to us if it were readily available. Such "inundation" with printed pages prevails also in almost all of our allied professions (e.g., recreation) and related disciplines (e.g., exercise science, motor learning and control)<sup>1</sup>

Further, because of a variety of rules, regulations, and stipulations, we are usually not made aware of many substantive research reports that should be made part of our own retrieval systems in the various sub-disciplinary and sub-professional areas of scholarly investigation (see Definitions of Terms below).

Still further, and this is basic if we don't decide to do something about this untenable situation, much of the material steadily becoming available is unintelligible to the general public on whose behalf we are carrying out our professional endeavors.

To make matters worse, because of provinciality and communication barriers, we are typically missing out also on important findings published originally in other languages such as German, Russian, Japanese, and Finnish, to mention several tongues in which scholarly work is reported regularly. The assumptions seem to prevail implicitly that such knowledge will somehow be made available in English.

It is true that bibliographies of scholarly publications in several languages are occasionally made available. Further, print-outs of bibliographies on specific concepts or "uniterms" can be purchased commercially. However, a bibliography is just that – a bibliography. Such a listing is typically not annotated to offer any specific information about the topic concerned.

Still further – and this is really the most important point in this article – we simply don't

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<sup>1</sup> This paper builds upon the author's "Relating a proposed taxonomy of sport and developmental physical activity to a planned inventory of scientific findings," *Quest*, 35, 1 (1983), 54-65.

know where we stand as a field within the profession of education in regard to an undergirding body of knowledge! Such a body of knowledge is vital to both the successful practice of, and the accompanying recognition of, any profession. Nowhere do we have an inventory of scientific findings arranged as ordered principles or generalizations to help us in our work as professional practitioners – be it as teacher, coach, scholar, research, consultant, or administrator. This deficiency can – and indeed must – be rectified.

At the first possible moment, an inventoried, ordered, data base of knowledge about developmental physical activity in sport, exercise, and related expressive activities should be made readily available online to our members at cost and to non-members on a cost-plus basis as a professional service. Such knowledge could form the basis also – theory, intellectual underpinning, evidence – for an evolving professional practitioner's handbook that would very soon become an essential component of every qualified professional person's practice in the field of physical activity education.

The problem, therefore, is twofold. First, we will have to convince the established profession to implement such a development through the establishment of a systems theory approach that would gradually but steadily result in our unique field's tenable theory and research findings being made accessible to our professional practitioners. Second, we have to develop and implement a strategic marketing plan to see to it that the goal of a well-informed profession is achieved. To make matters difficult, our field (along with many others, of course) does not yet appreciate the need for the implementation of a 'total system' concept with regard to its intellectual base. Nevertheless, there are many urgent reasons why the field of physical activity education should be encouraged take a holistic view if we hope to merit increased public support in the future. Such an approach would require the concerned discipline and related profession to concern itself with the necessary components of a viable system – with input, thruput, output, and subsequent user reaction for evaluative and corrective purposes.

## Definition of Terms

Some of the terms employed in this presentation will be defined because they are presently being used ambiguously. Also, certain terms described below in a (presumably logical order) are given a specific meaning that needs clarification:

- sport and physical education – the term adopted to describe the profession by the National Association for Sport and Physical Education (NASPE), the Association for Research, Administration, Professional Councils and Societies (ARAPCS), and the Research Consortium, all functioning with the American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD).
- developmental physical activity in sport, exercise, and related physical activity – a term recommended for what might be called the disciplinary aspect of physical activity education.
- sub-disciplinary aspects – those aspects of developmental physical activity (as defined above) that make up the essential sub-disciplinary components of the body of knowledge upon which professional practice in physical activity education is based (e.g., the functional effects of physical activity, with physiology as one related discipline).
- sub-professional aspects – those aspects of developmental physical activity that make up the essential sub-professional components of the body of knowledge upon which professional practice in physical activity education is based (e.g., measurement and evaluation, management).
- allied professions – a field or profession that is closely related to the field of physical activity education (e.g., health education, recreation).
- related discipline – a field of scholarly endeavor or branch of learning, the findings from which are employed by professionals in physical activity education (e.g., physiology, psychology, history).
- taxonomy – a classification into categories based on natural relationships.
- inventory – a listing, accounting, or catalogue of ideas, facts, or things.

- ordered principles/generalizations – a series of verified statements or findings in a 1-2-3-4 arrangement.
- systems approach – a plan designed for the management of an operation or organization that involves the determination of exactly what is to be accomplished and how such achievement of objectives may be executed successfully. (See systems theory below.)
- systems theory – a theoretical analysis of organizational activity based on the necessity of including the basic elements of input-thruput-output into any modeling of functional accomplishment; consideration is given also to necessary adaptation so that societal support (i.e., demands and resources) will continue indefinitely. Thus, when applied, we might correctly call the result a systems theory approach.

### **Past Development and Present Status**

Before discussing the make-up of an ordered inventory of scientific findings, as well as the plan for a systems theory approach that could provide an applied body of knowledge efficiently for the field and/or profession, it is necessary to put 20th-century development in the field in perspective. Such an investigation had originally been prepared for *The American Academy of Physical Education* (Zeigler, 1979, 9-16). In this historical analysis the development of three categories or subdivisions of the overall field was reported as follows: (1) the potential body-of-knowledge as characterized by its sub-disciplinary areas; (2) the concurrent sub-professional components of the developing field (such as exist in all subject-matter fields to a greater or lesser extent); and (3) what may be called the potential allied fields and professions (such as may exist for other emerging fields of study also).

Originally the sub-disciplinary areas identified included the physiological aspects, the historical and philosophical aspects, the psychological aspects, the biomechanical aspects, the sociological aspects, and "other" disciplinary aspects (at that point not determined). The so-called concurrent sub-professional components were determined to be administration, supervision, curriculum, methods

of instruction, comparative and international relations, measurement and evaluation, etc. The potential related professions were classified as (1) competitive athletics, (2) health education, (3) dance (education), (4) recreation, (5) adapted exercise (therapy), and (6) safety education.

The development of these three categories or subdivisions of the field were then traced for the following periods of time: (1) 1900-1930, (2) 1930-1960, (3) 1960-1970, and (4) 1970-1980. The conclusions reached for the most recent era at that point (i.e., 1970-1980) indicated (1) that there has been a strong disciplinary thrust in the 1960s that had tended to swing the profession's research and scholarly efforts away from the consideration of the many problems faced daily by the practicing professional (e.g., measurement & evaluation, curriculum and instructional methodology, and administration & supervision); (2) that starting with the 1970s and thereafter the sub-disciplines that began to move significantly away from physical activity education continued their movement toward the respective mother disciplines (e.g., psychology, sociology, philosophy); (3) that the six (presumably) allied professions often consolidated their positions outside the many physical (activity) education departments and similar educational units in colleges and universities; and (4) that there has been little change during the 1970s in the so-called concurrent, sub-professional components as delineated above (i.e., people specifically interested in these aspects of the profession who maintained a firm relationship with the established profession).

Tracing the history of the developing field in this way during the 20th century permitted the investigator to develop insight into what might be recommended as the most appropriate (best?) curricular taxonomy for professional preparation to be adopted for the 1980s and thereafter – or at least until changing social conditions warranted further reappraisal. In developing such a proposal, the recommendations of earlier national conferences on professional preparation held in North America were reviewed. More specifically, a careful analysis was made of the recommendations for physical education emanating from the 1967 Graduate Study

Conference sponsored by the AAHPERD. Finally, this developing matrix was correlated with the thought of the late Laura J. Huelster (Professor-Emerita, University of Illinois, Urbana-Champaign), who had played one of the two leading roles in the 1967 graduate study conference mentioned above and also in approval of the taxonomy proposed in this essay.

An examination of the outline of the proposed taxonomy, upon which the recommended inventory (Table 1) might be based, will reveal that there is a balanced approach in regard to the emphasis placed on the sub-disciplinary aspects and the sub-professional aspects of the profession's widely dispersed, under girding body of knowledge (Zeigler, 1995, 2002). By this is meant that full status is accorded to the sub professional aspects on the assumption that appropriate research methodology and accompanying techniques will be developed and regularly employed to provide the profession with its necessary theory and ordered principles in these sub-professional aspects also (i.e., curriculum, pedagogy, measurement & evaluation, management). The position being taken is that the present rift in the field, as identified in the 1979 study (Zeigler) must somehow be narrowed considerably, and eventually eliminated in the future. The development of a workable taxonomy (as proposed in Table 1 below) that could be integrated with an evolving inventory through the implementation of a systems theory approach could accomplish a great deal toward closing the present gap.

Building on the 1979 historical analysis, it will be noted in Table 1 below (see left hand column) that a new classification of the proposed areas of scholarly study and research in developmental physical activity has been proposed – new in the sense that nomenclature unique to the field of sport and physical education is employed. By this is meant that the names selected for the eight areas do not use the terms that are currently part of the names of, or the actual names of, other recognized disciplines (e.g., functional effects of physical activity instead of exercise physiology, the latter name usually being identified with the discipline of physiology).

In recommending this taxonomy for adoption by the established profession, therefore, the strong recommendation is that we in this profession should develop and then strongly promote our own unique disciplinary effort. Of course, at the same time the profession should work cooperatively with what are here being called the related disciplines and the allied professions. The rationale for recommending a unique approach for us is simple and straightforward: if people in sport and physical education always speak of sociology of sport, exercise physiology, psychology of sport, etc., it will just be a matter of time before our physical education-trained scholars will have – in a disoriented, splintered fashion – given our field's disciplinary thrust away to other disciplines without their having earned it (so to speak)!

Sound knowledge about, and the promotion of excellent techniques for employing, developmental physical activity through the media of sport, exercise, and related expressive activities throughout the lives of all people in our North American society.

Of course, some argue that the study of human developmental physical activity as described here is really not a discipline, or that at best it is a hybrid discipline with the basic elements or components basically belonging to the related disciplines (as defined above). It can be argued that permitting continued movement in this latter direction – which we may call the "that's us everywhere else" approach – might not be all that bad. However, I believe that such a development will soon cause in a "debilitating fractionizing" that will very soon result in the (what we think is a) developing field within education being regarded generally as a somewhat useful trade in society. Here the argument is that the ultimate goal of our field should be full-fledged status to be promoted enthusiastically by the education profession. This claim can be made safely because all members of our field truly believe that their efforts can result in enriched living and wellbeing for all people on earth. We believe that our best efforts can improve the quality of life for all through the medium of developmental physical activity (purposeful human motor performance, if you

will) in sport, exercise, and related physical activities.

This objective for the field of physical activity education can be carried out best with the help of-and hopefully not on the coattails of-the allied professions and the related disciplines. Further, and this could well be crucial, if we in this field must wait for others in the related disciplines and allied professions to do this for us

on a piecemeal basis, such development and possible accompanying recognition of the importance of developmental physical activity within the lifestyle of the "evolving amphibian or human animal from womb to tomb" will come belatedly and will be less effective! This will be the result because of poor interdisciplinary and inter-professional articulation.

Table 1

DEVELOPMENTAL, PHYSICAL ACTIVITY (IN EXERCISE, SPORT, AND PHYSICAL RECREATION)

<b>Areas of Scholarly Study &amp; Research</b>	<b>Subdisciplinary Aspects</b>	<b>Subprofessional Aspects</b>
I. BACKGROUND, MEANING, AND SIGNIFICANCE	- History - Philosophy - International & Comparative Study	- International Relations - Professional Ethics
II. FUNCTIONAL EFFECTS OF PHYSICAL ACTIVITY	- Exercise Physiology - Anthropometry & Body Composition	- Fitness & Health Appraisal - Exercise Therapy
III. SOCIO-CULTURAL & BEHAVIORAL ASPECTS	- Sociology - Economics - Psychology (individual & social) - Anthropology - Poli. Sci./Geography	- Application of Theory to Practice
IV. MOTOR LEARNING & CONTROL	- Psycho-motor Learning - Physical Growth & Development	- Application of Theory to Practice
V. MECHANICAL & MUSCULAR ANALYSIS OF MOTOR SKILLS	- Biomechanics - Neuro-skeletal Musculature	- Application of Theory to Practice
VI. MANAGEMENT THEORY & PRACTICE	- Management Science - Business Administration	- Application of Theory to Practice
VII. CURRICULUM THEORY & PROGRAM DEVELOPMENT	- Curriculum Studies - Investigation of Teaching/Learning	- Application of Theory to Practice
Developmental physical activity in (1) general education; (2) intramural sports and physical recreation; (3) inter institutional competitive sport; and (4) programs for special populations (e.g., handicapped) - - incl, curric. & instruc. method.		
VIII. EVALUATION AND MEASUREMENT	- Theory about the Measurement Function	- Application of Theory to Practice

**Formulation of the Original Plan for an Inventory**

The original idea for the development of an inventory of scientific findings about

developmental physical activity is not unique to this field. Bernard Berelson and Gary Steiner implemented such an inventory about 40 years ago in the behavioral sciences. In their publication, Human behavior: An inventory of

scientific findings (1964), the editors and their associates reported, integrated, assessed, and classified "the results of several decades of scientific study about human behavior" (p. 3). The basic plan of this formidable undertaking was fundamentally sound; thus, many of the same ideas concerning format could be employed today in the development of a scientific inventory about developmental physical activity prior to going online with the results. Actually, it could well be carried out in all of the existing disciplines and then updated regularly on a worldwide basis in one or more agreed-upon languages. Of course, varying emphases and certain significant differences might be introduced, but the basic approach is still valid. Berelson and Steiner summarized their task as the development of "important statements of proper generality for which there is some good amount of evidence" (p. 5).

The allied professions of health, physical education, recreation, and dance can take some pride in the fact that certain steps had indeed been taken about this same time of an "inventory nature," entitled "The Contributions of Physical Activity to Human Well-Being" (Research Quarterly, May, 1960, 261-275. This fine contribution of the Research Council of the (then) American Association for Health, Physical Education, and Recreation described the status of the profession's research knowledge at that point; its intent was "to inquire into the validity of objectives which have been endorsed in our allied... . The supplement will serve to consolidate the evidence for these objectives and to point the way for further research" (Foreword). The allied fields referred to were health education, physical education, and recreation. Each section's title began with the words "The Contribution of Physical Activity to ...". The specific topical headings included were physical health, social development, psychological development, skill learning, growth, and rehabilitation. Despite the seeming importance and helpfulness of this document to practicing professionals, a paucity of evidence existed then in comparison to the availability of supportive evidence now, some 40 years later. Thus, it is understandable that this synthetic

presentation was characterized by excessive generality at various points.

As can be seen, this present, more comprehensive, complex, and detailed plan had its origins during a period now described as the "knowledge explosion of the '60s," with the accompanying topical specialization that seemed appropriate for the three professions at that time. The RQ supplement should have been very helpful to the conscientious professional of that day, but perhaps it wasn't especially enthusiastically received for one or more reasons. For example, it did not include the ordered generalizations found in Berelson and Steiner. Also, the average professional then was not fully aware of the potential value of such an inventory as it might evolve. Further, rapid recall of such limited theoretical knowledge was not possible through online service at that time. Finally, specific subdivision of topics within developmental physical activity only was not envisioned adequately at that point. Whatever the situation, such a supplement – even without the ordered generalizations (principles) – was not updated regularly to reflect continued development.

As a result we have a situation today in which, even though facts and figures have become increasingly available, the professional practitioner is still at a loss when asked a specific question about some aspect of daily work performance. A reasonable answer to a particular question could be obtained from a sub-disciplinary specialist (e.g., in motor learning and control) or a sub-professional specialist (e.g., in program development), but very few people have such expert opinion close at hand. Thus, we have witnessed the development of such online services as MEDLINE, KNOWLEDGE INDEX, QL, ERIC, and PSYCH. ABSTRACTS, to which requests can be made for a particular article in those respective areas through a large library or via one's own modem. But where, specifically, can the answer to a specific question about one or more areas of professional interest be obtained right now as it may be needed?

## Areas of Professional Interest & Concern

In 1951, speaking to the former College Physical Education Association, Dr. Arthur H. Steinhaus identified four "principal principles" of physical education. He explained that the term "can and does mean the most important or chief fundamental theories, ideas, or generalizations" (p. 5). With the steadily growing body of knowledge that has provided our profession with much more substantive knowledge base than existed at the middle of the twentieth century, it is now possible to claim that our "principal principles" have increased to at least fourteen (Zeigler, 1994, 1995, 2011). These principles, as indicated below, give our field support for inclusion as a mainstay in the educational curriculum. Each one could form the basis for a section or subsection of the inventory being proposed:

### The Fourteen "Principal Principles" of Developmental Physical Activity.

**Principle 1:** The "Reversibility Principle". The first principle affirms that circulo-respiratory (often called cardio-vascular) conditioning is inherently reversible in the human body;

**Principle 2:** The "Overload Principle". The second principle states that a muscle or muscle group must be taxed beyond that to which it is accustomed, or it won't develop;

**Principle 3:** The "Flexibility Principle". This principle indicates that a human must put the body's various joints through the range of motion for which they are intended. Inactive joints become increasingly inflexible until immobility sets in;

**Principle 4:** The "Bone Density Principle". This principle asserts that developmental physical activity throughout life helps significantly to maintain the density of a human's bones;

**Principle 5:** The "Gravity Principle". This principle explains that maintaining muscle-group strength throughout life, while standing or sitting, helps the human fight against the force of gravity that is working continually to break down the body's structure;

**Principle 6:** The "Relaxation Principle". Principle 6 states that the skill of relaxation is

one that people must acquire in today's increasingly complex world;

**Principle 7:** The "Aesthetic Principle". This principle explains that a person has either an innate or culturally determined need to "look good" to himself/herself and to others;

**Principle 8:** The "Integration Principle". Principle 8 demonstrates that developmental physical activity is an important means whereby the individual can "fully involved" as a living organism. By their very nature, physical activities in exercise, sport, play, and expressive movement demand full attention from the organism – often in the face of opposition – and therefore involve complete psycho-physical integration;

**Principle 9:** The "Integrity Principle". The principle of integrity implies that a completely integrated psycho-physical activity should correspond ethically with the avowed ideals and standards of society. (Thus, the "integrity principle" goes hand in hand with desirable integration of the human's various aspects <so-called unity of body and mind in the organism explained in Principle 8 immediately above);

**Principle 10:** The "Priority of the Person Principle". Principle 10 affirms that any physical activity in sport, play, and exercise sponsored through public or private agencies should be conducted in such a way that the welfare of the individual comes first (i.e., sport must serve as a "social servant");

**Principle 11:** The "Live Life to Its Fullest Principle". This principle explains that, viewed in one sense, human movement is what distinguishes the individual from the rock on the ground. Unless the body is moved with reasonable vigor according to principles 1-6 above, it will not serve a person best throughout life;

**Principle 12:** The "Fun and Pleasure Principle". Principle 12 states that the human is normally a "seeker of fun and pleasure," and that a great deal of the opportunity for such enjoyment can be derived from full, active bodily movement;

**Principle 13:** The "Longevity Principle". This principle affirms that regular developmental physical activity throughout life can help a person live longer (Zeigler, 1994, 1995); and

**Principle 14:** The “Physical Fitness & Learning–Correlation Principle” affirms that evidence accumulating is showing a positive relationship between physical fitness and what is termed as academic achievement (Zeigler, 2011).

### **How This Computerized Inventory Can Be Constructed**

The development of such a computerized inventory of scientific findings about developmental physical activity arranged as ordered principles would demand the combined effort of a number of highly qualified scholars and technicians within the field of physical activity education within the education profession. In essence, this steadily developing computerized inventory would be an ongoing, “self-correcting” assessment of the present state of our scientific knowledge and scholarly thought. The people preparing the acceptable data would serve as reporters and integrators presenting what we know and what we have good reason to assert – to hypothesize – what we think and/or believe that we know! Every effort will have to be made to avoid the inclusion of what we hope to know (i.e., making it sound like a statement made a claim based on documented evidence).

The professionals who use this ostensibly simple, yet inherently complex, retrieval system will find series of verified findings, generalizations, or principles in an ordered 1-2-3-4 arrangement. In reporting the available material, the language used will be as free as possible from scientific jargon. It should be understandable to the intelligent layperson, as well as to our academic colleagues in other fields. Even making it completely intelligible to the sport and physical education professional will be difficult, because the findings range from presently accepted areas of scholarly interest ranging from physiology to philosophy to curriculum investigation in a field that presently totals a minimum of thirty areas of specialization if we encompass both its “pure”, sub-disciplinary and sub-professional aspects (e.g., physiology, psycho-motor learning, curriculum studies), as well as what can be subsumed when the applied areas of these aspects are developed for the

professional practitioner as well. (See the center and right columns in Table 1 above.)

What will be made available will not be available anywhere else. For example, several general theoretical propositions related to human behavior could be considered according to different categories as adapted from Berelson and Steiner. From the area of small-group research (face-to-face relations), the following theory (assumptions or testable hypotheses) might be included in an inventory:

1. That the manner in which the administrator leads his or her department is determined more by the existing regulations of the educational institution itself, and the expectations of the faculty and staff, than by the manager's own personality and character traits.
2. That a department head will find it most difficult to shift the departmental goals away from established norms.
3. That the department head will receive gradually increasing support from staff members to the extent that he or she makes it possible for them to realize their personal goals.
4. That an administrator who attempts to employ democratic leadership will experience difficulty in reaching his or her personal goals for the department if there are a significant number of authoritarian personalities in it (adapted from pp. 341-346, the original being much more detailed with direct sources based on specific research).

In reporting the available material, the language used should be as free as possible from scientific jargon. It should be understandable to the intelligent layperson and, of course, to people in the allied professions and academic colleagues in the related disciplines. This would be no mean task, because the findings would range from the background of the field to the functional effects of physical activity to investigation in program development in a field that presently includes a minimum of 30 areas of specialization. In any case, what would be presented is currently not available elsewhere in this form. This type of inventory would therefore represent a truly significant contribution to the profession of sport and physical education, the



allied professions, the related disciplines – and even to the public at large.

To explain this process a bit further, the reader should keep in mind that it may be necessary to select a particular study for inclusion in the inventory from among many similar scholarly items available in the literature of developmental physical activity – and also from studies carried out in closely related fields that have a direct bearing on the topic at hand. The synthesizer would be looking primarily for theory, findings, principles or generalizations, and propositions that apply to this field (i.e., "the art and science of developmental physical activity in sport, exercise, and related physical movement").

After accepting a finding for inclusion, it would be necessary to condense it and other similar findings into one distinct principle (generalization). Next, the investigator would organize the material into sub-headings that could subsequently be arranged in a logical, coherent, descending manner (e.g., Proposition A1, then A1.1, A1.1a, A1.1b, A1.1c, etc., depending upon the complexity of the proposition at hand). Finally, the resultant material would be reviewed and analyzed in order to eliminate certain technical language that might only confound the majority of people for whom the computerized inventory is primarily intended.

The goal of this large project would be a computerized inventory representing a distillation of the literature of developmental physical activity in this field that would communicate what scholars believe is known about discipline to those professionals who are not specialists in the specific sub-disciplinary or sub-professional area described. This is not to say that such an inventory could not be helpful to the specialist in his or her own specialty, but that this is not the basic objective. Further, to some extent there would at first be reliance on secondary summaries of the empirical literature, but this should be kept to a minimum. However, such reliance would be necessary because of the great bulk and variety of material.

The investigators could also obtain the benefit of the evaluative judgment of the specialist who may have originally developed a summary or evaluation. Such material would be

temporarily helpful in those instances where gaps in the field's own literature still exist; there are undoubtedly many of these. Then, too, as more evidence is forthcoming, it would provide a base for improved professional practice as the fundamental theory grows broader and deeper. Even then, the scholar, as well as the professional user of the generalized theory, would appreciate the necessity of using some qualifying statements in the development of order generalizations or principles (e.g., "under certain circumstances").

In addition to being able to access this with their personal computers so as to make this inventory available for their everyday professional needs, the professional association(s) could also make available an evolving professional handbook to the practitioner on the assumption that the steadily growing body of scientific findings about developmental physical activity is needed now by the many professionals in the field – be they teachers, coaches, managers, researchers, supervisors, performers, or professionals serving at YMCAs, commercial fitness centers, racquet clubs, etc. This handbook should be organized on a loose-leaf basis and updated frequently (e.g., annually).

### **The Need for a Systems Theory Approach**

To this point an effort has been made to present the "why" and "how" of a proposed inventory of scientific findings covering developmental physical activity that could be made available on an online basis for those who use personal computers and as a professional handbook that could be updated on a regular basis. It has been recommended further that such an inventory be based on a uniquely worded taxonomy that would help the profession preserve its own identity now and in the future. Such a taxonomy (explained in Table 1 above) would include what have been called the sub-disciplinary and sub-professional aspects.

That this taxonomy could aptly reflect the areas in which research has been carried out in the field is evident from the results of a recent investigation which categorized 20 years of dissertations completed in this field by Gillis

(1987, 142-152). Although Gillis did identify what she called "hybrid specialties" in her analysis, 4,954 of a total of 5,011 dissertations categorized could be placed under the eight categories of the proposed taxonomy. A start has been made toward an inventory based on this taxonomy, although the material has not been arranged as ordered principles (Zeigler, 1995).

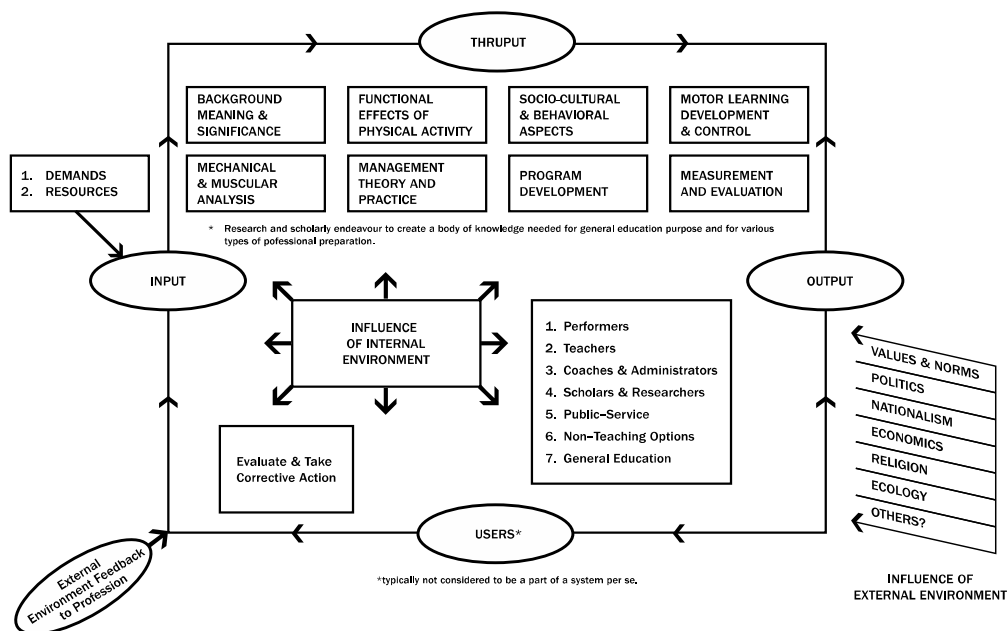
Even building on this proposed taxonomy, which could be modified if a definite need were to arise, the first such inventory developed would almost necessarily have certain gaps or deficiencies. There would be no need for apology, however, because such an effort would represent an elementary stage of advancement to what may be possible in 20, 50, or 100 years. However, this development will not come about unless substantive change occurs in present practice. To this end, a recommendation is being made here for the gradual implementation of a systems theory approach, so that university personnel, professional practitioners in the field, scholars and researchers in other disciplines, and the general public may visualize the development needed to make available as soon as humanly possible a sound, complete body of knowledge about developmental physical activity. A systems theory approach should result in both a more rapid and a more comprehensive development and use of theory and research related to this unique profession.

Along with many other fields, sport and physical education does not yet appreciate the need to promote and subsequently implement a "total system" concept. There are many urgent reasons why this field must take a holistic view if the profession hopes to merit increased support in the future. The promotion of this "evolving entity" of developmental physical activity – characterized as it is with so many dynamic, interacting, highly complex components – would require the cooperation of innumerable local, state (provincial), national, and international professional associations and societies so that full support for the total effort could be provided.

The model presented here to help achieve a common purpose for developing and using theory and research (Figure 1) explains a system with interrelated components that should be functioning as a unit – admittedly with constraints – much more effectively than they are at present. Although in practice the execution of such an approach would be very complex, the several components of the model are basically simple. As can be observed from Figure 1 below, the cycle progresses from input to thruput to output and then, after sound consumer reaction is obtained and corrective action is taken, back to input again (possibly with altered demand or resources).

Figure 1

**A Systems Approach to the Development and Use of Theory and Research in Sport and Physical Education**



## What Appears to be Necessary

This presentation is urging strongly that the established field take action at the first possible moment to help the field move rapidly to truly recognized status within the profession of education.

The field, if we may call "professional" all of those functioning in schools and universities as professional people within a profession, that will not be sheltered indefinitely by the protective arm of the teaching profession of education. Tenured contracts are being broken, and we all recognize the instability of art, music, and physical activity education (not athletics) when financial constraints are imposed. Also, those "professing" developmental physical activity outside of education in the public and private sectors (e.g., personal trainers) have not yet joined hands with educators teaching physical activity education to demand state-by-state certification as practicing professionals.

Further, unless more positive, substantive, and enlightened effort within the field is directed toward what has above been called sub-disciplinary and sub-professional scholarly endeavor, and unless the professional practitioners learns to trust and use the results of such research regularly, society will simply not

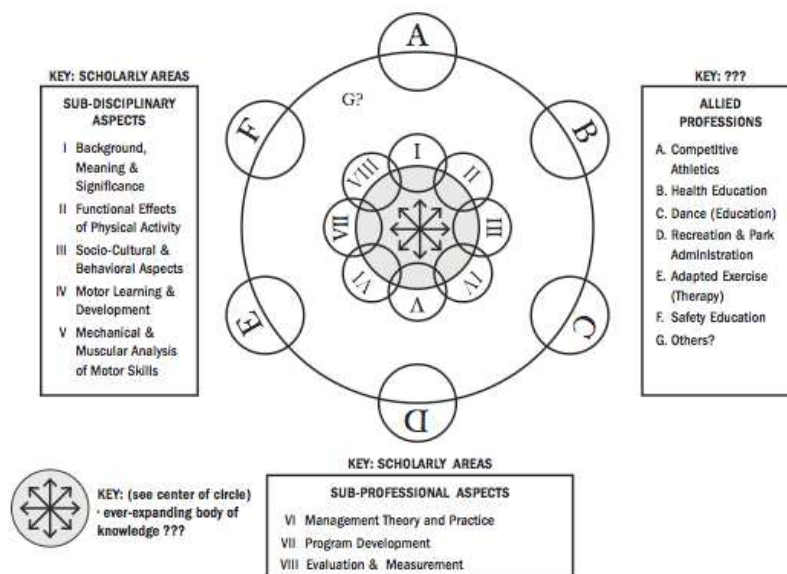
recognize our field as that profession in our culture which is the leading force in disseminating sound knowledge about, and teaching and sound practice in, developmental physical activity in sport, exercise, and related expressive movement. For example, even professional medical health letters are providing specific exercise information (and even routines!) prepared by medical doctors.

It is for these reasons, therefore, that a strong recommendation is being made at this time for the serious consideration of the field with the education profession throughout North America. This recommendation is simply that an all-out effort be mounted to reverse the present trend toward continuing dispersion of the allied professions and the sub-disciplinary areas of scholarly study and research – or at the very least to bring these elements to where the centripetal and centrifugal forces maintain a desirable position insofar as the evolving profession is concerned. This relationship is delineated in Figure 2 below.

Figure 2 explains diagrammatically the specific recommendations to be achieved in the profession of sport and physical education by some mythical year (2025?).

Figure 2

### Schema for the Profession's Developing Body of Knowledge



The reader will notice immediately that, instead of a continuation of the present trend toward ever-greater identification with related disciplines (e.g., sociology, physiology, psychology), concerned professionals with scholarly interests in the designated areas of research (e.g., the socio-cultural and behavioral aspects, the functional effects of physical activity) have been able to bring these areas of investigation back within the realm of research in developmental physical activity largely as part of this field's accomplishments. The recommendation is, therefore, that they should be firmly attached to the profession's theoretic or academic core.

This was characterized in Figure 2 as a "developing body of knowledge about the theory and practice of sport and developmental physical activity." It must be emphasized at once that achieving such a state does not imply little or no involvement with colleagues who identify primarily (and who are housed!) with our designated related disciplines' units. It simply means that those who consider themselves full-fledged members of the sport and physical education profession should have the greatest interest in, and knowledge and wisdom about, the field's problems; should (1) develop the greatest expertise in solving these applied problems, and (2) presumably would have the greatest interest in – and loyalty to – this profession and its attendant problems. (How the established profession should bring about this recommended state – perhaps through vastly increased emphasis on the work of AAHPERD's academies, more emphasis within the NAPEHE on sub-professional scholarship (as identified above), and more cooperation with The National Academy of Kinesiology and Physical Education, is a most important question. This question has been considered briefly by this investigator, but is basically important enough to warrant the attention of the field's professionals at a national conference.)

### Concluding Statement

This analysis of the present situation argues basically that the evolving profession of sport and physical education, which is represented by NASPE, ARAPCS, and the Research

Consortium within AAHPERD in the United States and CAHPERD in Canada, should start as soon as it is feasible to implement the following steps:

**First**, to develop a revised taxonomy of developmental physical activity in sport, exercise, and related physical activities (a proposed definition for the field's disciplinary wing).

**Second**, the profession should plan to an inventory of scientific findings arranged as verified, ordered principles or generalizations. This should be done because developments of the past 40 years in our allied professions and related disciplines have exceeded this profession's capability to assimilate the scientific findings,

**Third**, because of the communications revolution that has occurred, and especially because of the ready availability of personal computers, our profession's theoretic knowledge should be made available on an online basis through AAHPERD & PHE Canada Headquarters.

**Fourth**, to effect the development of an inventory before others carry out the profession's task for it (in a piecemeal fashion), it is recommended that the established profession implement a systems theory approach on the North American continent(at least).

**Fifth**, and finally, it is recommended that the evolving profession of sport and physical education mount an all-out effort to reverse the present trend toward dispersion of the allied professions and the sub-disciplinary areas of scholarly study and research.

At present the field is hampered immeasurably by a lack of focus on its unique mission. This continues the prevailing confusion and vitiates the field's overall effect. Also, it causes confusion for those in the allied professions, the related disciplines, and the general public. The field of physical activity education must focus on the provision of properly conceived and implemented developmental physical activity for the normal, the gifted, and the exceptional people of all ages as its unique mission. As the profession's focus becomes sharpened, the professionals within can then work to coordinate the efforts of the many

splinter groups now often working at cross purposes with poor or non-existent inter-group communication.

The field's system, both within education and in the public sector, of providing service to people of all ages and abilities can only be realized if the sub-disciplinary and sub-professional inputs are sufficient and timely. Further, the entire profession can prosper only if a satisfied public rewards it with a continuing demand for services – and accordingly provides the necessary resources for delivery of such

services. A readily available inventory of scientific findings about developmental physical activity in sport, exercise, and related expressive activities is a necessary requirement for true professional status. This recommended, computerized inventory could be the beginning of regularly updated revisions that would soon reach all parts of a shrinking world. If the overall profession does not make such an effort very soon, such a golden opportunity may never present itself again.

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