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ABSTRACT

This document is a collection of essays by various authors on the subject of college physical education. The essays are grouped under the following headings: a) "Sociological and Psychological Views of Today's College Students: Their Needs, Interests and Characteristics"; b) "Current Approaches Toward Meeting Student Needs"; c) "Evaluation of Students"; d) Evaluation of Teachers"; e) "Developing Quality Instruction", which includes a status report on instruction programs of physical education in 4-year colleges and universities in 1971-72; and f) "Debate: Voluntary or Required Physical Education." (JA)

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College Physical Education

The General Program

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Editor
Helen M. Heitmann
University of Illinois at Chicago Circle
Chicago, Illinois

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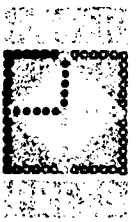

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PLANNING COMMITTEE FOR MID-AMERICA CONFERENCE

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SHELDON FORDHAM, University of Illinois at Chicago Circle, Chicago (conference manager)
JOHN FRIEDRICH, Duke University, Durham, North Carolina
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PATRICIA WIESNER, Macalester College, St. Paul, Minnesota

Sociological and Psychological Views of Today's College Students: Their Needs, Interests and Characteristics

STUDENT CONCERNS

Martha Verda
Oberlin, Ohio

I would like you to take me, if you will, to one of your classes. I would like you to think in terms of a class you have recently taught or to which you will soon be returning. Let me tell you about a few of those students.

There's *John* – reticent, shy, closed up inside. Last night he slept with his girl friend. That may not strike you one way or the other, but let me tell you what he means by this. After considerable peer pressure about being a virgin, John and his girl were studying for an exam and they literally fell asleep side by side on his bed. This morning he can tell his peers he slept with his girl friend. *Aron* is hostile, aggressive and somewhat obnoxious. He has recently been disowned by his family. He is engaged to a girl. That is not so unusual, except that he is a Jew and she is not. *Sue* seems different since she came back from Christmas vacation – kind of preoccupied, pale, flighty. She went home to find her bags packed and an ultimatum from her family not to return until she comes to her senses. You see, she is white and she has a black boy friend. And now there is *Pat* – seldom present, always some excuse. Pat is dealing with her second unwanted pregnancy. Her first abortion was illegal. This one she is hoping will be therapeutical. In the meantime, she is home. *Tom* seldom seems to be "with it" lately. He daydreams a lot. He is unable to deal with parental pressure pushing him into medicine. He is considering dropping out, maybe joining a commune, camping on the Big Sur – who knows. *Clara* seems so depressed, serious, and unsmiling. She considers life meaningless. Her values are shifting. Is there a future? In about a week she will attempt to take her own life.

These are the students some of us see. They are in your classes. These cases are somewhat illustrative of the more or less universal internal curriculum with which our young people are dealing. They are taking this internal curriculum whether they like it or not. It is the development of self. Their values, stresses, affective life, spiritual search, and attaining adulthood are some of the ingredients of that internal curriculum.

As I hear it, read it, and experience it, this internal curriculum is composed of courses with such titles as independence *versus* dependence – fights in the family, rebelliousness, growing up; identity formation – who am I, where am I going, is there a place to go; human sexuality – what does it mean to be a man or a woman; other courses I call valueships – the development of value formation and concerns in this area, moving from the value system that is familiar to some of us to other value systems that are not. The internal curriculum also includes courses in locating values on a continuum, such as moving from politeness toward honesty; from efficiency toward maximizing human qualities despite, perhaps, a loss of efficiency; the Puritan ethic toward enjoyment; from self-righteousness to a more sharing le; from tradition-orientated activity to experimentation; from the search for

scientific truth toward a search for a more personalized truth; from authority to participation; from ideology to decision making; from stereotypic patterns to creativity; from sex associated with marriage to sex associated with love; from competition to cooperation; from violence to peace; from what am I to who am I; from positive to experiential learning; from using people and loving things to loving people and using things; from anonymity to intimacy.

This internal curriculum is seldom recognized in higher education. If you believe and accept the twofold mission of a liberal education as I do, namely, understanding the world and understanding oneself and the relationship between these two, then you must admit that higher education has failed miserably in the areas of understanding oneself, affective life, humanistic concern, real individual differences, and educating the whole person. Higher education concentrates on the world, and the self develops on its own. This internal curriculum remains as a private matter, talked about in bull sessions with roommates and counselors, seldom alluded to at home, occasionally discussed with faculty, and never mentioned in the classroom. The academic preserve has been assaulted by social relevance, social action, political activity, and courses in war, poverty, racism, and peace. But please, let's not curricularize the value formation, emotions, attitude development, or fantasy life. These are relative to the extracurriculum. But this is what I believe the students are dealing with — the developmental curriculum of self — almost without the resources of higher education and certainly not recognized as a central purpose of each institution.

For those of you who may be research-minded, let me support what I have tried to say with a little bit of research. There is some evidence from research to support students' investment in their internal curriculum. In interviewing students, the researchers have looked for the importance students place on social development, understanding themselves, and relating with one another. Freshmen have to learn to deal with and appreciate relatives and their values without losing the capacity to be fully committed to a value position of their own. Students feel under much greater pressure and stress than did students a decade ago. Contemporary students are becoming increasingly more intellectualized and inhibited. Their energies are more self-directed. They have magnified the importance of self- and intellectual control. This overevaluation of self-control and intellect in a less mature person leads to the exaggerated evaluation of oneself. Increasing overevaluation stimulated by society's adulation of youth frequently makes people more emotional, more sensitive, more preoccupied by others, and more psychologically sophisticated. But more of our students are speaking of loneliness and a need for friends. There continues to be a concern for affection, loyalty, consideration, and friendship along with sexuality and sensuality. The data suggest that behind the variety of intellectual screening is a need to love, to be loved, to learn much about themselves as human beings. Intellectual stimulation alone is not satisfying the social and emotional needs. Students want a better balance for their academic lives. If students could change the college, here is what they would do. They would make it more relaxed, well-rounded, friendly, exciting, sociable, easy going, fun-loving, warm, flexible, artistic.

From perhaps a much more interesting point of view than research, let me cite student support of their culture in terms of dealing with this internal lum. It comes from their music background. I am convinced, I think, that I

love students who like to listen to this music. I have been listening to this music and trying to make out the words, and I find within their music support for the concern they have for themselves and the world and what we're calling internal curriculum. I find it in such songs and lines as "Help me make it through the night," "How many roads must a man walk down," "What the world needs now is love sweet love," "Yesterday is gone and tomorrow is out-of-sight," "Jesus Christ, Super Star," "No face, no name, and no number," "All God's Children," "The Greatful Dead," "Amazing Grace," "Walk a mile in my shoes."

Although some students are passing their internal courses in this great world and maybe some of them are doing it with honors, there is, unfortunately, subjective and objective evidence that indicates many are struggling desperately. Consider a few of the indications: the equating of physical gratification with human relationships; the skepticism throughout the world and the seriousness with which the young take the world and themselves; the increase in unwanted pregnancies and venereal disease, which one expert has called despairing resignation on campus; the search for a substitute for family because of rejection of marriage and the disillusionment with the nuclear family; the high suicide rate among young people, half again that of the general population; the search for fun and joy through drugs, alcohol, and sex – it is almost "Eat, drink, and be merry, for tomorrow we shall die"; the inability to meet one's potential – the dropouts, cop-outs, and the like; the well-known polish you immediately recognize over a 10-year study. It was found that of all the students that left their college, 50 percent left for some illegical reason. Students express concern with the meaninglessness of life and lean on an overutilization of psychological help wherever they can find it.

Physical education must bring knowledge and order into this realm of human development, within the external, established curriculum of the university. No longer can we be relegated to positions of house directors, house service, student affairs deans, and coaches.

Let us translate the internal curriculum, for just a moment, to the external curriculum within your university or college. I have a number of courses I would like to include. They were suggested to me by students. How do these strike you – parents; human sexuality; environmental awareness; group dynamics; creative thinking and problem solving; community action; inner space; coming of age in America, the love relationship; human values; educational relevancy; empathy, understanding, and beyond; minority-group relationships; the meaning of womanhood; and body awareness. These humanistic concerns, one's self-development as a human being, are appropriate issues in physical education. One of the reasons I counseled many, and deal with the students in the manner in which I do, is my experience in physical education. It was not initially an intellectual experience for me. It was emotional. It was total. It was developmental. I felt a certain way about myself and a certain way about my activity, and I still feel that way. I think that it is healthy.

What about you? What can you do to relate to the whole development of students? May I be so presumptuous as to suggest a few things? You have an opportunity, as no other instructor has, to work with the whole student. How many times have you heard that challenge? How long have we talked about the total developmental process in higher education? Many of you are evaluating your roles.

I have traveled to many campuses and talked to many of you. You are in the process of re-evaluation, educational reform, new ideas. That is why you have attended this conference. You want to re-evaluate the curriculum in terms of the content, to be sure. But just as important as *what* we teach is *how* we teach. The key is *how*, not *what*. Our courses can be traditional, and yet our main concern can still be *that* student.

Are we allowing, and encouraging, and teaching creativity? What's happened to creativity – the opportunity for self-expression and spontaneity in fun? Where is the involvement of students in curriculum design? May we, can we, do you, put the fun and joy back into play? We have heard about the seriousness of students in higher education. *Where* is the joy? It is not too late. Let me give you a beautiful quotation: "In an impersonal machine age, the fight is to perserve the concrete, the intimate, the inhibition thrown wayward; to preserve the non-busy, the non-useful; to preserve the . . . inner light, whether as creativity, alone, or simply as play, the unapologetic fun of play."

When I was being prepared for physical education – a hundred years ago, it seems – one of the concerns, one of the things that I kept hearing, was my function as a guidance person. I don't know whether this idea still pervades our preparation programs: the need to be a caring, a listening, a talking human being. You need to be able to expose yourself in conversation with students, so that they have an opportunity to know how you grew, what happened to you, how you developed into yourself. You need to listen and to care. I think that we have to rehumanize some of the kinds of things we are involved in, not only in physical education, but as educators in general. I think we may have lost our students and our concerns for the student in concerns for competitions, compensations, in self-importance, uniforms, attendance requirements, and a search for academic knighthood.

In a recent research report by a Senator, there is a sentence I think is important. It talks about teachers. "The outstanding fact is that teachers at distinguished institutions [and that is all your institutions] are oriented not to their undergraduate students but to their colleagues. They want to present their research rather than to continue to develop their students. And they prefer graduate to undergraduate teaching. They define themselves primarily as members of their field. And their self-esteem depends most heavily upon the esteem of their colleagues in the field, rather than their actual advancement within it."

I must ask those of you who deal with teacher preparation, how are you teaching your students to teach? What are the priorities, what are the concerns as they go into public schools? We are talking about preserving physical education, what it means, and the importance of it. What is the priority? I hope it is the students that they will teach.

One of my last points could be a return to what used to be a basic premise in physical education. It mattered, in a rather homely way, to me long ago, and it still does. It is our concern, not with what Johnny does with the ball, but with what the ball does to Johnny. Before I end, I would like to read to you some material that was written by students. What they put together relates to what we are talking about – their self-development, creativity, self-expression, joy, the struggle with themselves and with the world. These were written for physical education classes. The first one was written by a male student in response to the question, "Why did you take the courses you took in physical education?"

If it were not for P.E.
Who'd know what to be?
Outside while in motion,
I would cause a commotion,
Walking wrong-way down the street.

If it were not for P.E.
Who'd know what to be?
In water I'd flounder
'Til I found a
Place to rest easy,
And feel, oh, so queasy.

If it were not for P.E.
Who'd know what to be?
When the weather is ripplely
And pavement is so slippery,
And falling flat on my face,
All over the place.

If not for P.E.
Who'd know what to be?
Out on the green swinging,
I would never be winning,
But making a name
Of agony and fame.

The next one is in response to a course in body awareness, written by a young woman. She names it "Body Awareness: A Course, A State of Mind."

My first reaction to the idea of a course called body awareness was, "That is exactly what I do not need." This was from the unfortunate fact that I felt all too aware, albeit in the negative sense, of my body. And I didn't see any point in trying to do all sorts of free and liberating things that had even made me more self-conscious as a freshman and during most modern dance activities in high school. This excess of awareness has rather recent roots, but I cannot seem to find the beginnings of it. Maybe it was being in a class of people with whom I was totally unrelated and, thus, did not feel that anything was expected of me. Maybe it was the wonderfully un-pushy approach you took. Or maybe it was both of these two factors in combination. At any rate, it worked. It worked in that I am not really less aware of my body in the quantitative sense. Rather, I am still quite aware of the house that my body lives in and my mind lives in. Often it is hard to face each day. Submerging in quiet, easily, one must watch or he will be submerging. On days that are so cool and crisp, I just close my eyes and let my mind go. I feel happy and free. I've always been told to face trouble head on. Dive into the pool. Keep your head down, or else. Once after being depressed, I took a long walk, and it made me feel so good. The temperature of the water was cool. Still and all, in the face of oppression I had my goal, which *must* be reached before my death. Swim, my young lady, ten laps – swim. I am

a woman, a black swimmer, swimming against black oppression, hatred, toward love, peace, and understanding.

The last one I would like to read is called "Saturday Night Hop Dance."

> Relax, calves, thighs, hips, spine. It's time to sleep. Tonight was the last dance of the semester. I'm going to miss it. It's precious to me – the people, the music that is always in my head. I am to learn new steps . . . frustrating and boring, slow, graceful dances . . . fast flying dances, that I can somehow always do, postponing fatigue. Tonight in peasant blouse, long circle skirt, red sash, bare feet, energy, smiles. I was my body; my body swayed; my skirt twirled inward; we seemed to never stop moving. Even sitting on the floor, watching one, I didn't feel that my body and my skirt were inactive. It felt so good to be confident, comfortable, to dance alone in so much space, and to dance with others . . . completeness coming from dancing together. The wind was dancing under my skirt and felt so cool. My feet. I can still feel the blisters, though I am not standing on them, hobbling in socks through the last two dances. We danced until 2 a.m. I'm exhausted. Doesn't my body know I've stopped dancing? Come home, and gone to bed? I still hear the tempo. My legs and hips filled with tiny Balkans, Israelis, Hungarians . . . the men in wide hats, the women in circle skirts, all who have danced and danced and danced. Stop. It's time to sleep.

And so the message I leave is the concern about self-development and the total human being who stands before you in your classes. And my last bit of advice is very short. A bishop was talking to his young minister at the time of ordination, and he said to the young man, "As you go into your congregation, I have one piece of advice for you, and I would like to share it, and it is this: shake their hands, hug them, and teach them to dance."

THE STUDENT MOVEMENT

Seymour Halleck
University of Wisconsin
Madison, Wisconsin

As a member of a committee to investigate student health and psychiatry, I have had the opportunity to do a lot of traveling around the country to various universities this year. During the course of my travels, I have observed similar trends developing on different campuses in regard to the student movement. I would like to tell you about what is happening on campuses in general and in particular to clarify how we are a part of it.

There are some marked and striking changes going on, and in many ways, the most striking is the student revolution or the radical student movement that we saw so many years ago. Without fear of being struck down by a thunderbolt or being disruptive, I would like to start out by saying imputatively that the radical student movement is dead. I think that this inconsistently organized, yet highly physical, effort on the part of young people to change the values and political structures of the American system -- through rhetoric, through organization, and sometimes through violence -- has abruptly lost its momentum. The gradual demise over the past year of what seemed to be the most powerful movement of the century was also almost totally unanticipated. Nobody I know predicted it very well. Everybody who read about it used to argue over it. A few stated that it was just a phase. Others argued that it was not a phase, that it was going to last. It seems that the few were right.

There was really no way of predicting it. It makes little sense that it died. Because in reality the radical movement never did accomplish its goals and, therefore, it didn't have any good reason for quitting. Nor was it crushed; it simply went away. On all our campuses, both organized and unorganized protest has become unsprung. Violent protest is practically nonexistent. Other activities usually associated with student protest also seem to be diminishing. Drug usage, for example, while increasing on some campuses -- those places that are a few years behind, where it hasn't caught up yet -- is decreasing on most campuses and is no longer the usual. There is a uniform tendency on the part of the youth culture to downgrade the value of drugs, either as a mystical or a liberating force. Drugs are now used matter-of-factly and prudently. They do not become a political issue, unless the local police force chooses to make them one. I think the drug problem is really no longer going to be a problem in any of our universities. They are not used in harmful ways, at least not on the campuses, although I am not saying that the sale of drugs isn't serious and harmful in other areas.

Even more surprising is that there are signs students are now following more traditional trends of social reformation. Church attendance at religious centers on campuses has, amazingly, doubled in the past year. I talked to a priest at the University of Florida recently, who claims that there are now 5,000 students out of

a University of 18,000 who come in for Mass most Sundays. This is a remarkable switch from previous years. Contrary to what you hear about fraternities and sororities decreasing in popularity, which is true in some areas, they have not decreased in popularity in the country as a whole. In some schools in the past year they have begun to show an increase. The free universities that several years ago were so popular, with their shallow curriculum and superficial education, have become practically nonexistent.

The reactions of various groups to these phenomena has been quite interesting. Members of the media, the force of American life that had helped in the building and creating of the student movement, seem shell-shocked. These days a reporter will come into my office and ask if there is anything happening on campus, if I could talk about any suicides or protests. I say no, that there is nothing exciting happening on campus; things are very quiet. They all seem very disappointed when I tell them this. There have been a number of articles in the newspapers and some TV shows about the new status on campus, but these articles are not very popular and do not receive much attention.

I suspect that many of us who have studied and identified with some aspects of the youth movement feel a sense of loss. Things are certainly more humdrum on campus. It's a good time to get back to basic teaching, basic research, and a straightening of programs. But this return to the ordinary seems to be accompanied by a sense of resignation rather than a sense of relief. I think, also, that many of us are just trying to keep our own ships above water. When we talk about what we call the plight of physical education, I can recall similar symptoms in a medical paper about the plight of the psychiatrist. I think any organized teaching program in this country is in great trouble right now. All of us are battling as hard as we can just to stay above water. When we get back to the old, I think that we feel a sense of resignation simply because we have to hold on when there seems to be nothing else to do.

Many of us – both on and off campuses – who severely disapproved of the youth movement seem to be going through a period of subdued gloating. The disapprovers are not certain that the movement is really dead and hence must be somewhat restrained in their I told you so's. But they can hardly conceal their glee, and undoubtedly when they are sure that their victim is truly defeated, they will trumpet their victory and seek means of imposing new restrictions and controls upon youth. Many of the students who were active in the radical movement have resorted to pathetic denial that the cause is lost. They will insist that there is as much radical activity as ever, and that it's simply taken a new cohort and better organized form.

I do not think that this is a realistic appraisal of the situation. If there is a regular student underground, it is so well hidden that even the great majority of those involved in the movement are unaware of its existence. Claims that efforts to develop alternate cultures and life styles are really revolutionary efforts seem hollow. It is true that there is considerable cooperation in an effort to develop humanistic community structures among old members of the new life. But this new direction is not revolutionary, and it is hardly abrasive. It keeps the kids quiet.

There are probably as many hypotheses currently about to explain the cause and of the radical student movement as there are masters playing tennis. This not be surprising, because while student dissent could be traced to some

rather direct causes, its disappearance is in some ways a more frightening phenomenon. Most of the current hypotheses can be classified as economic or political. Certainly the breaking of the radical movement is highly correlated with political and economic events.

The most important event has been the economic recession. Students are no longer sure of jobs when they finish school. Their parents can no longer afford to support them in activities that are unlikely to bring future economic rewards. As a result, there is a tendency among students to invest energy into ensuring their future economic existence and to withdraw from most of the idealized political activities.

The gradual and painstakingly slow winding down of the American involvement in the war in Viet Nam has taken away at least part of the protest. Furthermore, the draft lottery has very effectively divided youth into two camps. It helped to eliminate an issue for young people that had previously been a common cause and a common enemy.

The granting of the right to vote at the age of 18 has also been a factor in making young people feel more a part of the system rather than the victim of the system. It is also difficult to know how much the students were aware of the extent to which their own activities were creating forces of oppression in this country. Certainly they helped to create a conservative backlash. When repressive measures began to be used against them, and particularly after the events at Kent State, it is conceivable that many who had made conscious decisions about their goals realized that their goals could not be won and that the continuation of their efforts would result in more social repression rather than social progress.

Finally, it is worth noting that much of the youthful protest was directed not at society in general but at the universities in particular. The radical movement did have a considerable impact on changing the universities' structures. Students did gain more power in educational systems. Reactions to student demonstrations among the conservatives led to the professors' having to spend more time on the campuses than in the classroom, which is apparently what a lot of students wanted in the first place.

Moving beyond these basic economic and political considerations, I would like to talk about an area much more relevant to my own, which is the psychological implications or hypotheses of this rather abrupt change. At about the time the radical movement lost its impetus, it was entering an unmistakably violent revolutionary movement. Those who were really committed to the cause were fully alienated from society, friends, and families. Studies of history and psychology suggest that it is only a sense of desperation and urgency that is likely to lead people to commit violence, break laws, and tolerate common violence in their society. Desperate acts of violence are likely to be most characteristic of those who perceive themselves as having no alternatives. Crime and subversion are most likely to occur where sources of legal activism are totally closed off or where opportunities to withdraw and to live selfishly are totally absent. It is only when the opportunities for organized activism or some kind of fairly satisfactory withdrawal are absent that revolutionary violence begins to be perceived as the only solution to intolerable oppressions. But most of those involved in the youth movement did have alternatives. There was, and there still is now, the possibility of legal activism. What is more important is that the members of the New Left

had places to go when the going got rough. They were able to find highly gratifying, selfish life styles, once they abandoned their activism. While they may have had the ability to perceptualize and to catalyze their revolutionary action, their social situation was not one that would allow them to remain as a statement of force for what they called a revolution.

This explanation may provide some insight into why radicalism could have stopped so suddenly, but it does not state specifically why it actually stopped. Another hypothesis is that when students began to turn their attention to the whole of society they gained a clearer picture of what the rest of the nation was like. They found out that there were really groups that were oppressed in ways that they had never even imagined. They also found that the workers whom they expected to turn to their cause with enthusiasm simply were not impressed with radical arguments. In 1968 and 1969, many students were able to say and believe that students were "where it was at," that the student movement was "what's happening." By the 1970's I think they learned otherwise. They learned that most of the nation did not take them seriously and, in fact, was enraged by their activities. They also found that they no longer could sustain their insularity of opinion, which is what enabled them to renew their commitment. One of the things that happened on our campuses in the late 60's was that students became pretty much isolated from the rest of the world. When they got an idea, they reverberated the idea up and back and among their friends. They obtained the opinion so frequently that there were no other opinions around. I think that when they began to move out and look at the world, they were no longer able to contain that kind of insularity.

Now, in addition to having alternatives not available to ordinary revolutionaries, students have an historically unprecedented way of opting out of the political process, namely, the use of drugs. Drugs are a well known and handy escape valve. It is hard to envision revolutionary armies marching on pot, LSD, or heroin. If you talk to people working in the ghettos now, around the universities, and ask them what are the two big things happening among youth, they usually say drugs and religion. These in some ways don't have much in common, but they are both forces that keep men still. They are something that people turn to when their environment is not satisfactory. Karl Marx said that religion is the opium of the masses; among students it seems likely that these days opium is the opium of the masses, or perhaps opium and religion. There is a broad political issue here. Drugs, whether legitimately prescribed tranquilizers or illegal speed drugs, over the long run distract individuals from feeling the social and interpersonal oppressions. Drugs are a powerful force for maintaining the status quo. Black groups have argued with considerable fairness, having recognized this situation, that it is heroin that is keeping our ghettos quiet. It may turn out that marijuana has played a major role in keeping the campuses similarly quiet.

Another factor that I believe leant a deadly blow to the radical student movement was the women's liberation movement. In the early days of student protest, there were many advances made by male radical leaders. But women did a great deal of the dirty work, such work as making the coffee and running the mimeograph machine for protests. The women's liberation movement changed all that. It also forced the male radicals to take a careful look at themselves and on their motives and beliefs. Many who felt they were fighting for the

ultimate in human liberation suddenly had to deal with the reality that they had little intention of liberating half the human race. Serious differences developed between the male and female radicals. Some were so shaken by the consequences of women's liberation that they never returned to the barricades.

The black movement and the Third World movement also led to serious questions in the radical student movement. The blacks and the Third World people wondered whether the student radicals were sincere and if the liberation the whites spoke of was for them, too. They formed separate, splinter organizations and became isolated from white groups. The white radical movement was put in the somewhat ridiculous position of wanting to liberate groups that were unwilling to communicate or cooperate with them. These groups, in effect, didn't want their kind of liberation.

Another possible explanation for the demise of campus radicalism is the fact that the radical movement, over time, had "found" parents and younger siblings in addition to the original students. Parents throughout the country had several years to observe what was happening to their children and to contemplate their own role in raising children who were becoming involved in such a process. Conceivably, with respect to their younger children, they may have changed their attitudes and behaviors. Now we can observe the attitudes and behaviors of these younger children. It is hard to tell if they are more strict or more liberal, but I am sure that something about the way parents treated these children has made a change. Those who are in college now as freshmen and sophomores also had an opportunity to observe student radicalism all through their high school years. I think that my two older children – one is in college, the other is about to start – saw campus radicalism all through their high school years, day in and day out, living in a town like Madison. I wondered how far out they would be, whether they would end up by becoming more radical than the students in the community. It seems to work the other way. It seems to be either something about the way my wife and I raised them or maybe something about the tremendous exposure that has made them tired after watching it so long. They behave much more conservatively than I would have ever guessed. This trend seems to be common among the young people who were growing up in high school at the time when the radical movement was in its strongest period. Young people who are in high school have become tired of the radical process, and in their disillusionment they search for answers in a different way. At any rate, time has passed, the radicals have grown older, and they have not seemed to be able to pass the torch on to those who are in college and high school today.

Kenneth Kenniston, one of the outstanding students of the youth movement, has proposed an interesting psychological explanation for this current renunciation of student activism. He argues that as the movement became progressively more violent, students who were originally convinced of their own peacefulness and purity became disillusioned. In effect, the students became aware of their own capacity for evil and violence. Kenniston cites two events as a symbolic turning point in this process. One arose at the riots at Altamont, the rock festival in May. If you remember, some Hell's Angels killed two people. The other was something closer to some of us, namely the explosion in the physics building at the University of Wisconsin, in which a graduate student in physics was killed. This was quite a ng thing on our campus. In fact, I would also mark this event as a turning

point. I cannot generalize about other campuses around the country, but something went out of the whole radical movement here. Something went out of the whole protest thing from the moment of the explosion.

Today, the activities of students are taking a whole new direction. I think that young people are seeking introspective and highly personal solutions to their own salvation, through psychotherapy, sensitivity training, or drugs. Others are trying to take care of themselves and are becoming more involved in schoolwork, which brings more rewards than drugs. Although political activism in our system is greater than it was in past years, its extent is not defined. There also seems to be little joy in school and little love of money. Rather, there seems to be a group determination to get through the process of school, to get a degree that will allow them to earn money and find some private form of protection from the attitudes of the world.

Now, I think that only a fool would try to predict what is coming next on our campuses. I have been consistently wrong on every prediction I have made, and I should avoid compounding my reputation. But I will make a kind of prediction. I cannot see or conceive of a style of radicalism similar to what we saw in the last four years developing again on our campuses for some time. There is too much cynicism, too much despair, too much awareness of their own limitations, for students to be the major element of any radical movement at this time. If there is to be a new radical movement (and it wouldn't surprise me if there were) I do not think its origin will be on the campus.

Although the results of the radical student movement will not be remarkable, I do not think that we should write off its importance to American life in the late 60's and early 70's. It has had important influences upon the consciousness of our society, and it is unlikely that our attitudes will ever be the same because of it. Much of the influence of the movement has been, in my opinion, in the direction of humanism. Because of the efforts of the movement, I believe that we have become more tolerant people. I believe that we have learned to tolerate differences in race and sex, yes, and even in hair and clothing styles. We have also markedly broadened our definition of acceptable behavior, and we have lost much of our "up-tightness." The student movement has also helped us to learn to question our myths. We no longer believe in the national myths of oppressive institutions. We have learned to ask radical questions and to have a kind of contempt for the status quo. The student movement has left us with more awakened consciousness, far less complacency. While it does not help us to determine what should be done, it has contributed a restless questioning in all of us. Finally, the radical movement has had a powerful influence on the universities. They may not be the happy places they used to be, particularly for the professors, but they are certainly freer. There is less exploitation of students than there used to be. Professors and the administrations are beginning to take a more careful look at the basic purposes of the university, and a commitment to the teaching process has markedly increased. In focusing their attention on the universities, students have taught us, as well as anyone could, the importance of consumerism. They taught us that there was a danger of giving the power in any system to professionals. As long as professionals in a system go without public surveillence, that system would, at least temporarily, become sluggish, corrupt, and oppressive. They have also helped us to learn that any system ject to public surveillance must be constantly understood and criticized by lic if it is ever to progress.

I think there is one final lesson that we learned from the student movement. I think our own generation, we who are over thirty, did a terrible thing in letting the struggle be carried out by young people and then in taking their struggle so seriously. I think that we forgot that they were, after all, young people and that the real responsibility to govern this country – for bringing about reform in this country – should not be left to the children. I think, if nothing else, we found that the children are not reliable in this situation. And we have learned that we ourselves, when confronted with the need for reform, have this feeling of enormous responsibility. I think that if we could appreciate this lesson, perhaps do better in carrying out our leadership roles, we could view the radical student movement of the last decade as not having been in vain.

Current Approaches Toward Meeting Student Needs

THE COLLEGE PHYSICAL EDUCATION PROGRAM AND THE CONCEPT OF PLAY

Daryl Siedentop
The Ohio State University
Columbus, Ohio

> *Thus we are being forced to re-examine our educational institutions and their curricula to take account of the growing importance of play in the whole economy of life.*
> Philip Phenix

Every elementary, high school, and college physical education program reflects some ideas about the nature of physical education. Some are difficult to sort out and, when one finally gets at them, may appear to be contradictory. On the other hand, many programs very explicitly and directly reflect a clear and consistent set of ideas about physical education. Sometimes the teachers conducting the programs are making a concerted effort to carry into practice some ideas – in education they are most often referred to as theories – they have about their field. Unfortunately, other teachers can't begin to articulate the theoretical assumptions that underlie what they are doing from day to day.

For many years, and in many schools today, well intentioned instructors in physical education have been very careful to allow a certain amount of time for calisthenics each day, to administer an occasional physical fitness test, to give a written test at the end of each activity unit, to give skills tests, and to base part of the grade on attitude, sportsmanship, or citizenship. Why do these practices persist when, for some time now, we have known that they do not contribute in any meaningful way to a physical education that equips students to seek and know the joy of activity? They persist because we have been influenced, directly or indirectly, by some ideas about physical education – and ideas are important.

They persist because as far back as 1893 Thomas Wood was saying that "the great thought in physical education is not the education of the physical nature but the relation of physical training to complete education" (8, p. 151). We hold onto them because in 1910 Wood's idea was given substance by Clark Hetherington, who charted the course for a "new physical education" by dividing the contribution of physical education to the educational process into four phases: organic education, psychomotor education, character education, and intellectual education (2). Hetherington expressed an idea about the nature of physical education and the conduct of physical education programs. This new physical education would use sport, game, and dance activities to meet the same goals that other subjects in the school were trying to meet: i.e., it was to be education-through-the-physical. I don't have to tell you how completely that idea has dominated our professional history in this century. Ideas are important.

I would like to share with you an idea of mine – that physical education can be understood and most meaningfully conducted in reference to the concept of

play. I'd like to share some thoughts with you about play, about physical education as a form of play education, and about some of the implications that might logically develop from this idea.

The Concept of Play

In ancient philosophy and literature, play was considered to be a fundamental mode of human behavior. It was not something to do after the work was done; it was not leisure; and it was not something that was only for kids. It was considered to be central to life itself. Beginning with the Socratic philosophers in Greece in the 4th century B.C., this understanding of play underwent a gradual extinction that lasted for almost 25 centuries. Play came to be considered nonserious activity, as opposed to other forms of human behavior that were considered to be serious, with the clear implication that the latter was of greater value than the former. To be sure, the importance of play in the life of the child was always recognized, but ideas about play never seemed to move much beyond this point, and even children were cautioned not to engage too much in pastimes that were of limited usefulness and potentially harmful. As far as adult play was concerned, the dominant views were either outright hostility to play as a source of evil or what David Miller (4) has labeled the Coca-Cola attitude toward play – a pause that refreshes.

The renaissance of the idea of play as a fundamental category of human meaning began to appear in the writings of 19th-century philosophers and was fully reborn in the esthetics of the German poet-philosopher Freidrich Schiller. Schiller was not talking about child's play or the worthy use of leisure; nor was he merely reacting against the anti-play theology of Western Christendom. The essence of this resurrected idea was that play is a basic, integrating mode of human behavior throughout life and across all cultures – that the wholeness of life was experienced in play. Schiller said, "For to speak out once for all, man only plays when in the full meaning of the word he is a man, and he is only completely a man when he plays." This statement does not sound extreme today, but think of how it must have sounded in the 19th century after hundreds of years of proclaiming that man at work was the prototype of what man should be.

The idea began to grow again. Nietzsche, the great but much misunderstood existentialist philosopher, attached great importance to play as a fundamental form of human existence and as an attitude toward life. Karl Gross in *The Play of Animals* and *The Play of Man* began to study the nature of play in an attempt to define its characteristics. Jean Piaget explored the differences between imaginary play and regulated games.

In physical education, too, the use of a play metaphor was widespread during the first third of the 20th century. Clark Hetherington operated a Play School at the University of California. In 1915, Joseph Lee, who was prominent in the playground movement, published an important book entitled *Play in Education.* In 1923, Wilbur Bowen and Elmer Mitchell brought together expertise from the social sciences and physical education to produce *The Theory of Organized Play*, which was revised in 1934 by Mitchell and sociologist Bernard Mason as *The Theory of Play*. In physical education the result was to use play to reach educational goals, and it all can accurately be classified as education-through-play.

The concept of play reached its full modern maturity in 1938 when Johann Huizinga's *Homo Ludens* (Man the Player) was published. In this work, Huizinga

developed the first comprehensive definition and theory of play and further examined the concept as the basic animating principle from which all of human culture springs. More than thirty years later, *Homo Ludens* still stands as the definitive work in the history of the concept of play.

Today the idea of play pervades our culture and provides the basic metaphor in many disciplines – we have play therapy, the games people play, mathematical game theory, and the economic game plan in the White House.

Robert Neale (5) has examined the possibility of viewing religion as play, and David Miller (4) has further developed this view into a theology of play that breaks down the dichotomy between play and the serious, thus completing the full historical cycle by returning to the ancient understanding of the concept.

Ways of Playing: The Caillois Contribution

In 1958, Roger Caillois (1) attempted to refine and extend Huizinga's thesis that play was the basis for all culture and the primary form of human meaning. To accomplish this he proposed a sociology of games or, in his words, the foundation for a sociology derived from games. Whether he improved much on Huizinga's basic conception of play is a matter of debate, but his work is often cited for its classification of games in terms of what he calls irreducible impulses in human behavior: competition, chance, simulation, and vertigo. In my judgment, however, this classification is not his most important contribution. Tacked on to his game classification, almost as an appendage, Caillois suggests a second classification, one that refers not to kinds of games but rather to ways of playing.

The connotations of play as a primary form of human meaning are often different when used in the contexts of child play and adult play. When a young boy "plays ball" the meaningfulness of the activity is fully suggested; but when the young man "plays ball" the meaning is too often lost, and what is left is considered either a fringe activity, i.e., leisure, or it becomes synonymous with the term *perform*. These connotations exist because play has been assumed to mean activity that is unstructured, nonserious, and frivolous. But this is only one way of playing. There are other ways, and Caillois' primary contribution is that he forces us to recognize that they are equally playful.

At one end of the play continuum is activity characterized by spontaneity, turbulence, diversion, and carefree gaiety – the kinds of behaviors generally associated with child's play. Caillois uses the term *paidia* as a label for this way of playing, and it is wholly appropriate because its root is the Greek word for child. The other pole of the continuum is characterized by contrivance, calculation, subordination to rules, and the overcoming of imposed obstacles. This way of playing is represented by the term *ludus*, which means play. What must be understood is that the primary power of carefree improvisation – which is *paidia* – is in no way to be considered as having more value or being more playful than the taste of imposed difficulty – which is *ludus*. They are both play; they are both ways of playing; and indeed if there is to be a judgment, it must be that moving from *paidia* to *ludus* contributes increasing meaning to play. This is what Caillois (1, p. 33) means when he suggests that the general contribution of *ludus* is "to give the fundamental categories of play their purity and excellence." In this light it can be understood that the ever-increasing regulations and imposed difficulties attached to play activity as it moves from child play to adult play do not represent a

repression of the play spirit but, rather, a naturally increasing sophistication of play interests. It is precisely this crucial insight that is lacking in all views of play that do not move beyond the realm of child play. As play changes from child to adult forms an ever-increasing amount of skill, effort, patience, and ingenuity is required in order to be a successful player. The fencer must master the rules, etiquette, skills, and strategies that are imposed upon him in a fencing match, and in mastering these *ludus* factors he is every bit as much at play as the child who is "playing swords" in the backyard.

An understanding of these different ways of playing is indispensable to an understanding of play education. *Ludus* enriches play and provides increased meaning for the player; it provides an occasion for training; it leads to the acquisition of special skills; it demands mastery; in other words, it requires education.

Physical Education as a Form of Play Education

In order to accept the idea that physical education can best be viewed as a form of play education, one needs to accept in some measure three assumptions. The first is that play is a fundamental form of human meaning. If you have been raised to oppose work to play, to consider too much play harmful, or to consider it important only after the "serious" matters of life have been taken care of, then you will have difficulty with this view of physical education. Play is too often placed on the periphery of life, as a diversion, when it should be placed where it belongs, at the center of life, as a primary aspect of meaningful human existence.

A second assumption, and one that develops logically from the first, is that play education is self-justifying. It does not need to be justified in terms of its contributions to ends that are extrinsic to it. What I want to make very clear is that I am not suggesting an education-through-play approach. I would hope that our profession is approaching a maturity that will allow us to put to rest all attempts to *use* our subject matter. It is both improper and risky to use our activities – to attempt to reach goals through them that are extrinsic to them. We don't often reach such goals, and it is no wonder. We have tried to develop physically, mentally, emotionally, and socially fit citizens *through* golf or tennis or gymnastics. But what is golf? The golfer goes out to a course, hopefully hits the ball down the fairway, walks after it and hits it again, until he finally taps it into a small hole, and all with the central purpose of hitting it as few times as possible. Illogical? Contrived? Of no real consequence? Of course! It's a game – an institutionalized form of play. It is different from other aspects of life – no less important, but still different. No wonder it has been difficult for us to use this kind of an activity to reach goals that have nothing at all to do with it.

We don't have to *use* our activities.* Let them be just what they are – institutionalized forms of play and fundamentally important sources of human meaning. Who should know this better than we? Golf could possibly be used to develop certain kinds of personal and social skills, but we had best watch out because in so using it the student might never come to know the joy, frustration, and wholeness of being a golfer, a player.

*Larry Locke (3) has reached the same conclusions I have about the *use* of physical education ıletics. He has started from an analysis of sport instead of play, a difference that is not important at any practical level of application.

The final assumption in the development of a play education thesis is that there are different ways of playing. Recognition of these differences not only preserves the fundamental human meaning of play as it moves from child play to adult play but also points to the need for play education. The British educational philosopher R. S. Peters has put it very nicely in his discussion of education as initiation (6, p. 109):

> Now anyone who has managed to get on the inside of what is passed on in schools and universities, such as science, music, art, carpentry, literature, history, and athletics, will regard it as somehow ridiculous to be asked what the point of his activity is. . . . But for a person on the outside it may be difficult to see what point there is in the activity in question. Hence the incredulity of the uninitiated when confronted with the rhapsodies of the mountain-climber, musician, or golfer. Children are to a large extent in the position of such outsiders. The problem is to introduce them to a civilized outlook and activities in such a way that they can get on the inside of those activities for which they have an aptitude.

An active play life is something that is learned. It is not likely to develop by chance, nor is it in any specific form an inherited trait. For this reason, I have recently attempted to define and conceptualize physical education as a form of play education (7). This view has several advantages. By focusing on play, it emphasizes the source of meaning that is inherent in sport and dance activities. Because it is education for play, it provides certain guidelines for treating people in the educational setting.

Classifying physical education as a form of play also puts it clearly in perspective alongside other institutionalized forms of play – art, music, and drama. This classification allows one to recognize that the activity of the weekend golfer, the after-dinner tennis player, and the noontime handball player is analagous to that of the painter, the member of the community theatre, or the musician. Each is at play, and it is only the form of play that distinguishes one from the other. The physical education student thus has as his counterpart the student learning art, drama, or music, a concept that places physical education clearly within the humanities, where it rightfully belongs.

Implications for College Physical Education Programs

What does all of this mean for college physical education programs? I should say at the outset that this play education approach implies much broader changes in elementary and high school programs than in those at the college level. I sometimes find myself wondering if this is true because we have found it increasingly difficult to perpetrate upon college students some of the misguided practices and programs that high school students are required to endure.

There are several implications that should be reasonably clear to you by now. Certainly no college program using a play education approach could justify requiring students to participate. The concept of education as initiation would justify requirements for physical education at certain levels, but most certainly college programs should be elective. Another obvious implication would be that grading is inconsistent with play education. A simple credit-no-entry is all that is necessary. The use of grades is potentially harmful in many ways, particularly because it makes a serious consequence contingent upon the play element.

While of certain importance, requirements and grades do not, however, constitute the major implication of the play education approach. They are at best matters over which we have limited control, and the forces of change within American university life will take care of these things no matter how hard some might resist them. Of far greater importance is what we do in our classes. Ideas in physical education are important only to the extent that they influence what goes on in the day-to-day conduct of our activity programs. The fourfold objectives that developed from the ideas of the Wood-Hetherington school of thought are important because they *did* find outlets in calisthenic drills, knowledge testing, citizenship or attitude grading, and multi-activity programs.

The primary implication of a play theory approach to physical education is that our major objective must be the development of skill; at the college level, this should be our only major objective. The experience of meaningful participation over a long period of time varies rather directly with the degree of competency developed in an activity. While the relationship is not linear, it is not incorrect to suggest that the more competent the player, the more meaningful is his play experience and the more motivated he will be to seek out the experience in the future. To develop players, to develop a nation of players – in the fullest and richest sense of the term – we need to develop skills. The oft-paraphrased dictum of G. K. Chesterton that "anything worth doing at all is worth doing badly" is cute, but it is not true. One doesn't have to know much about human behavior to know that we do not persist for long in doing those things that we don't do well.

Some of the further implications of an emphasis on skill development should be obvious to you. We need a broadly based program so that we can capitalize on the diversity of aptitudes and interests that students bring to us. But above all, we must allow for enough time to develop some real skills. I teach a motor learning course at The Ohio State University, and I am constantly appalled at how undergraduate and graduate students have been taught to view activities as skills. Volleyball is an activity; more precisely, it is the name of a game. It is not a skill. Volleyball consists of a number of skills, some reasonably simple and others fairly complex. It takes time to develop competence in the many skills and strategies associated with volleyball. This is a fact that our traditional multi-activity approach has never fully recognized. For example, if we want to develop volleyball players and are limited to a two-day-a-week program, we had better plan to spend at least a year accomplishing our task. If we devote this kind of effort to our task, then we will develop players – players who will know what it means really to *play* a game of volleyball and who will want to pursue this activity wherever they go.

This kind of time emphasis in turn suggests some further implications. The most obvious is a change of emphasis in our teacher training programs. The foremost change must be in preparing teachers who are skilled enough themselves to take students beyond novice levels. We need specialists – aquatic specialists, racquet specialists, field game specialists, and so on. How can we hope to develop real players when some of our teachers know the skills only well enough to take students to elementary levels of skill and then simply to "play games" for the remainder of the course at such a level that the student quickly begins to get bored with the whole thing? It would be far more correct to say they are playing *at* games, not really *playing* them. The result of the usual multi-activity program is [illegible] one learns anything of any real substance.

Each of us has known what it means to be a player. We have known the seriousness with which we approach our activity, the heightened spirit with which we anticipate the experience, the joy we take from exercising our skill, and the momentary thrill or disappointment of victory or defeat. No one can tell us that handball, golf, tennis, swimming, running, or bowling are silly, frivolous pastimes. We know better. We've been there. We have played. I suppose that I am doing no more than proposing a theoretical structure that will allow us to help students come to know and enjoy what we have known and enjoyed -- what it means to be a player. If we can help them, initiate them into our world of play, then we will have served them most fully. But we must remember that ours is not a world that is entered into with little effort. Players are not made overnight; nor are they made in 6-, 8-, or 10-week courses. Like all of the wonderful worlds of play, ours is a skilled world. We must allow time for our students to enter that world, and we must have the people who can take them there.

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THE PHYSICAL FITNESS APPROACH TOWARD MEETING STUDENTS' NEEDS

Carl V. Gisolfi
University of Iowa
Iowa City, Iowa

My concept of the physical fitness approach to a general program in physical education is a unified program, applicable to both large universities and small colleges, which has physical fitness as its foundation and enables the student to fulfill the following objectives: (a) achieve a "minimal level" of physical fitness, (b) attain the skills necessary to maintain this level and engage in recreational activities with others, and (c) acquire a basic understanding of the physiological principles underlying the body's response to exercise.

What is physical fitness? What constitutes a "minimal level"? Can a student achieve this "minimal level" within the limited time spent in physical education class, and if so, how?

There is no sense in developing another definition of physical fitness. We already have too many. Dr. Clark's definition (1) is appropriate, since it encompasses most others:

> Physical fitness is defined as the ability to carry out daily tasks with vigor and alertness, without undue fatigue, and with ample energy to enjoy leisure time pursuits and to meet unforeseen emergencies. Thus, physical fitness is the ability to last, to bear up, to withstand stress, and to persevere under difficult circumstances where an unfit person would quit.

Most authorities agree that cardiovascular endurance is the most important component of physical fitness. This component contributes more to the general feeling of well-being associated with being fit than achieving strength, speed, agility, flexibility, and the like, and therefore it is the focal point of the proposed program. The best index of cardiovascular endurance is a measure of one's maximal ability to consume oxygen, otherwise known as a man's maximal oxygen consumption, maximal aerobic power, or VO_2 max. Cooper (2), author of the book *Aerobics*, used maximal aerobic power as the foundation of his fitness program (Table 1); however, his values for individuals below 30 years of age appear to be too low if applied to college-age students. Fox and others (6) determined the maximal aerobic power of 135 college students with a mean age of 19 and found that the students falling into his "good" fitness classification had maximal oxygen consumptions of 4 to 6 ml/kg · min higher than those in Cooper's "good" category (Table 2). We recently studied 45 college students 19 years of age (unpublished data), and our values concur with those of Fox and his associates. I suggest, then, that our physical education program strive to elevate the maximal oxygen consumption of all students to between 49 and 55 ml/kg · min.

The next question is whether and how a student can achieve this "minimal level" of fitness within the limited time spent in physical education class. Table 3 shows

TABLE 1

Fitness Categories*

Fitness Category	Oxygen Consumption (M1/Kg/Min)			
	Under 30	30–39	40–49	50+
I. Very Poor	< 25.0	< 25.0	< 25.0	
II. Poor	25.0–33.7	25.0–30.1	25.0–26.4	< 25.0
III. Fair	33.8–42.5	30.2–39.1	26.5–35.4	25.0–33.7
IV. Good	42.6–51.5	39.2–48.0	35.5–45.0	33.8–43.0
V. Excellent	51.6+	48.1+	45.1+	43.1+

*According to Cooper (2).
< means less than.

TABLE 2

Endurance Fitness Classification For Male College Students Between 17 and 32 Years of Age

Classification	Maximal Aerobic Power*			
	(1/min)	(% total)	(mm/kg–min)	(% total)
Poor	2.4	3.7	34	1.5
Low-average	2.4–2.9	22.2	34–40	17.0
Average	3.0–3.5	54.8	41–48	57.0
Good	3.6–4.0	16.3	49–55	20.0
Excellent	4.0	3.0	55	4.4

*Maximal aerobic power was determined on the bicycle ergometer. (Modified from Fox, and others (6)).

TABLE 3

Effects of Interval Training
30 Min/Day, Twice/Week for 10 Weeks

Variable Max.	Before	After	Change	P
$\dot{V}O_2$ L/min.	3.25	3.55	+0.30 (10/11)*	.001
$\dot{V}O_2$ ml/kg/min.	46.0	51.0	+5.0 (11/11)	.001
$\dot{V}_E$ STPD L/min.	108.3	112.1	+3.8 (6/11)	N.S.
HR–4–5′ Ex. Beats/min.	189.4	185.9	–3.5 (8/11)	N.S.
HR–0–1′ Rec. Beats/min	158.3	159.9	+1.6 (5/9)	N.S.
HR–4–5′ Rec. Beats/min	122.4	112.4	–10.0 (7/8)	.05

*Number of subjects out of the total who changed in the direction indicated.
(Modified from Fox and others (7)).

the results of a 10-week interval training program in which college students exercised vigorously 30 minutes a day, twice a week, for 10 weeks (unpublished data). The mean increase in maximal oxygen consumption was 23 percent. This relatively large increase is attributed to the unfit condition of our subjects prior to the training program. The 12 men who completed the program had never participated in competitive athletics. Fox and others (7) showed a 10-percent increase in $\dot{V}O_2$ max following only seven weeks of interval training (Table 4). Both

TABLE 4

Effects of Interval Training
30 Min/Day, Twice/Week for 7 Weeks

	Before Training n = 30	After Training n = 12	Change	%
Age, years	18	18	0	N.S.
$\dot{V}O_2$ max, ml/kg/min	43.1	53.4	+10.3	.001
Mile Run	6:38	6:09	– .28	.01
12 min run	1.46	1.70	+ .24	.001
R.Q.	1.29	1.10	– .18	.001
	103.1	111.8	+ 8.7	.05

training programs elevated almost all students into Fox's "good" classification. Thus, not only can a "minimal level" of fitness be achieved, but it can be developed in only seven weeks, leaving the remainder of the class sessions for acquiring new skills, developing other components of physical fitness (strength, flexibility, agility, and the like), experiencing other training regimes and forms of recreation, and/or having laboratory sessions in exercise physiology.

Interval training as practiced in these studies consisted of short (50 to 880 yards) bouts of moderate to severe exercise alternated with brief (10-second to 2-minute) periods of rest or mild work. Figure 1 illustrates the physiological effects of varying

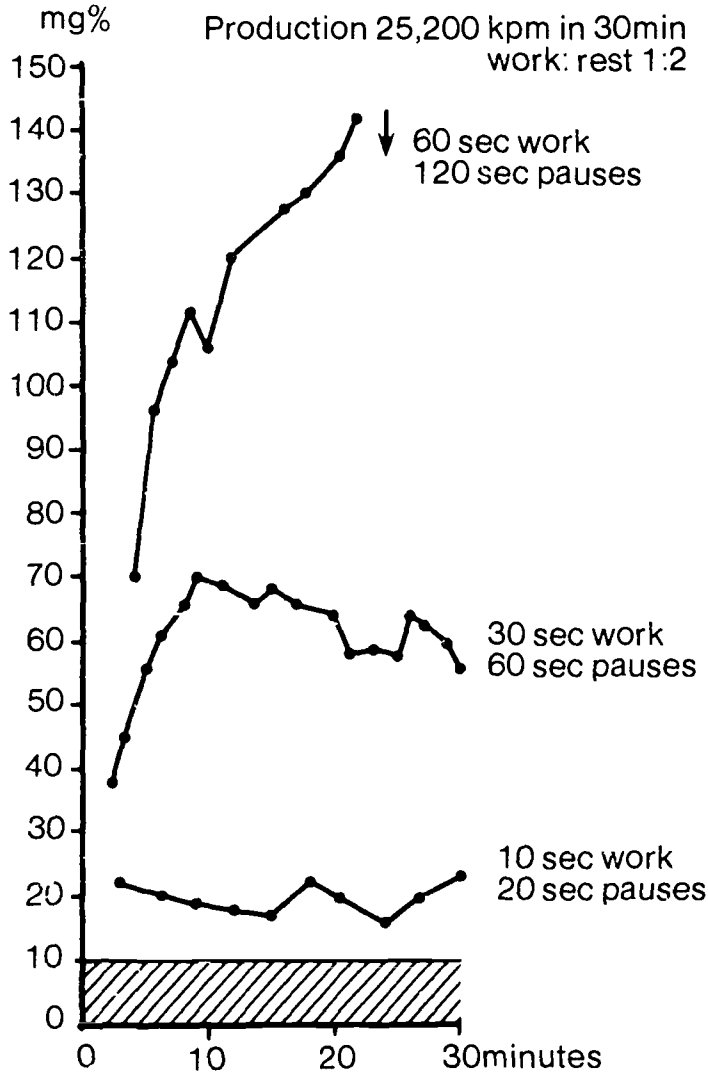

Figure 1. The blood lactic acid concentration at a total work production of 25,200 kpm.

the duration of the work and rest intervals as indicated by venous blood lactate concentration. Bicycling continuously at 2520 kpm per minute exhausted the [illegible] within three minutes. Working intermittently for one minute and resting

two minutes enabled him to continue for 22 minutes before becoming totally exhausted with a blood lactate of 150 mg/100 milliliters of blood (150 mg%). With 30-second work periods and 60-second rest intervals there is a significant increase in blood lactate concentration during the first nine minutes, and thereafter the values remain approximately at 60 mg% until the end of the experiment. Thus, with 30-second work periods a certain equilibrium is reached between the production and elimination of lactic acid. With work periods of 10 seconds followed by 20-second relief intervals, the blood lactate concentration was about 20 mg%, indicating the work was performed with little strain. Thus, simply by varying the duration of the work and rest intervals one can adjust the severity of the training session. One can also vary the intensity of the work bout and/or the activity performed during the relief interval to adjust the severity of the workout.

Unfortunately, the determination of maximal oxygen consumption requires trained personnel, expensive equipment, and a great deal of time; therefore, it is not a feasible test for evaluating if a large number of students have achieved a "minimal level" of fitness. In our recent study, we had 12 subjects run a mile for time and 12 minutes for distance before and after 10 weeks of strenuous training and correlated these values with maximal aerobic power. Before the program began the correlations between the mile and 12-minute runs and $\dot{V}O_2$ max were 0.51 and 0.19 respectively. These low correlations are attributed to the inexperience of our subjects. Most of them never ran a mile for time or 12 minutes for distance before. Following the training program the correlations were 0.73 and 0.75 for the mile and 12-minute runs respectively. Doolittle and Bigbee (5) studied 153 adolescent boys and found a correlation coefficient of 0.94 between the 12-minute run and maximal oxygen consumption; however, they did not report their maximal oxygen

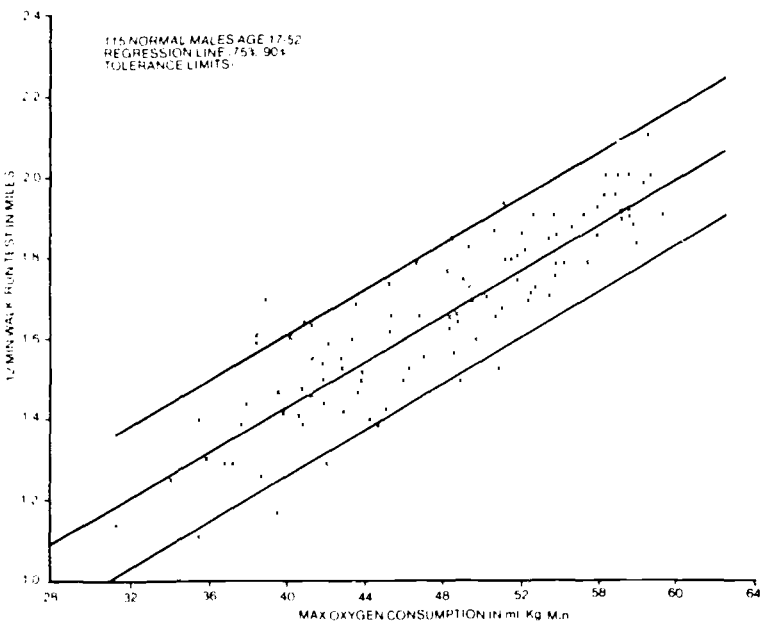

Figure 2. Correlation between maximal oxygen consumption and 12-minute walk-run. Within ce limits, one is 75% confident that at least 95% of true maximal oxygen consumption found.

uptake values. Cooper (3) studied 115 U.S. Air Force male officers and airmen with an average age of 22 years and found a correlation coefficient value of 0.90 (Fig. 2). Our relatively low correlation after the training program may be attributed to our small number of subjects. Based on this evidence, preliminary as it may be with respect to college students, I support the adoption of the 12-minute run for distance as a fitness test and suggest that we equate the ability of a college student between the ages of 18 and 21 years to complete 1.6 miles within 12 minutes with attainment of a "minimal level" of fitness.

How do we motivate the students to participate actively in so rigorous a training regime, and how do we teach the student the basic physiological principles underlying the body's responses to exertion? Selling the program and educating the student are made easy by describing, explaining, and making them aware of the physiological responses of the body to exercise as they occur in practice sessions. Run with your students. Explain the reasons for their breathlessness, side aches, and sore muscles. Select a topic for discussion each day, and for 10 minutes before, during, or after the practice session explain a physiological principle underlying a response they all experienced. Require all students to keep a personal training log of the following items (these should serve as initial discussion topics): (a) *Heart rate upon waking in the morning.* The bradycardia of training is a well documented response. Instruct each student to count his carotid or radial pulse and to record his heart rate from day to day throughout the program. As a discussion topic, this subject should lead into other effects of training as well as the structure and function of the cardiovascular system. (b) *Maximal heart rate counted within the first 15 seconds after completion of a standard workout performed every two weeks.* Training is associated with not only a decline in maximal heart rate but also a decline in heart rate during performance of a given level of submaximal work. (c) *Recovery heart rate 10 minutes after performing the standard workout.* Another characteristic of a trained individual is a more rapid return of heart rate to resting levels following exertion. An example of what each student should experience with respect to these three parameters is illustrated in Table 5, which shows the effects of a nine-week training program by Chet Jastremski before he set a new world's record in the 200-meter breaststroke. (d) *Net weight loss during each workout.* From week to week, assuming environmental conditions and clothing worn are constant, as the men improve their condition they should be capable of more work and thus lose more weight as a result of increased sweating. Discussion topics stemming from this measure should include the effect of dieting, the distribution of weight in the body, the concepts of lean body mass and percentage of body fat, the effect of training on weight distribution, and so on. (e) *Rectal temperature immediately following completion of each workout* (if feasible). In addition to heart rate and net weight loss, this measure provides another physiological indicator of the severity of each workout. Body temperature does rise during exercise, the elevation depending upon work intensity. As training progresses, the students will be capable of elevating their body temperatures to higher levels. This measure should lead into a simple explanation of body temperature regulation, the avenues of heat exchange between the body and the environment, the sweating mechanism, the importance of fluid replacement during work in hot environments, the benefits of a rise in body temperature during exercise, and the physiological effects of a warm-up. (f) *Distance covered in each workout.* Another indication of progress and

TABLE 5

Heart Rate Upon Arising in Morning and After Workout in 50-Meter Pool

		Average Time per 50 Meters	Resting Heart Rate, Taken Upon Arising in Morning	Heart Rate After Last 50 Meters*	Heart Rate Return 8 min. After Exercise
A. June 14—After 1 1/2 weeks of hard training	Tired, but not excessively so	:41.6	64	180	99
B. July 20—After about 4 weeks of training	Very tired. subjective feeling of chronic tiredness	:42.4	70	188	108
C. August 20—After 8 weeks of hard training and 1 week of tapering	Rested and more energetic	:38.1	60	176	92

*Taken for only 10 seconds, then multiplied by 6

(Modified from Counsilman (4)).

improvement can be the distance covered in a 30-minute workout. The distance covered, however, should not be the only parameter increased with training; the intensity of work should also be increased. (g) *Each workout.* These should be recorded not only for future reference but also to indicate to the student that as he improves he becomes capable of more work of high intensity. (h) *Dry bulb and wet bulb temperatures when practice sessions are conducted outdoors under different environmental conditions.* Environmental conditions can have dramatic effects on heart rate, weight loss, and the elevation of body temperature during work. It would be fascinating to the student to experience the effects of performing the same workout in both cool and hot environments. A comparison of these responses could reinforce previous discussions of thermoregulation and heat exchange.

In conclusion, a unified program capable of fulfilling what the author considers to be the primary objectives of a general program in physical education would have as its foundation achieving a "minimal level" of physical fitness. This level of fitness is equated with running 1.6 miles in 12 minutes and can be achieved through a program of interval training 30 minutes a day, twice a week, for only seven weeks, leaving the remainder of the class sessions for acquiring new skills, developing other components of physical fitness, having laboratory sessions in exercise physiology, and so on. It is suggested that each student be required to keep a log of his own physiological responses to the training program and that these responses serve as initial topics for 10-minute discussions before, during, or after each training session. The author strongly feels that the future physical activity, development, and education of the student can be significantly influenced by his experiencing the feeling of well-being and accomplishment associated with achieving this "minimal level" of fitness.

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THE FOUNDATIONS APPROACH TO COLLEGE PHYSICAL EDUCATION: HISTORY, STATUS AND FUTURE

Perry B. Johnson
The University of Toledo
Toledo, Ohio

"I think, I perceive, I feel, – therefore I am." "I move, therefore I am." "I play, therefore I am." What relative importance do you attach to thinking, feeling, perceiving, moving, and playing as vital factors in man's existence? As important and enjoyable as movement and/or play may be to many people, has a physical educator ordered his priorities wisely when, knowingly or inadvertently, he places movement, physical fitness, or play above thinking, feeling, and perceiving in the schema of forces contributing to human existence?

We have all heard the simplistic explanation of the importance of knowledge: "knowledge is power." Do *you* believe that knowledge truly is power? It is my position concerning the nature of man's existence and the use of knowledge that form the basis of my proposed new dimension to the foundations approach to college physical education.

What is the foundations approach? *Foundation* is certainly a well understood word, but this particular concept needs amplification. The approach is analogous to some things that both men and women will comprehend. Ladies' – and with all due respect to the select group of liberationists who eschew such garments – "foundation" garments do go on *first* and are an important base, but they are hardly considered complete dressing. Neither would anyone assume that the foundation of a house completes the total job of providing shelter. Thus it is with the foundations approach to college physical education. Few who offer such a program do so because they believe it completes the job. Yet in a very real sense they are saying that you must have a firm foundation before you can proceed further. Surely *complete* physical education is the goal – but the foundation is the choice when time or financial support are limited. Unfortunately, the nature of this particular foundation is not to be determined by mathematical equation or physical laws. Its nature is, however, subject to logical analysis, and though the exact nature of a given foundations program is determined by the value system of its creators, all such programs nonetheless purport to *deal with the essential though not necessarily the only elements of physical education.*

History

Some fifteen years ago there were three basic principles of what was heralded as the foundations program: (a) the "how and why" of physical education was the essence of the approach; (b) the importance of the individual and his attainment of a realistic self-image were stressed; and (c) some deviation from the belief that "students must be physically active every moment" was involved, so that lectures [illegible] least a small part of the package.

At that time, Michigan State's program was a one-hour, one-quarter course involving (a) fitness and motor ability testing; (b) a training program to experience training changes; (c) a total of six hours of lecture on body mechanics, training, somatotyping, weight control, cardiorespiratory fitness, preventive aspects of sports, and guidance into activities; (d) several lab experiences (e.g., lifting, relaxation); and (e) orientation to sports activities, about ten of which were introduced to the students, one period for each activity.

Though I had firmly believed in the three basic principles, about ten years ago I felt that the "how and why" principle was a bit too vague. I felt that people must be assisted in making a conscious, intelligent decision about exercise, fitness, and health and that the ability to make this decision more appropriately explained our goal than to say we taught "the how and why of physical education." I also believed that the "active every minute" thesis could be deviated from even more drastically. So it was that nine years ago the program at Toledo was extended beyond the earlier efforts. It included at that time two courses (four semester-hours of work) with 32 hours of lecture and discussion and 64 hours of laboratory and exercise experiences (now six quarter-hours with approximately 40 hours of lecture and demonstration work and 40 hours of laboratory and gymnasium work). A 1966 article in *JOHPER* described it as "predominantly an intellectual experience." The two courses, combining health and physical education, involved coeducational lecture sections, and we were already offering as many coeducational laboratory sections as possible. Personalized, health-related physical fitness with a strong physiological base was the key element in the first course; the second was oriented to recreation and mental health. Laboratory experiences included health and fitness appraisal, exposure to exercise equipment and techniques, conditioning and motor ability work, movement fundamentals and skills, laboratory experiments, (e.g., metabolism, strength, cardiorespiratory fitness, relaxation), and opportunity to learn at least one carry-over physical fitness sports activity. The course grade was based primarily on lecture examinations and laboratory reports, not on skills and fitness levels.

One can see that what we called the foundations approach never dissected out the play, the fitness, carry-over activities, or the movement fundamentals from physical education. It included all of these elements, but in a definite and specific manner it added the dimension involving the student's intellect.

Changes and Current Status

What have I learned from the intervening 15 years? What changes in philosophy and program have occurred? I still believe in the three basic principles as modified about ten years ago, but there are several very significant changes and, in my opinion, at least one most important improvement.

The significant changes developed slowly but steadily. Fortunately I had an open mind. I now believe more firmly in the nonphysiological values of play, in the importance of exercise and fitness for a better *quality* of life, in the esthetic value of movement in sport. It is not that I never believed in these; it was just that I (among others) felt we needed desperately to add the other dimension (the appeal to the intellect about the physiological value of health and fitness). Attention to the contribution of activity to quality of life and the esthetic value of

activity is now an important part of my thinking. Rather than think of play and movement as subservient or orphaned creatures, I can think of them as means to an end and not ends in themselves. Neither, of course, is physical fitness an end in itself (nor are thinking or feeling for that matter). In my view, play, movement, and physical fitness – among many other aspects of life – are intended to influence the intellect, the ever-changing emotional state, and the physical state of the body (its cells, tissues, and organs) so that ultimately the quality and quantity of one's existence might be optimal, that one may live well and long.

There are still those who hold rigidly to the notion that our major – if not sole responsibility in college service physical education is to expose students to sports skills and games. They contend that by this means students will be well prepared to play and exercise throughout life and, by implication, that students have all they need to do just that. Such proponents of the sports program are often literally offended (if not incensed) at the whole concept of the foundations approach with its physiological, psychological, scientific basis. To such a position I must respond with conviction. If our major or only objective is the here-and-now benefit of games and sports, then this is an objective that more often than not provides for no planned appeal to the intellect, no concern for the emotional depth of the persons involved – all of which seems dehumanizing to me. We are doing nothing more than we do when we exercise a dog by having him chase a stick and return it. The dog does enjoy it, gets his exercise, and improves his fitness. We may as well claim that running a guinea pig on a treadmill is physical education. The guinea pig does become more physically fit even if he doesn't enjoy it. We may even be able to claim that dog and horse racing are physical education activities because the animals do exercise (may even enjoy it) and are emotionally involved, albeit primarily for man's pleasure and financial gain! I most emphatically do not believe that this is all there is to college physical education – to play, to become fit, and to learn sports. I believe there is also a *future* for each student – that man has an intellect, that he has feelings, and that he varies in his capacity to perform and enjoy sports. His perceptions about his performance and how it makes him feel are uniquely his own and not some universal quantity. He is unique and beatufiful because of it, and he must be accorded the respect and the appropriate physical education experience due this beautiful uniqueness.

In my opinion, when one orders his priorities such that the concept "I play, I move, or I become physically fit, therefore I am" becomes dominant, even to the exclusion or subordination of the concept "I think, feel, and perceive, therefore I am," he has seriously erred, very possibly to the detriment of his students. One hardly can be said not to exist just because he is paralyzed. So long as he can think and feel he exists. Yet he cannot move, cannot physically play, cannot become physically fit. Without eliminating movement fundamentals, play, carry-over activities, or fitness improvement from our physical education program (they are all parts of a sound foundations program), we nonetheless must not allow any or all of these to dominate or exclude the appeal to the intellect, to override or ignore the attention to one's feelings. This is my position today, 15 years after my first exposure to the foundations approach. Quality of life, esthetic value, play, movement education, physical fitness knowledge, yes – but not as ends, only as means to dealing with each person's existence as a thinking, feeling, unique individual.

New Principles

After 15 years I would add certain principles to the basic three mentioned earlier.

1. A work of creative art exists even after its creator has long passed away; likewise, a student who has successfully completed a good foundations experience should be able, with perhaps a book, some references, and his knowledge and skills, to carry on without his instructor long after he leaves him.
2. The foundations approach must be offered to the majority and cannot be concerned only with what students *want*; rather, we should also be boldly concerned with what they *need*, based on professionals' knowledge, experience, and scientific analysis of man's function and his problems.
3. The program must be oriented toward success, but with high standards. As contradictory as this may seem, it can be accomplished in part by abolition of the old academic game of keeping secret what we expect from the student. The student should be made aware of exactly what he must know and do. Then we must work at assisting him in this process, and we should accept nothing less than the standards set.
4. Finally -and this is the very important impovement to which I referred earlier -- I now believe actual implementation of the "individual-centered" principle needs to be handled differently from the way it has been if we are to achieve optimal benefits for the student in this regard. We thought that providing knowledge that could be used personally was being concerned about the individual! But I see now that knowledge is not power, as we had apparently believed in the earlier programs. *Knowledge is power only when its possessor cares enough about the beneficiary of its use to put it into action, especially when the potential beneficiary is the possessor of that knowledge.* The missing ingredient was the pointed concern with the individual's feelings about himself with regard to all this knowledge we hoped he had assimilated! Most fat people aren't fat because they don't know how to lose weight. People smoke by choice, not because they don't know better. Many people are sedentary for the same reason. The problem in each of these instances may well lie within the delicate area of self-esteem, which emphasizes again the very real importance of one's feelings. In contrast to the 1966 statement in *JOHPER*, I would say that the foundations approach should be primarily an *emotional* experience, which includes the intellectual, for emotion is defined as "a moving of mind or soul, an agitatation of mind or excitement of feeling."

Incidentally, my belief in the importance of this added educational dimension is not limited to physical education. My feeling is that there is a need for many individual-centered courses in a university. We must establish more courses in which knowledge and skill are not ends in themselves but, rather, a means directed specifically and most emphatically at the student's understanding of himself as an individual and as a force within our society. Initially, it must be knowledge – not a "sharing of ignorance" in free group discussion – that is the foundation of this understanding of self. But the ultimate goal is for each individual to apply to himself what is known about man and society in each of the several applicable do-

mains of human knowledge. Thus psychology, philosophy, health science, sociology, physical education, and political science most certainly have an important contribution to make in such an effort.

An Experimental Course Based on the New Principles

On the basis of this current concept of service physical education, I have recently proposed significant changes in our program at Toledo, A large group has worked with me on the new approach, and I have had the opportunity to conduct an experimental class to evaluate the student's receptivity to this approach. The general goals of this experimental course were (a) to study, with particular reference to health and physical activity, how man exists and functions, what his needs are. how he feels and behaves, what the major obstacles to his optimal existence are; (b) then, more importantly, to build on this base by allowing each student to evaluate his own actual status, or his own feelings and beliefs, or his own positions concerning the relevant topics under consideration; and (c) finally, to allow each student to program for himself how he can best meet his needs based on his status, feelings, positions, and his individual goals. The specific goal was to have each student receive and use general fundamental information and data that would provide the basis for an understanding of "self" on the way toward consciously adopting an informal, intelligent position regarding his health and fitness and to be able to defend his position to his own satisfaction.

Each of seven units began with distribution of a finite set of objectives for the learner. Objectives were cognitive, affective, and psychomotor in nature – some simply involved experiencing a certain thing. Students were encouraged to challenge any objective they deemed either unreasonable or irrelevant. Then they were expected to achieve *all* remaining objectives, not 60, 70, 80, or 90 percent! The seven units and some representative examples of the various cognitive, affective, and psychomotor objectives within the units are presented below. (There were anywhere from seven to twenty objectives per unit.) Please keep in mind that our service courses combine the elements of physical education and health education. The examples I have used here are primarily related to physical education.

I. Introduction

* Understand the nature and purpose of the self-testing program.
* Understand and provide evidence of the "drive to conserve energy" and defend your position concerning this "law;" evaluate your own tendency in this direction from both a mental and physical point of view.
* Differentiate between physical fitness and motor ability and discuss the items that are important to you.

II. Personal Testing and Fitness Programming

* Know, understand, and be able to carry out the different tests used to evaluate the various components of fitness and body composition.
* Experience the process of "conditioning" for cardiorespiratory fitness, flexibility, and minimal strength, or participate in the series of group

discussions designed for those who choose not to (or cannot) exercise.

* Describe your feelings about the psychological and physiological results of your experience in conditioning, or discuss your feelings concerning the series of group discussions in which you participated.

III. Cardiorespiratory Health and Fitness

* Be aware of the most common circulatory disorders, their likely causes and prognosis for treatment, and their relationship, if any, to physical activity (atherosclerosis and arteriosclerosis, hypertension, varicose veins, anemia, and coronary heart disease, including angina pectoris).
* List and discuss the possible benefits of cardiorespiratory fitness and importance to you regarding the following:
    a. emergency
    b. endurance
    c. efficiency of daily living
    d. freedom from infectious diseases
    e. longevity
    f. health of the heart and circulatory systems.
* Experience progressive muscular relaxation. Discuss its potential effectiveness for you.
* Discuss your cardiorespiratory fitness level and describe your feeling about it.
* Discuss what you would like it to be and why.

IV. Nutrition, Exercise, and Weight Control

* Know what heat stroke is, what causes it, how to prevent it, and how to treat it.
* Understand the role of water retention or loss in weight gain or loss.
* Know the basic components of actual weight loss.
* If you are obese to any significant degree, list the most likely cause or causes.
* If you are underweight, list the most likely cause or causes.
* After careful and honest introspection, discuss how you feel about your body weight.
* Discuss what problems you feel are meaningful for you if you are overweight or underweight.

V. The Body's Appearance, Neuromuscular Function, and Movement Fundamentals

* Know what the basic determinants of the appearance of the human body are; know which ones are entirely beyond your control and which can be controlled.
* Understand the principles of lifting heavy weights.

* Understand the practical values of minimal strength and muscular endurance.
* Understand how to improve (by "demand" and "specificity")
    a. strength
    b. muscular endurance
    c. power.
* Know and understand the various principles of motor learning.
* Know and understand the basic principles and uses of purposeful body movement.
* Discuss how you feel about your levels of strength and muscular endurance.
* Discuss how you would like to change your body's appearance and why. Is this a practical possibility?
* Discuss whether your body image is related to your perceived strength in any way.
* a. Rate your somatotype, using standard Sheldon system, as you perceive yourself.
    b. Rerate after further evidence (picture).
    c. Discuss the difference, if any, among your two ratings and the rating of an expert. What meaning does any difference have for you?

VI. Philosophical and Cultural Considerations in Sport and Exercise

* Be able to describe your position relative to the "mind-body dualism."
* Take and defend a position regarding the value(s) of exercise: primarily enjoyment? primarily health and fitness? equally enjoyment and health and fitness?
* List and develop a personal position concerning the values of competitive sports.
* Describe your concept of how our society in general perceives and values competitive sports at the professional, college, high school, and little league levels. Describe your position regarding each level. Are your actions compatible with your position(s)?
* Take and defend a position: "highly skilled physical performance is an act of intelligence and beauty."
* Describe your feelings after viewing skilled performances in some of the less popular sports activities.

(The seventh unit on health will not be discussed here.)

The basic strategies employed to assist students in achieving these kinds of objectives were lecture-discussions (large group, about 35); gymnasium work (self-testing followed by conditioning in one of four selected ways – circuit training, interval training, swimming, or jogging); experiments and experiences (such as mouth-to-mouth resuscitation, relaxation); small-group "here and now" ions (sitting on the floor) dealing with feelings and positions; personal check help students determine their feelings and positions.

Results of the Experiment

I consider the experiment a success, first because I learned a great deal about the approach and, second, because the students apparently received the experience in a very positive way. The students overwhelmingly indicated (by anonymous evaluation) that as a result of the total course experience they knew more about man and how he functions and exists, what his needs are, how he feels and behaves, and what some of the obstacles to his optimal existence are; they also indicated that they felt they knew more about themselves in these regards. All of the students believed that what they learned about man and themselves as individuals was of value to them; 90 percent knew how to program a better life, and only 18 percent felt they would not. Better than 50 percent of the class rated 18 of the 19 experiences making up the course at least "good." Compared to other college courses, this one was perceived to be "of very little value" by only 11 percent, while 74 percent rated it very worthwhile and practical; 86 percent rated it interesting to very interesting, and only 3 percent indicated it was of little interest. Asked if they would recommend the course to others, 82 percent responded that they would either recommend or highly recommend it. Sixty percent of the class, representing all of those who changed, changed for the better in their attitude toward health and fitness, and 73 percent had a positive change in attitude toward physical education (only 4 percent had a negative change). Most important to me, 38 percent indicated that they had improved their self-image, and 36 percent said that they improved their attitude toward other persons.

The general feeling of many of the students might well be summed up in the words of one very overweight student, who wrote in a letter to me, "I just wanted to thank you for helping me feel *more* like a person and *less* like a display object than ever before. Never in my life have I felt that anyone cared for me as a person. You have helped me not to generalize and assume what other people's feelings are. If you knew how hard it has been to keep going, and how many times I felt like quitting everything, you could understand why I sincerely appreciate having at least one person try to understand and take the time to help someone like me. I want to join the world."

The Future

I hope others in other colleges and universities will catch the spirit of what I have proposed and add their weight to this thrust. It is certainly not all new, but what is new about it seems to me to be most critical to the success of basic college physical education.

I think that in the future I will be able to report to you that we have taken yet another step in the appropriate direction. As an extension of the concept just presented, I envision a broad and extensive evaluation program, through actual physical testing, questionnaire and follow-up testing, and knowledge testing, that would screen students and diagnose their needs. These needs would be the K-12 objectives (psychomotor, cognitive, and effective) related to physical activity and movement that have not been achieved by the entering college student. Incidentally, several of us are now hard at work refining the elementary and secondary school objectives. They include the following categories: *psychomotor* objectives fundamental patterns as locomotor "living" patterns, protection and safety ns, perceptual-motor patterns, patterns necessary for development of games

and recreational skills as well as sports and recreational skills *per se*, and such life and health skills as self-testing skills, skills for fitness through nonsport activity, work-related skills, and prevention and care of activity-related injuries); *cognitive* objectives (knowledge and understanding relating to development and growth, to games and recreation, and to life and health); *affective* objectives (both personal and social objectives, all of course relating to physical activity and movement). There would be certain objectives, if they were not achieved, that would be deemed essential enough to require course work within the college physical education program; others would lead to a strong recommendation for course work. We are moving in this direction right now, and I hope others will consider doing the same.

Summary

I have briefly reviewed the history of the foundations approach to basic college physical education, pointing out that the foundations approach, as we practiced it at Toledo, was never intended to displace carry-over activities, play, fitness, or movement education. I have challenged play, physical fitness, carry-over activities, and movement education *per se* as physical education ends in themselves. I have shared with you the changes in my thinking that have led to a new dimension in the foundations concept as I see it, namely the specified and planned effort to recognize and deal with the individual's feelings and positions concerning the subject matter and activities at hand. I have described and reported the results of an experimental program designed around this new dimension. Finally, I have suggested that the next step we should take is the implementation of the often discussed principle of early evaluation of the attainment of performance and cognitive objectives, the results of which would determine the course experiences, if any, required of or recommended to each student.

When a college or university has fully implemented the kind of individual-centered program I have suggested, perhaps it will have come close to fulfilling basic college physical education's true potential for service to mankind. But I am certain that, as close as he may think he has come to such complete fulfillment, the physical educator who takes his job seriously will never behave in a static manner. I believe that there will always exist thinking physical educators with a sincere interest in the welfare of their students (both current and future welfare, as well as current and future students). Such physical educators will continue to search out and find new and better ways to assist in the education of those affected by their programs.

For the present, I believe whole-heartedly that what has been reported and proposed in this paper is another good, firm step toward fulfillment of physical education's potential for service to mankind.

LET'S PLAY: CARRY-OVER ACTIVITIES

Fay Biles
Kent State University
Kent, Ohio

In a way, *all* of physical education deals with carry-over activities, for isn't that what education is all about? If we want to become critical in our semantics, then we have to define *transfer*, determine whether transfer actually does take place, and if it does, analyze what transfers -- general abilities or specific skills. Examine, in a general sense, any phase of our profession, and you could list in behavioral terms some carry-over values. For example, COPE, a program in New Jersey developed in a Title III project, was named for the emphasis on *C*arry-*O*ver *P*hysical *E*ducation.

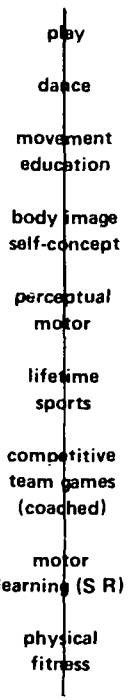
We usually speak, however, in terms of what activities the student needs, so that upon completion of his formal education, he can participate for the rest of his life. Recently we have emphasized lifetime sports as carry-over activities. I would like to share with you some additional ideas as possibilities, a little philosophy stemming from today's needs, and ways to initiate programs with carry-over values inherent in their organizational structure.

Operating with two hats during this year, one being director of the Physical Education Public Information Project (PEPI), I would be remiss if I did not share with you the current so-called crisis in which we find ourselves in relation to the required or involuntary physical education programs in high schools and colleges throughout the country. General education or basic skill requirements are being challenged everywhere. I feel it is safe to assume that we as a profession should be ready to accept the fact that requirements will go. However, that should not upset us too much, for in the place of a required program we can initiate exciting, innovative elective programs that our students will welcome and support. Perhaps our efforts should have been in this direction for the past five to ten years. We should assume the leadership in providing such a program and then, through good informational techniques, explain *why* the elective programs have been initiated. If we do it ourselves, we may be able to save the credit given for the course work. Physical education must be flexible if it is to meet the needs of our students today - students who will become part of a highly pressurized, technical society.

Students today, and wisely so, are demanding experiences that are relevant and meaningful. Do you fully realize that we possess within our field one of the few environments in which an individual is truly free - has the freedom for *personal* autonomy within a society that may be referred to as an alienating society? In an elective situation, a person can choose what he wants to do and how he wants to do it. In sports, dance, aquatics, outdoor activities, and all others, a person can become more physically aware of himself, can grasp the freedom to explore the "me."

It is our responsibility to help students be able to achieve a quality of life that is necessary for self-esteem and self-actualization. How do we attempt to provide learning experiences?

I would like first to define physical education with an elective philosophy. An elective physical education program provides the process in which a person enhances his abilities, through relevant motor activities, to meet his personal survival needs in today's society. For some individuals survival needs may be very minimal; for others, personal survival means living life to its fullest awareness as the only way to live. Personal needs may be based on emotional, physical, mental, or social motives or drives; or the needs may find their origin in competitive or expressive inner pressures. Excitement or the pursuit of vertigo may be the motivational drive. Consider the number of outlets or experiences we can provide students.



As I have traveled across the country with the PEPI project, I have discovered that some physical educators relate to just one interest area in such a narrow way that they fail to cross lines to bring in good effects of other areas. They put on blinders to the other areas. One public relations man (who is also a parent) said to me, "If you draw a line after the third group on the right, you would include the majority of your profession. But most parents I know believe that the kids today belong over on the left side. That is one of your problems in the profession. You have too many people who are not with it, and yet you have the real means for people who could really put it all together."

Before the days of specialization, we taught in all the areas listed and could see the values of all of them. I have been involved in every facet, including intramurals and athletics. Many times I have tried to justify one emphasis over the rest. Perhaps it is the perceptions I have picked up across the country through PEPI, or perhaps it was listening too long and too carefully to the Californians, but in my mind I'm [illegible] about the idea that a voluntary program can be a "play" education. If you [illegible] that continuum, you will see that the play element can be introduced to

make each contact area more meaningful. Listen to children and adults of all ages getting ready to indulge in any activity – "let's play" is usually what you hear, not "let's move" or "let's become fit."

I am not referring to children's play. Play is as important as any part of one's life, perhaps more so in adulthood. Physical, social, and emotional values, if they do develop, develop because the person has *played*. It is not the physical educator who provides the opportunity and environment that become the "play" world? The participant can become physically fit, socially skilled, and emotionally released because he is "at play" and not simply because he has pursued physical activity. Kneller in *Existentialism and Education* explains the play world:

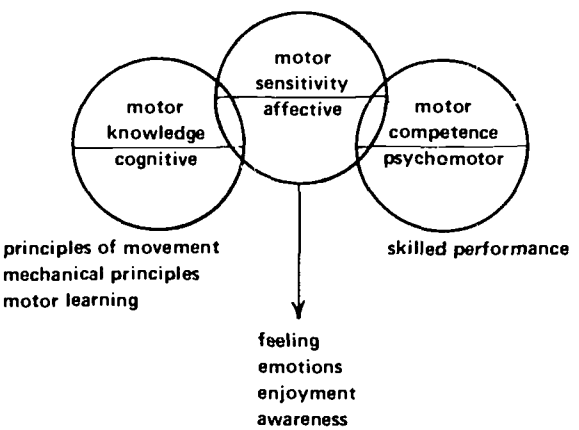
> The function of play is one of personal liberation – personal release; in sport man abandons himself to his own freedom, personally choosing the values and rules of his own physical activity, and the desire to play corresponds with the desire to be a certain type of person.

Maslow's "peak experience" and Roger's "fully-functioning person" relate to the meanings achieved in physical education activities emphasizing the "at play" element. Celeste Ulrich has stated,

> Play is a basic mode of behavior, an integrating thread in the design of life. It is an aspect of all societies, for the play group is the most fundamental of all peer groups.

This viewpoint will not be acceptable to the conservative or traditionalist who desires the status quo of the past 30 years – just as it was not acceptable to the Puritans. But people and times have changed, and we must relate to the needs of students today. Is it wrong to help them learn that activity is fun, enjoyable, thrilling, and a natural "high"? Is it wrong to approach them in what they like to think of as "their" domain – the affective domain, the feeling domain? Perhaps if we caught their attention and their interest in that domain, we could help them to move toward the cognitive domain with trust – confluent education as Brown calls it, a flowing together of the affective and cognitive domains.

The model I call "movement sense," from the English emphasis, is built on the equal development of all three domains but is referred to as motor knowledge, motor sensitivity, and motor competence.



The approach is through the affective domain. You have surely perceived the emphasis on sensitivity that surrounds you and is espoused by the youth we are teaching - T groups, touch, nonverbal communication, body language, the "mod bod," movin' and groovin'. Let us teach people how to play or better yet, help them learn how to play. Let us find out what motivates people to play and then convince others that there might be need for them to play.

Why has there developed such a dislike for so many programs? Could it be that the multi-activity programs are structured so that a student is not able to go beyond the beginning, frustrating stages? A student should acquire enough skill so that he experiences success. Maybe we need fewer skills but more concentration. A student should be able to choose from a smorgasbord of activities, but within the activity he should be able to concentrate long enough to attain a high skill level. He should be able to go on to an intermediate or advanced level in his chosen activity.

Instead of listing possible curriculum designs as new ideas, I would like to share with you an experience I had last week. The PEPI project is attempting to identify outstanding programs across the country and have them recorded visually (slides, video-tapes, films), so that the public can see good physical education programs in action. My search took me to Brookdale Community College in Lincroft, New Jersey, because I had heard they have a new idea in education. My expectations were fulfilled when I encountered a learning center dedicated to personalized, individualized learning. The atmosphere was open, informal, warm, and helpful. There are no permanent walls at Brookdale, they are all movable to set the scene as each group desires. The physical educators perform mainly as counselors. Students are administered tests of all kinds on entrance, so that a personal profile can indicate needs and abilities for each. An elective program provides learning experiences that are tailor-made to suit each student, using any or all school and community facilities - wherever the student can find the help he needs. When I was there, I observed a student telling an artist (one of many provided in the resource center) how he wanted to depict through bodily movements a feeling he had experienced in karate. He had studied the history of the activity, he respected the philosophy behind it, and he felt he had achieved the anticipated level of skill -- but he enthusiastically informed me he planned now to go on to earn a black belt. He also informed me he needed a greater degree of fitness, which his profile had revealed. He was free to visit the fitness lab and consult with the paramedical personnel as well as the physical education team. The fitness labs, located in each building on campus, are patterned after the NASA stress labs in Washington. The National Institutes of Health served as advisers to help plan the labs. The community chapter of the American Medical Association provides physicians one night a week for consultation and also to supervise a rehabilitation program for coronary patients from the community. Brookdale's is just one of many new approaches to physical education.

For years I have taught a course to physical education majors at Kent State University, called Survey of Sports. It could just as easily be incorporated into an elective program. The students are introduced to activities that are not included within their major. The psychological aspects of personality are studied – why do certain activities "turn on" certain people? All kinds of motivations are analyzed. Then we, as a class, engage in the activities to find out. For example, why do some find the pursuit of vertigo exciting and thrilling? We picked out activities

like rock climbing over sheer cliffs, log rolling in water, sky diving (on their own, with parents' permission – if they wanted). Prior to participation we had experts come to the class, demonstrate the skills involved, go over safety factors, show films, and so on. We learned to belay and rappel with ropes prior to rock climbing. The first time I looked over that cliff, my knees shook terribly, so badly I could hardly stand. But the thrill I felt when I reached the bottom and even more when I reached the top again was unforgettable. Beginners to skiing, ice skating, bobsledding, horseback riding, spelunking (cave exploration), deep-sea fishing, hunting (from deer to elephants) were exposed to new sports and activities – enough to whet their appetites for more. Community people were always cooperative. The reports turned in were stimulating. We even had one boy demonstrate surfing techniques on the table in front of the class.

Yes, we experienced the need for physical fitness, movement education, and motor learning, but even more we had experiences "at play" that became meaningful because they pulled it all together. We experienced, in play, relevance through movement.

Do I need to list the values of including lifetime sports in a physical education program? Education for lifetime sports begins when a child learns to walk. In early school years, children should learn basic movement skills, which are the foundation for lifetime sports skills. Learning to walk, run and skip, throw, catch and strike a ball are basic to learning sports skills properly. Persons who learn to love activity and experience success may develop an insatiable appetite for life. We did, didn't we? Let's pass that same joy on to others.

Jean Mayer of Harvard University's nutrition laboratory has determined that the level of physical activity is the most important factor in weight control, more important than food intake. There is some evidence to show that physical exercise can relieve muscular tension – helping to reduce anxiety and tension. In our pressurized society, it is important to provide outlets for overly tense and stressed people. We still need research to know whether it is the exercise period or the play element that is beneficial.

There are carry-over values "at play" in our program. Intramurals and club sports provide an excellent environment for the development of a high degree of skill attainment – skills that could be used for a lifetime. Maybe we should make COPE our password to avoid future shock. Better yet, let us play with and alongside our students. Let us live a philosophy that can make physical education alive and sparkling.

HUMAN MOVEMENT

Muriel R. Sloan
University of Wisconsin
Madison, Wisconsin

Discussing human movement as a current approach to meeting the needs of college students is fraught with problems, not the least of which is definition. In the first place, human movement is not an approach *per se*. It is the basic ingredient of *all* approaches in physical education, even though each approach may stress different human values and, consequently, different means-end relationships. It might be thought of as an approach to the development of many approaches within physical education programs. If it were conceived as a single approach, it would be difficult to delimit its boundaries. Further, the many and varied concepts of human movement current among physical educators today have not had striking impact on programs for the general college student.

The term *human movement* can be defined fairly simply by dictionaries or the man on the street, but the zenith of complexity is reached when the term is interpreted by physical educators. This is not a reflection on our intelligence, but rather a reflection of our preoccupation with the implications of the concept of human movement for what we call physical education.

Human movement is a phenomenon—a fact—without which there would be no human life. It is the *raison d'etre* of physical education in the schools, at all levels. Human movement is also a concept that engenders either broad or narrow meaning. The fact of human movement and the concept of human movement make up the substance and form of physical education programs.

The meanings ascribed to the human movement concept by physical educators are the key to programs designed to meet the needs of students, again at all school levels. These meanings—of the nature of human movement, its values, and its functions—obviously are derived from assumptions about the nature of man or of humanness, of knowledge, of education, or experience, as well as from scientific and empirical data. Just as obviously, physical educators are ordinary men and women with ordinary differences in philosophical persuasions and beliefs and ordinary differences in kinds and degrees of supporting data.

The concept of human movement as the subject matter of physical education has been most closely linked with an equally open concept called *movement education*. To some, this concept represents only one approach to physical education; to others it encompasses the entire field; to still others it is sheer nonsense or, at best, for women and children only! Movement education thus has developed many disparate meanings as well as different forms of advocacy and rejection. The many meanings and the diverse applications demand caution in using the term unreservedly, particularly as it might relate to populations of college students and college physical educators.

I can only ask that you hold in abeyance your individual concepts of human movement and movement education for the moment. It will make it easier to tell

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the story of its evolution and application, as I see it, if you are not already committed to the ending. For example, I will not be referring to the flow and shape of Laban or an "English approach." I will be referring to a home-grown approach to the study of movement, which began in this country before World War II. I will not be referring to (a) random exploration, or (b) to *talking* about movement instead of moving, or (c) to indifference to skill development in favor of more esoteric goals.

Evolution of the Human Movement Concept

Historically, the view of human movement as a subject area of physical education was born in the Midwest among women college physical educators. In the words of one text, which traces the history of concepts in physical education,

> "human movement" is probably the most recent emphasis in physical education although its many aspects make it somewhat difficult to pinpoint in its relationship to the total historical conceptual framework. Some professional leaders speak of the "movement" movement as though we were on the threshold of new vistas. Yet, physical educators have long been concerned with analyzing a variety of human movements. Many women physical educators have been particularly identified with the human movement emphasis. (1)

The authors go on to cite developments in kinesiology and in movement fundamentals in women's physical education departments.

The term *movement education*, as opposed to *physical education*, emphasized the broader and more profound meaning of the concept of movement. Mind-body dualism was rejected not only on philosophical grounds, but on the basis of interpretation of then available evidence of the neuromuscular basis of initiation, control, and perception of movement. This occurred long before the explosion of knowledge in neurophysiology and neuropsychology, which began in the 50's.

The concept of human movement became more widespread, particularly in women's college programs and then in elementary physical education programs. Movement education in elementary schools received added impetus from programs in such other countries as England and Germany. The recent emphasis on the perceptual-motor integration underlying motor skills and language skills is closely akin to movement education concepts and has strengthened this approach even more today. An unfortunate concomitant, however, is the conclusion of many physical educators that movement education is for children only and for female students, the majority of whom are retarded in skill development!

The "movement movement" increased its velocity over the years as physical educators throughout the country reinforced and added new dimensions to the human movement concept through their writings and speeches (8,10). The velocity of the movement has increased even more with the recent attention to physical education as an academic discipline. The quest for the body of knowledge unique to the discipline has given impetus to much-needed self-analysis. Whether this trend bears fruit in physical education programs for the nonmajor student is still problematical (7,10).

What initiated this "movement movement" so long ago? It was not so much a ...tion of traditional physical education forms *per se* as it was a dissatisfaction

with the limited extent to which they contributed to human values and needs as educators saw them. These educators were not against sports, dance, and the like, but rather against rote learning and stereotyped techniques on the road to winning points or applause. They advocated study of the structure and content of the movement involved and study of the nature of the human mover, rather than attention only to the structure of the activity. In short, they questioned the limited ends offered to students and the limited means dictated by those ends.

Perhaps the words of one of the pioneers in this movement, written in 1940, will catch the flavor:

> Students bring a wealth of natural endowment to a study of movement. They come with a structure made for action, another for its perception and control, a rich inheritance of reaction patterns, and an innate love to move. What are we doing with this endowment? Nature adequately provides the means for self-expression through movement; education must provide the ways. Not until provision is made in the curriculum for creative activities can we hope to renew much-needed aesthetic sensitivity in our lives today and be freed from herd-like conformity. Unfortunately, because of a lack of movement education, the average person is kinesthetically unaware of movement as a source of self-awareness and well-being; therefore, movement cannot play its important role in the life of the individual. The inherent relationship between thought, feeling and action furnishes the basis and direction for creative teaching and learning . . . Movement experiences need to be presented in such a way that the student will be able to summon and integrate his intellectual, emotional, and physical responses, and in this way be able to identify himself with his own movement experience. (5)

Words such as these make many physical educators squirm in their seats, not only because of the length of the quote, which was deliberate, but because the language and the value system it reflects "turns them off." The humanistic view these words convey, however, is fast regaining currency in today's world, among students and educators alike.

Contrary to some misconception, possibly derived from interpretations of movement exploration as seen in some elementary physical education programs, proponents of movement education were not and are not indifferent to skill development. At the same time the ideas I just quoted were evolving, other college physical educators were approaching the study of human movement from a primary interest in the teaching of sports skills (3). They recognized the importance of knowledge of the human movement instrument—its capacity for perception and motion—as the basis for effective teaching and learning of sports skills. For example, kinesthetic perception was seen not only as a source of self-awareness and esthetic feeling, but as a feedback source for the learning and performance of motor skills (11). And so, from seemingly divergent paths—from a dance orientation and from a sports orientation—arose a movement orientation, which coupled humanistic values with a science of human motion and perception.

Thus, a philosophy of physical education evolved, which held to the following tenents:

- That movement experience is a significant factor in the lifelong growth of an integrated human being;

2. that knowledge of self, both as the subject and object of movement, requires movement experience emphasizing qualitative as well as quantitative aspects;
3. that human movement is purposeful and has many purposes in addition to those contained in traditional physical education activities;
4. that similar movement principles subserve the many purposes and functions of human movement;
5. that knowledge about movement, *per se*, is a worthy educational objective and that physical educators are responsible for students knowing the "why" of movement skills as well as "how" to do them;
6. that movement experience in situations unhampered by the complex demands imposed on the playing fields or dance stage is a means by which broadly applicable basic neuromuscular patterns and skills can be developed, kinesthetic awareness can be enhanced, and principles of movement discovered;
7. that traditional physical education activities such as sports, dance, gymnastics, and so on, are important ends, but that they are also the means by which movement principles are applied and verified and new knowledge is acquired about oneself as a mover and as a capable solver of the movement problems posed by structured activity skills.

Perhaps the most significant contributions of the still enlarging human movement concept are threefold: (a) it provides a larger perspective in which to view traditional physical education ends and means; (b) it permits freedom from stereotyped values and forms and provides the basis for new ends and means; and (c) it generates new approaches to traditional forms.

Implementation in College Physical Education Programs

Perhaps the best way to define a concept as broad as human movement operationally is to illustrate its application in physical education programs. As I implied earlier, the concept of movement education did not take college physical education programs across the nation by storm, nor does it yet. Some forms of implementation are obvious, while others are partially obscured by being contained within traditionally labeled activities. Examples of major changes from traditional programs fall into several categories:

1. Expansion of course offerings.
   a. We find courses mainly in college programs for women, variously labeled fundamentals of movement, fundamentals of physical education, basic movement, body mechanics, and so forth (6,12). These usually have included some of the following as objectives:
      (1) skill in the technique of neuromuscular relaxation, as a tension reducing skill *per se* and as a skill applied to the tension-relaxation characteristics of skilled movement (9,12).
      (2) understanding of principles of movement with respect to everyday activities, balance, posture, locomotion, object and body projection, exercise.
      (3) development of kinesthetic awareness.
      (4) ability to analyze and attend to the rhythmic characteristics of movement.

(5) understanding of the values and techniques of exercise.

b. Such other course offerings as relaxation technique and exercise, rhythmic structure of movement, and movement as communication, have expanded on the basic courses. Still others incorporate the above fundamentals with activity classes, in place of a formal fundamentals course. Thus, movement fundamentals evolve and are illustrated as they function in traditional activities.

2. Changes in the nature of "required electives" within required programs.

Instead of requiring students to take the usual team sport, individual sport, aquatics, and some form of dance, activities were grouped into areas reflecting various functions and forms of movement experience. Although current required programs are tending more toward free election of courses, the following are examples of required elective organization:

a. Grouping of activities according to their primary function as projection skills; that is, according to the function of projection of outside objects, projection of the body itself, and combinations of both. This grouping usually followed a fundamentals course and was intended to emphasize principles of movement common to seemingly diverse activities. Students had to choose one course in each grouping, permitting more flexibility of choice. Great joy was exhibited at registration time by educators of team sports and by detractors of dance! Current curriculum patterns for undergraduate professional students group movement experiences even more comprehensively. For example, activities may be grouped according to the continuums of (a) complexity of environment, in the sense of an open-closed continuum; (b) structured to nonstructured forms; or (c) quality of movement.

b. Grouped according to basic skills, swimming skills, and recreational skills.

c. Grouped according to utilitarian, competitive, esthetic, communication, and developmental values of movement.

d. Grouped according to the disciplines the various activities might illustrate in a broader study of the nature of man: natural science, social and behavioral science, and humanities and arts (2).

3. Other applications can be seen in (a) the development of knowledge examinations in activity classes, which reflect the goals of understanding of the body instrument, of principles of movement as they apply in specific skills, as well as of rules of the game, strategy, and scoring; (b) combining of activity classes with lecture, discussion, and seminar sessions to aid in conceptualizations from and about movement experience.

4. Changed methodology within traditionally labeled activity classes (new wine in old bottles).

It is perhaps in the area of new approaches to traditionally labeled physical education activities that the philosophy of movement education has been most obscured, particularly at the college level. It is here that the expanded ends of movement education have resulted in expanded means of learning. It is here that one sees the application of the concept that while physical education activities are ends in themselves, they are also vehicles for expanded ends.

Although the justifications for some of the methodological approaches to be cited are manifold, two primary ones are (a) that understanding the "why" of moving in particular ways is a valuable human objective and (b) that the processes by which the first objective are accomplished may facilitate the development of skilled performance. Acceptance of the first justification is a matter of one's own value system. Acceptance of the second contention is also value charged, but can eventually be tested. Considering the present research evidence, the case has been neither won nor lost.

The learner, then, would not just be learning tennis or volleyball, but would also be learning what his movement purposes were in that context, what its movement demands were, and what movement processes would be most effective for *him* in meeting them. The authority of the teacher's expertise in a specific activity does not diminish. Rather, it requires broadening to include analysis of the motor and perceptual demands of the activity, knowledge of the movement endowments of the learners, and the structuring of experiences that bring the learner and the task together to serve both of the preceding justifications, that is, in such a way that the student becomes aware of the interdependency of his process of moving and the inherent outcome produced. This requires a great deal of knowledge on the part of the teacher, knowledge that we are only just beginning to make available in professional preparation programs. The teacher shares the responsibility for learning with the student. He does this by calling on more than the student's physical endowment and the human (and animal) ability to imitate. He calls on the human ability to understand, to perceive, to conceptualize, and to generalize.

The following are brief examples from three interrelated approaches I will categorize as the kinesthetic approach, the problem-solving approach, and the exploratory approach:

1. *Kinesthetic Approach.*

This approach to teaching emphasizes attention to kinesthetic feedback for a number of purposes. One of them is to have students realize that they possess senses - or sources of information - other than just the visual, not only as sources of self-awareness, but as media by which the intended purpose of movement and its outcome can be called upon for future use and modification. For example, in dance the starting point for building movement materials for communication can be a focus on the objective structural aspects of movement. The product resulting from such movement through kinesthetic and affective processes has been called *feeling-tone*. This becomes the raw material for conceptualization and communication. Thus, each mover can built a movement repertoire that reflects him uniquely and that he can draw upon for self-expression, for recreation, or for a disciplined art form. Much of the preliminary work in this approach is done with blindfolds to force students to be less visually conscious of others, less concerned with a prescribed or "right" way of moving, and therefore less motivated to imitate other bodies, in short, to focus on themselves as the subjects of their objective movement.

In sports activities, the kinesthetic emphasis has led to analyzing the projectile skills contained therein according to the trajectory components

that most directly reflect the movement characteristics necessary to produce the trajectory (4). For example, the flight of a "good" tennis serve can be defined according to its velocity components. A given velocity can be stated as the desired product of the tennis server's actions or movement process (13). External, augmented, and specific velocity feedback can be matched with the internal feedback from the temporal, spatial, and effort aspects of the movement that produced it. Thus, the velocity goal and velocity feedback serve as sources of "selective attention," similar to the function of the blindfold in the dance example. With repeated practice, under conditions that highlight the intrinsic purpose-process-product interrelationship of the particular skill, consistent neuromuscular patterns can be developed while the student accumulates the intellectual tools for self-evaluation and self-direction in meeting the demands of structured activities.

2. *Problem-Solving Approach.*

   This approach is seen as an extension of the kinesthetic approach, sharing the same basic concepts and viewing the many purposes of movement as problems to be solved. The purpose or problem may be to develop unique movement forms in unstructured activities or to develop forms "new" to the beginning student in structured activities. In the latter situation, for example, the assumption is that the student brings a repertoire of movement to the new situation and can bring it to bear in solving the new movement problem—*if* he knows what the problem is. This calls for (a) operational definition of the problem to be solved or the goal to be accomplished, in a way that elicits a range of natural responses within the range of solutions previously predicted by the instructor's expertise; (b) execution of the movement process with continuous feedback specific to the movement process and product; and (c) modification of developing movements that are the best individual solution for the given task instead of initially focusing on mirroring a given model of perfected performance.

3. *Exploratory Approach.*

   This approach within the context of traditionally labeled activities is intended to give the student information about how he interacts with the particular environment in which the activity is performed and also to help illustrate the "whys" of specific forms. For example, in a swimming class the principles of propulsion and buoyance can be derived from movement experiences in the water outside of the context of standardized swimming strokes. This knowledge, gained through the medium of movement experience, is of value in itself. In addition, it can provide the basis for understanding the particular forms taken by standard strokes and can enhance diagnosis and self-correction of problems in stroke production.

In a larger process-product sense, these examples of teaching approaches stress the interdependency of the process of learning with the product learned; that is, method is also content. Although it is obvious that there is no single approach for all learners, for all stages of learning, or for all tasks, selection of primary approaches will be dictated by primacy of the values seen in human movement. It is through a variety of movement experiences that a variety of outcomes can be gained.

Implementation of approaches suggested by human movement concepts rests upon interpretation and application of the study of human movement in teacher preparation programs. These programs produce mainly teachers of elementary and secondary school students. Where is the college student seen in the total spectrum of human movement values; What is the view and the preparation of those who teach in general college physical education programs? The study of human movement is advancing markedly in graduate and undergraduate programs. Its impact on physical education programs for the nonmajor student is still tenuous. Relative isolation of faculty who staff general college programs from those pursuing the discipline of human movement may create a stepchild in the disciplinarian's own backyard.

I suggested earlier that the concept of human movement could have broad or narrow meaning for physical education programs. An interesting example of the breadth of meaning possible is given in Fraleigh's description of an experimental program within an experimental college (2):

> The understanding of man as a moving being is the immediate end of the physical education program. The doing of sports, dance, exercise, and aquatics activities; verbal analysis of human movement; and correlations of these are means to that end. The immediate end of understanding man as a moving being then becomes a means to the greater end of understanding man.

Whether or not one subscribes to the range or specificity of aims of particular programs or to the means by which they are carried out, programs based upon the human movement concept share the view that movement experience is a basic means by which students "learn themselves," learn about themselves and their relationships to others, learn about movement, and learn the movement skills and mores of our culture. The value of fitness, of competition, of informal play are not denied. The human movement concept can open the way to enlarged views of the multifaceted nature and value of physical education experiences. Just as the nature of college men and women is multifaceted, so is the value they will seek in their own movement experience.

A college physical education program, whether required or elective, can provide the means. To do less is to have a narrow view of the nature of contemporary man, a view that today's students, both men and women, may find irrelevant to their values and needs.

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CRITIQUE AND SUMMARY

Celeste Ulrich
University of North Carolina
Greensboro, North Carolina

I find myself in the enviable and awesome position of presenting a critique on the thoughtful presentations of five of my colleagues. The position has certain limitations. Obviously, one limitation is based upon my analytical ability, a second on the suspicion that what is said last has an aura of profundity, and a third on the belief that the positions presented are analogous as to intent and represent congruent constructs. The first limitation you will have to judge for yourself; the second, I suggest, is a fallacious assumption to begin with; and the third I shall tear into as we proceed.

Let me also acknowledge one other limitation. I have had a chance to study only four of the presentations. All of us can sympathize with the fact that Dr. Biles, in her demanding year as PEPI coordinator for AAHPER, has not been able to do as much advance work as is her usual style. Consequently, I am reacting to the position supported by Dr. Biles rather than to her specific development of that position.

The five positions we have heard this morning do *not* represent congruent constructs with regard to the teaching of physical education. Three (movement, fitness, and play) deal with theoretical frameworks of the nature of the discipline, while the foundations approach suggests a way to process each theory. The carry-over activities approach suggests that the processing of theory aims for a defined product, namely, the utilization of activity as a way of life. Therefore, each of the approaches has certain assets and liabilities depending upon the frame of reference used by the analyzer. I should like, therefore, to present my frame of reference in as lucid and unequivocal statements as I can.

I subscribe to the holistic concept of man, and I support the humanistic approach in the teaching-learning process. Furthermore, I believe that man's behavior with regard to any situation is as a whole, and although we can use Bloom's taxonomy regarding cognitive, affective, and psychomotor domains, it is *never* possible to isolate any one domain from the other two. However, it is possible to emphasize one strongly to the disadvantage of the other two. I further reiterate a thesis I have espoused for almost two decades: that physical education is not simplistic in theory and that its complexity insists upon several theories that either may be a part of a general conceptual pattern encouraging plugs and feedbacks or may take the form of a series of overlays suggesting congruencies and diversities. These theories involve the human movement phenomenon, play, and human well-being. One final construct is a part of my frame of reference. I support the idea that man is his/her (or as the new language form suggests, "ter") own system and man's nature sponsors *ter* needs and responds to them. Part of man's nature insists upon value selections that reflect what man believes is good, desirable, and right.

As physical education attempts to meet student needs, it is imperative that physical educators keep value assessment in the fore. If we can accept Elizabeth Drew's model for the policy interpretation of values, then physical education would have to have a commitment to the integrated development of both the individual and the group. It is our obligation to support the process of mankind toward integration, self-actualization, and social responsibility.

I must, at this point, react to the general denouncement of Dr. Siedentop regarding the work of our early mentors. There seems to be no real necessity on the part of today's physical educators to decry the limitations of past leadership. Taken out of context, the Golden Rule, Socratic logic, and the truth of human equality sponsoring the rights of life, liberty, and the pursuit of happiness can be absurd. I, too, grew up with Williams, Wood, Hetherington, Cassidy, Nash, and McCloy, and although my disciple-like acceptance has vanished with respect to the pronouncements of prophets, I still value the insight and wisdom of that leadership. Our history is resplendent with people who were unafraid to use logic as their tool and to take a position with regard to their hopes. It seems to be part of the basic nature of many of us that in order to stress the importance of an idea, it is first necessary to castrate the ideas that preceeded our own. I prefer to think of succeeding ideas as steps in the development of theory, rather than as destinations. Like Dr. Siedentop, I prefer the reaches of reason to the pulpits of prophecy; I suspect that when we speak of varying ideas, we speak of a dichotomy, not a continuum.

Any way you cut it, it appears basic for us to acknowledge that play, fitness, and movement are the integral components of physical education. Each of these has a specific relationship to the other two, and each is, in a sense, dependent upon the other two. How we perceive, organize, and effect these concepts (using Welford's model as redefined and refined by Berlin as a point of reference) is varied—but it is always done in holistic ways.

I see no way that physical education can ignore the blatant truth that the human movement phenomena are the focal points of the discipline. I agree with Dr. Sloan that you may structure movement in many different ways (e.g., games, dance, aquatics, gymnastics), process movement in different ways (work, play), and anticipate differing outcomes for movement's use (e.g., fitness, self-awareness, a full life, well-being); but there is no way that physical education can avoid movement theory. I disagree with Dr. Sloan that we "discovered" this approach in our quest for a unique body of knowledge that was to be called physical education. Rather, I believe, we began to deduce the apparent, and then we organized our deductions into a theoretical framework. Obviously, you do not play without moving, nor do you get fit without moving, nor learn activity for the future without moving. The astigmatic view of those who would deny movement theory as a viable focus of physical education suggests an overenthusiasm for simplistic reasoning and an over-reaction to the female-child aura suggested by Dr. Sloan. Theories do not spring full-blown from the head of Zeus, nor do theories always evolve from penetrating and learned observations. An apple served mankind well in the establishment of two rather compelling theories. Those who have felt that physical education must have an either/or theory have been tilting with intellectual windmills and what I believe are senseless polemics.

Now, the way that we process movement leads to another point. Dr. Sloan has ted that the processing has used specific methodologies that are more

concerned with the motor process than with the product. Her point is well taken. There had to be a general revolution with regard to what Caillois called *ludus* as we saw the results of that attitude being measured in financial rewards, winning above all else, self-aggrandizement, and group goals devoid of individual concern. Physical education specialists had an educational directive to understand process, as demanded by Bruner, Rogers, Phenix, and Torrence. Physical educators arrived at a moment of truth one day when we realized that you do not have to fling both arms overhead in salute to Olympus whenever you vault over the side horse. It was a revelation to know that there are many ways to perfect your own personal patterns of movement and to know that Arnie Palmer's swing is not the right swing for anyone other than Arnie himself. Personally, it was a big day when Woody Hayes acknowledged that he "used movement to coach football," albeit it was Coach Hayes' concept of how the man should move rather than the player's.

That for physical education the movement of man is best processed through the idea of play is Dr. Siedentop's thesis. It is a thesis that is begging for development, and it is my opinion that Dr. Siedentop is well on the way to becoming a prophet of consequence in this construct. He is supported by such empiricists as Schiller, Lee, Huizinga, Gulick, and Gross--a rather impressive group. I am hoping, however, that Dr. Siedentop takes a step that his predecessors had neither the imagination nor the knowledge to take - relating play theory to movement theory. To do that, it is essential that the relationship of play, games, sport, and athletics be established. I suggest that they are not a heirarchy or independent entities, but are arranged on a continuum with games, sport, and athletics suggesting different organizational patterns and involvements on Caillois' classification of agonistic games. Play itself is an attitude (of varying intensities) as much as it is a pattern of interaction. Play interests and play spirit are not identical ideas.

I agree wholeheartedly with Dr. Siedentop that play is a fundamental form of meaning and needs no justification beyond that. However, for physical educators to suggest that play is their singular, or their essential, process is not warranted. Some of our movement-oriented activities do not fit into the play process with ease. Body mechanics, calisthenics, ballet, most forms of dance, synchronized swimming, all have a play spirit or a work spirit, and they find their meaning in result as much as process. I believe Dr. Siedentop is not logical when he suggests that sport theory and play theory may be the same. I am convinced that physical educators' recent enamored concern about sport has by-passed the theoretical stepping stone essential to the understanding of sport - that is, the discernment of play theory.

Another facet of Dr. Siedentop's presentation I cannot ignore is his obvious oblivion to the fact that movement in and of itself is perception. It is *not* necessary to find the meaning of movement through play for all people. Your perceptions are conative as well as cognitive, and Dr. Siedentop has missed Eleanor Metheny's point if he does not understand the concept that suggests, "we move to learn." The proclamation that if movement is not play, it is not meaningful is indefensible from my frame of reference, which acknowledges that play is not the alpha and omega of teleological man and his universe.

Dr. Siedentop's plea for skill development is eloquent and has sound rationale within the restrictions of his enunciations. It is a rationale in dire need of development in a world that keeps insisting that skill is of less importance than [illegible]standing. However, in our enthusiasm regarding skill emphases, let us not

abandon evaluation because of our disenchantment with grades. Evaluation helps you take the next step and turns a faltering stumble into a balanced gait -a skill not to be ignored.

Dr. Gisolfi's devotion to the results of movement, which may be processed through play, represents a time-honored, historically viable, and widely-accepted concept of physical education. When the term *fitness* is used in its macrocosmic sense of well-being, I am in Dr. Gisolfi's camp; but when human well-being is primarily perceived via its cardiovascular dimension, I am much less enthusiastic. Having collected O_2 samples for years, and being an admirer of Balke, Brocha, Hill, Dill, and Wolfe, I have some feelings of disloyalty in suggesting that cardiovascular efficiency is not the prime focus of physical education. That human well-being is a focus, I can support with enthusiasm. That cardiovascular integrity is a facet of human well-being, I can proclaim with fervor; but that cardiorespiratory fitness is educational or is any more than a hoped-for product of *any* specifically graduated and consistent activity is impossible for me to endorse. Both the sprinter and the harried office secretary can develop cardiovascular integrity, and the product does not even concern itself with the method used to reach the desirable end result. Interval training is programed just as a sophisticated treadmill (and for much less cost). However, neither method is physical education.

I do want to emphasize that I firmly believe that some programs in physical education should stress specific aspects of the desired results. Therefore, I certainly have no quarrel with any of the training regimens that produce the results wanted, as long as the regimen is consistent with the processes and products of physical education and commensurate with educational goals. In other words, a semester of jogging (with all of its physiological benefits) is not consistent with my connotations regarding the obligations of physical education.

We have used the concept of fitness to coincide with much of our rationale regarding the importance of physical education. Physical fitness is "bought" with alacrity by a public keeling over from heart attacks and other hypokinetic illnesses. However, you do not fly in a plane to avoid getting killed in your automobile anymore than you take physical education to postpone death. Involvement in both the flight and physical education add a dimension to your life style regardless of the result.

So much for the three basic approaches to the theoretical concept of physical education. In brief, I suggest that physical education structures movement, often through the play process, to achieve human well-being. Being quite aware of the distinct possibility that the succeeding generation of Drs. Siedentop's, Sloan's, and Gisolfi's students will take issue with such a limited definition of a discipline, I am, as of now, willing to make my commitment to such a theoretical tone and take my chances.

Now, we must discern how an idea such as that just stated can be effected in the teaching-learning situation. I have no disagreements with Dr. Johnson's approach, although I consider such an approach just one possible avenue. I am glad that after 15 years Dr. Johnson and his eminent colleagues have recognized the affective aspects of man's behavior. I can sympathize as to why those aspects were overlooked in a zeal to find cognitive worth in an area that was considered only psychomotor. But we are now past that impasse and ready for broad founda-
he foundations that Dr. Johnson is suggesting. As an aside, I cannot help but

comment (as an advocate of Women's Lib) that it should be noted that males as well as females wear foundations to support anatomical structures that are amyological.

I would want to restress my beginning point with Dr. Johnson; namely, that the foundations approach is a method rather than a theory and that the processes of perception, thinking, and feeling are inherent parts of any processing of knowledge including the one he is advocating. I wince when I hear any of us in physical education talk about *improved* self-images and *improved* attitudes towards others. After 25 years of teaching, I still do not know what *improved* means with respect to conduct unless I assume a value base that is my own and make my students accept it as theirs.

I am also sure that Dr. Biles' commitment to the carry-over aspects of physical education is a meaningful emphasis. That direction would be included in my concept of continued well-being and would be an ongoing result of a meaningful physical education experience.

If the concepts of play, movement, and fitness are viable in our unique trilogy of humanism, it would appear to be the obligation of physical educators to provide opportunities for the student to develop through these three emphases. As to the acuteness of the focus on any one concept, much depends upon the environmental circumstances of the situation. If we can envision the totality of the physical education program as three interlocking circles (after the fashion of that well known label) it is possible to suggest certain models of emphasis.

There is no reason why those circles must all be equal in size. The essential interlocking nature of the components is not destroyed by adjusting the size of the circles. Thus, in many programs, the human movement circle would be large and the play and fitness rings would be smaller. On the other hand, either the play or fitness ring could be disproportionately large.

What I am suggesting is that for students to meet their needs, it appears necessary for us to have mobile programs, programs that do not stereotype physical education and force the students into predetermined molds of emphases. Certain of the activity modalities we have traditionally used seem unusually conducive to certain thrusts. For example, all of the activities built around games and sports depend upon play for processing and naturally inflate that ring of concern. The programs in dance, gymnastics, body mechanics, and movement fundamentals seem to focus on the understanding of human movement and minimize the play concept even as they strive for the fitness result. The activity programs in conditioning, weight training, combatives, and calisthenics are closely akin to the fitness emphasis, and while they utilize the human movement idea, they care very little about play.

Whether equality of size among the interlocking rings is desirable or limiting is a point worth discussing, but it is a discussion that should be undertaken in a specific situation. It is not an argument that should represent a general philosophic position for all practitioners in all situations. It is my own point of view that the mutating size of each component ring offers diversity and relevance. It offers the opportunity to meet needs to a larger degree than a logo of physical education that suggests perfect balance.

If, then, the students, the teachers, and the administrators seek value by ing their needs in an integrative development of self and group, it would

seem that the emphasis should be the choice of the people affected. Obviously, if a physical education staff has no professors who understand what Dr. Sloan is talking about, it is difficult to emphasize movement. If a group of students find meaning in fitness, it is necessary for a department to cater to such a need. If the administrative complex of the educational academy sees simplistic order and some institutional stability in a play emphasis sponsored by intercollegiate teams, there is reason to believe that such programs might attract staff and students alike.

How this mutating design is achieved is another point. Some institutions enjoy tremendous success basing their organization on a foundations approach. This approach leans heavily upon scientific interpretations of the interlocking rings. It may avoid esthetic and philosophic understandings. However, in this age of reason, it might be argued that science is omnipotent and is the natural path to value. The carry-over activities approach does make an assumption that what is being taught today will be of value in the future. I am not sure that I feel comfortable with such an assertion. If we heed the ideas of Toeffler, Reich, Rozak, and others, there is reason to believe that change is too rapid to envision anything of today being of worth for tomorrow. The meaningful carry-overs of physical education are probably those suggested by Dubos, Maslow, Jung, Ginsberg, Kluckhohn, and others who identify values and insist upon attention to the absolutes rather than the situational. Man's need for sustenance, love, goodness, truth, beauty, and justice are time-tested absolutes. In reality, physical education offers an abundance in the cornucopia of basic values. Perhaps if we cared not only about teaching skill patterns for their own sake, but also paid attention to behavioral outcomes, we might be more sensitive to our contributions regarding value.

It is essential that all of the participants in the teaching-learning situation recognize that needs should reflect more than what is immediate. The false argument that "the students want it" as justification for anything smacks of rational parsimony. A want or a desire is not necessarily a need it is an immediate concern about self-indulgence. All of us should look beyond that sort of gratification. The approaches used in physical education need to reflect the untold want as well as the articulated desire. No program is just for students; it is for the good society as well as the good individual. The physical education programs in higher education will be of value when the approch used is mutable and when it represents all aspects of the continuing commitment of man to himself and his society. The needs will reflect the values; the values are our commitment to worth.

Evaluation of Students

GRADING SYSTEMS

Dale Mood
University of Colorado
Boulder, Colorado

The problems and complexities involved in evaluating a student's achievement have been a part of the educational process for a long time. At frequent, irregular intervals, articles appear in professional literature either condemning some current grading practice or suggesting some new approach. These suggested approaches have varied from a system in which no marks are given to very complex methods for arriving at student grades. Although many systems of grading have been proposed, it does not appear nor is it reasonable to expect that any one method will finally be adopted by a majority of educators.

Different grading systems exist mainly because different educational philosophies exist. An educator's philosophical position has a great deal to do with the objectives a course will be built around, the teaching methods that will be used, and the grading procedures that will be adopted. In fact, I use this relationship in a reverse manner when counseling students who are searching to identify their personal philosophy of physical education. This syndrome is usually most prevalent in seniors seeking a teaching position and about to confront an interviewer. My recommendation to a student in this situation is to have him think through the procedures he would follow in determining grades for a physical education class. To do this requires that the student answer several basic questions, and these answers will necessarily reflect a great deal of what the student thinks physical education is all about.

I will pose some of these questions and attempt to answer them, but remember my answers will be biased by my philosophy of physical education. You may play along if you wish, but don't expect to agree with each of my conclusions for, as I mentioned earlier, it is not reasonable to expect all educators to agree on one particular grading system.

Let us first examine the question of whether marks should be given. As pointed out by Jonathan R. Warren (3, p. 3), "Grades are considered necessary to prod students to study, to guide their learning, to reward those who have done well, to keep a check on academic standards, and to sort students for later selection to graduate schools and jobs." On the other side of the coin, however, according to Warren (3, p. 3),

> Grades are also considered a deterrent to effective learning, a cause of cynical game-playing in place of productive study, and an inducement to docile plodding rather than imaginative, independent thinking. They are said to make adversaries of faculty and students instead of collaborators in learning and to contribute to a stifling academic rigidity.

Many other pros and cons are offered by other authors. Robert Ebel states that two most serious shortcomings of marks are "(1) the lack of clearly defined,

generally accepted, scrupulously observed definitions of what the various marks should mean and (2) the lack of sufficient relevant, objective evidence to use as a basis for assigning marks" (1, p. 401). Yet support for the use of a grading system of some sort is given by those who contend that grades are necessary to (a) motivate students; (b) report a student's achievement to the student, his parents, and future teachers and employers; and (c) increase the efficiency of the expensive educational process.

Unfortunately, as I.N. Madsen points out (2), the claim that doing away with marks would result in better achievement is, by its very nature, impossible to demonstrate. However, in spite of all the shortcomings and negative aspects that can be listed against the use of marks, most educators would probably agree that some type of a system is necessary if for no other reason than that of communication. The communication systems currently employed range from the use of written statements about a student's achievement to the use of some symbol to represent that achievement.

Descriptions of various systems will be given later, but for now let us accept the idea that some method is necessary. Ideally, once the need for grades is accepted, the selection of a system that satisfies one's particular philosophy and eliminates or at least reduces as many as possible of the shortcomings of grades previously mentioned is the main objective. Which system is finally selected will depend, in part, on the answers to the following five questions.

Should an Absolute or Relative Grading System be Used?

In the absolute method a student's mark is assigned through a matching of his achievement to a previously determined scale. Thus the student would have to attain a previously established achievement level to obtain a particular grade. Usually grades in this system are given in percentages, and in theory, a student who learned "everything" would obtain a mark of 100 and a student who learned "nothing" would be given a mark of zero. Historically, some mark between 60 and 75 percent has usually been selected as the minimum required for passing. The most important characteristic of this method is the presumed independence between one student's grade and any other student's grade.

Relative grading, often referred to as grading on the curve, involves comparing a student's achievement with the performance of other students in the same class or course. Generally, the marks used in this system are A, B, C, D, and F. These symbols are used to represent far above average, above average, average, below average, and so far below average as to be failing. Notice that an average is a function of an entire group rather than any one particular member.

Just listing the characteristics of the two systems reveals some of the advantages and disadvantages of each. The strengths and weaknesses of each method are described at length in an article written by L. J. Weber and T. L. Paul (4, pp. 60-62). These authors cite the following as advantages of the absolute method: (a) computation of grades is relatively simple; (b) students are evaluated on the basis of their achievement of course objectives; (c) students' grades are not influenced by the performance of others; (d) motivation may be increased when students know exactly what is expected of them; and (e) the program can be evaluated, since it can

be easily established how many students in a course are achieving the course objectives.

Weber and Paul list the following as advantages of the relative system: (a) consideration is given to the disparity of instruction that exists; (b) statistical sophistication of this method assures higher reliability of measurement and thus a lessening of errors; and (c) objectivity, consistency, and fairness of this method cause it to be viewed favorably by evaluation experts.

Let us examine some of the disadvantages of each of these two systems, starting with the absolute method. The level of achievement necessary to obtain a particular grade is established by an individual teacher and therefore is subject to his idiosyncracies. A second important disadvantage stems from the over-reliance on classroom tests as precise and reliable measuring instruments. The teacher is saying, in effect, "I know what 100 percent of knowledge is in this course, and further, I know quite accurately what percentage of this knowledge each of my students has achieved." Typical classroom tests are not accurate enough to allow this conclusion. Weber and Paul indicate that when the program goals and objectives can be very clearly specified, the absolute method will function adequately even when students are evaluated by different teachers. Obviously, these authors imply, when objectives cannot be specified with great accuracy, the system does not work as well.

Now, let us consider the disadvantages of the relative grading system. Probably the major argument against relative grading is that a student's grade is dependent on the performance of his classmates rather than on his achievement in mastering the course objectives. A further disadvantage arises from the claim that this system dictates that a certain number of students receive A's (or F's) even though their level of achievement may not warrant it. A final criticism is that the criteria for grades are established by the students rather than the teacher.

The above criticisms of the relative grading system all stem from the same problem. All classes to which marks are to be assigned are not necessarily typical (that is, normally distributed with respect to the achievement of the course objectives). Some classes as a whole may be above average (or below average) because of sampling fluctuations, self-selection (students with special talents electing courses in those areas), or ability grouping. In my opinion, the merits of the relative system outweigh those of the absolute system if the non-normality problem can be solved. Fortunately it can. Variations in ability and achievement from one class to another do not have to rule out the relative system. Allowances can be made by not insisting on rigorous adherence to a previously established ideal distribution in each small, probably atypical class, but only in the composite distribution of marks for many similar classes. Further, although it may be true that students tend to set the standards in the relative systems, it does not follow that the standards will be set lower than the teacher would set them. Is it reasonable to expect that the students in a class about to run the 100-yard dash would previously agree among themselves all to run slowly?

Finally, as Robert Ebel points out (1, p. 414):

> In most areas of human activity awards go to individuals who are outstanding in relative not absolute terms. . . .From the point of view of the individual runner in the 100 yard dash, as well as from that of the individual student scoring in history or chemistry, the best way to achieve outstanding success is to put forth outstanding effort.

Should a Grade be Considered a Measurement or an Evaluation?

Again a brief definition of terms is in order. A measurement is some type of quantitative description of a student's achievement. Characteristically, a measurement is objective and can be quite accurately defined in operational terms. An evaluation, often involving measurement, is concerned with a qualitative judgment of a student's achievement. An interesting example that helps differentiate between these two terms is given by Ebel. If a scale shows that a man weighs 210 pounds, it is reporting a measurement. If a tactless acquaintance suggests that the man is getting too fat, the acquaintance is making an evaluation (1, p. 415).

There are several advantages in treating marks as measurements rather than evaluations. Because judgments of how adequate a student's achievement has been depend not only upon how much he has achieved but upon his opportunity for achievement and his effort, it becomes very difficult to report evaluations precisely in some standard marking system. It is difficult enough to have grades represent valid measures; it is almost impossible to have them represent valid evaluations. Because of the great number of ill-defined factors involved in making an evaluation, few teachers have a sufficient basis for doing so. For example, how well informed can a teacher be about the background of each and every student?

Finally, it is usually of more value to a future teacher or employer to know that a student was outstanding, mediocre, or poor in a particular aspect of education than to know that the student did as well as could be expected or that he failed to live up to some teacher's expectations. If given valid and reliable measurements of a student's achievement in various areas, the future teacher or employer can reach his own evaluations in light of current circumstances. Such information would be of more value than having on hand evaluations made by others under totally different circumstances.

Should Grades be Strictly Measures of Achievement or Involve Measures of Attitude, Effort, and Other Factors?

Other factors beside the degree of achievement of the objective are often included in students' grades. Unfortunately, this practice causes one of the major shortcomings of grades mentioned earlier namely, the lack of clearly defined standards as to what various marks mean. The inclusion of factors such as attendance, purchase and proper care of a specified uniform, appropriate shower taking procedures, and the like in the determination of a student's grade in a volleyball unit, for example, reduces the meaningfulness of the grade to future teachers. To base the grade, or some part of it, on judgments of character and citizenship is even a less defensible practice because such judgments are often based on very subjective impressions rather than objective evidence.

If improving students' attitudes or effort or any of these other factors are among the specified course objectives, then it is quite appropriate that they be considered in the assignment of marks. I think, however, that the teacher should take a very close look at these factors and be able to defend them if he decides to include them as objectives and then, just as with the other objectives, make every effort to obtain objective, reliable, and valid measures of these factors.

Should Grades be Based on the Actual Level of Achievement or on the Amount of Improvement a Student has Shown during the Course?

Grading on improvement very often includes a pretest and a post-test to determine the amount of progress each student makes during the period of instruction. Weber and Paul list two main advantages for grading on improvement. First, a student's motivation is apt to increase when he is told that the relative class skill level will not affect his grade. Second, the results of the pretest portion of the class can be used to place students into homogeneous skill groups and thus increase the efficiency of the instruction.

Unfortunately, there are several disadvantages to grading on improvement. As we all recognize, any test of educational achievement contains some measurement error. With a pretest and a subsequent post-test, two error terms exist. It is only possible to compare the observed scores on these two tests, and unfortunately there is no way of determining, for each student, how much of the gain, if any, is real and how much is because of errors of measurement. In some physical education classes only very crude pretests can be given. For example, it is not very practical to determine a student's initial ability in swimming or trampolining. Some activities preclude the use of grading on improvement. Obtaining a reliable measure of each student's real improvement is also predicated on the fact that each student puts out maximum effort on the pretest. It is difficult to assure that this will be the case. Yet another disadvantage in grading on improvement concerns the fact that it is usually much more difficult to improve when already at a high level of achievement than when starting at a low level. For example, who improves more and thus gets a higher grade, a student who decreases his 100-yard dash time from 10.0 seconds to 9.7 seconds or a student who reduces his time from 14.0 seconds to 12.0 seconds? Another aspect to be considered is that for most educational purposes it is more useful to know that a student is good, poor, or average compared to his peers than it is to know that he changed more or less rapidly than they did over the instructional period. Further, it is the level of achievement that matters in most real-life situations.

One of the strong reasons that educators, and especially physical educators, desire to mark on improvement rather than status is the contention that this practice gives all students a more nearly equal chance to earn good marks. Physical educators are adverse to giving low marks because they feel low marks discourage effort, which in turn increases the probability of low marks, and the vicious cycle continues until, we surmise, the student dislikes physical education. We fear that when this stage is reached the student is less apt to continue in physical activity during his lifetime than the student who was rewarded because he showed improvement in physical education class and was consequently given a higher mark than his level of achievement would dictate. Besides the fact that no evidence exists to support these conclusions, I would offer the following additional observation in support of grading on status rather than on improvement. It is doubtful that a student feels rewarded with a high mark for growth when his actual achievement is less than that of most of his peers. A poor reader knows, for example, he is a poor reader and so do his peers. An honest student knows that in the long run it is his actual level of achievement and performance that counts, not his rate of improvement.

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As an aside, though, how do we handle this problem of providing for success, which is commonly felt to be necessary to some degree to maintain at least minimal motivation? The point I'm trying to make is that if students are taught to dislike school because of constant low grades, let's not immediately attack the grading system. That is like a doctor treating the symptoms instead of the cause. Two other approaches should be investigated. It seems appropriate to me to increase the opportunities for success. Fortunately, we all differ in what we can do well. Providing varied opportunities in which to excel should increase the number of students capable of achieving success. A second alternative lies in ability grouping and enrolling students in courses suitable to their skill levels. If differences in initial ability are small, grading on improvement becomes unimportant. Other subject areas, such as mathematics, English, and the sciences, are ahead of physical education in respect to ability grouping, although some progress is now being made with the advent of modular and computer scheduling.

Finally, What Symbols Should be Used to Indicate a Student's Educational Status?

As I mentioned before, new systems for reporting student achievement are constantly being developed and promoted. We have seen, for example, in the last few years, a great increase in the use of the pass-fail system in colleges and universities across the United States. The particular symbols that are selected will, of course, depend to a great extent on the answers to the previous questions. For example, it was noted earlier that in the absolute system of grading, percentages are commonly used, whereas in the relative system, A, B, C, D, and F grades are commonly employed.

The most common formats for symbolically representing the level of student achievement are those already mentioned: percentages, pass-fail, and A, B, C, D, F. Others sometimes used are pass-no record, descriptive grading (in which written comments describing the student's achievement are used), and various types of rating sheets (in which specified portions of a student's performance are rated using a previously established scale). Again, although the decision as to which of these formats is most appropriate is directly related to the answer to the other questions, let me mention two further considerations.

The first involves a paradox. If a format is selected in which there are only a few categories, the information that is conveyed is minimal. On the other hand, the chances of misclassifying a student are reduced. For example, in the extreme case of the pass-fail format, the top student in class and the student who just barely passed are given the same symbol, and yet their achievements might have differed significantly. However, using this format there are only two possible misclassifications a teacher can make. A student who should have received an F may be given a P, or a student who should have received a P may be given an F. On the other end of the spectrum, if a format is selected in which there are a great many categories (such as percentages), the information given the student and others is increased but the opportunities for misclassification also increase. When determining which format to use, a general rule to remember is the higher the number of ...ries, the more reliable testing procedures are required.

The second consideration in selecting a grading format is communication. In reality this is the most important consideration of all for any marking system, regardless of your philosophy or particular circumstances. Some people have suggested that we drop this whole idea of magically arriving at some symbol to represent a student's achievement and just write down sentences to indicate "exactly" where the student stands. This procedure would supposedly eliminate one of the major shortcomings of grades the lack of a clear, universal understanding of a symbol's meaning. This procedure, in fact, has been adopted in many elementary schools in the country. One immediate problem that can be seen with this "descriptive approach" is the lack of reducibility of these written statements, which would present a formidable task to college admissions personnel and employment directors. Even if this problem could be overcome, I feel that descriptive grading has one more difficulty and that is simply that it does not necessarily communicate any better than some other formats. This fact was brought to my attention very recently when my son brought home his first kindergarten report card. Among others was this statement: "I hope Shawn will become more aggressive by the end of the year." To me this has many interpretations, and thus we are right back to a problem in communication. Is it possible that through the years we have learned the meaning of the symbol "B" as well as we understand written expressions? In any event, the decision as to which format should be used for reporting grades should be based on the determination of which one will provide the clearest communication to those reading the grades.

In summary, I would like to present 11 guidelines that I feel would, if followed, help to eliminate or at least reduce the undesirable characteristics of grades and make them a functioning and useful part of the educational process.

1. Carefully determine defendable objectives for each course before it begins.
2. Group students according to ability in the physical skills necessary for the course.
3. Construct tests to be as objective as possible, realizing that all tests are subjective to some degree.
4. Remember that no matter how well constructed, no test is perfectly reliable.
5. Consider grades as measurements, not evaluations.
6. Determine grades that reflect only the level of achievement in meeting the course objectives and do not reflect other miscellaneous factors.
7. Establish grades on the basis of status rather than on the basis of improvement.
8. Remember that the distribution of grades for any one class do not have to fit any particular curve, but that over the long run physical skills are probably fairly normally distributed.
9. Avoid the temptation of using grades to reward a good effort of a low achiever.
10. Choose a grading format that maximizes communication for each particular situation in which grades are given.
11. Finally, encourage the development of physical educators knowledgeable in grading practices.

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FORMATIVE AND SUMMATIVE EVALUATION IN PHYSICAL EDUCATION

Margaret J. Safrit
University of Wisconsin
Madison, Wisconsin

The problems associated with evaluation in physical education are numerous. In order to use evaluation instruments effectively, the physical education instructor must be able either to select or to develop both tests of motor performance and written tests. The instructor in the classroom, dealing primarily with written tests, will often receive assistance from counseling centers and testing services in selecting standardized tests and in developing his own tests. In addition, there is a wide variety of standardized tests that are available in many academic areas. On the other hand, the physical education teacher at the college level often must develop the entire evaluation program for his activity classes unless the physical education department provides him with assistance. At the same time, few standardized tests in physical education are available. The rather sparse list of standardized tests includes the Youth Fitness Test, the Sports Skills Test Series, the Cooperative Physical Education Knowledge Tests, and several other physical fitness and motor ability tests that are standardized for limited norm groups. Measures of sports skills developed by individual physical educators are usually validated for a specific group and thus are not widely applicable to different levels of skill and different age groups.

To note a second problem, the physical education profession as a whole is handicapped by the lack of trained personnel in the area of educational measurement as it relates to physical education. The top researchers in our field are competent in the use of measurement techniques that are necessary to conduct research in their areas of specialty. However, very few physical educators are adequately trained in the theory of measurement as it applies to physical education in a teaching-learning situation. This type of specialist would be qualified to assist teachers in both general college and public school programs in selecting and developing measurement and evaluation tools. Teachers in a general college program can be expected to utilize evaluation tools effectively, but they cannot be expected to know advanced measurement theory. Yet these teachers, as well as public school teachers, need to receive direction and advice from measurement specialists in physical education who do know and understand the theoretical aspects of measurement and evaluation.

A third problem is that the concept of evaluation in physical education has suffered somewhat because of a tendency to adopt a pattern of evaluating in which measurement tools are used in a very narrow sense. For instance, the total evaluation program may consist of testing only at the end of a unit; or a specified amount of time separate from teaching time may be allotted to testing; or a teacher may rely on a measurement textbook as his sole source of testing materials.

I wish now to describe a flexible type of evaluation that can be dovetailed with teaching philosophy of the instructor as well as the goals of the total physical

education department and that does not depend totally upon the availability of published tests. This type of evaluation is called *formative evaluation* (1, 10). Although the concept of formative evaluation is not new to physical educators, the systematic application of this type of evaluation does not occur on a widespread scale in our field at the present time.

The purpose of formative evaluation is to determine the degree of mastery of a given learning task and to pinpoint the part of the task not mastered. It is an ongoing type of evaluation, occurring during the learning process, as opposed to *summative evaluation*, which typically occurs at the end of a unit when learning within that particular unit is theoretically completed. Summative evaluation is often used to determine grades, while formative measures are predominantly used for other purposes.

Formative evaluation is often associated with the concept of *mastery learning* (1, 7). Again, mastery learning is not a new concept, but the term is of recent origin. Carroll's early research in the area of mastery learning involved a study of the relationship between aptitude and achievement in mathematics as evidenced by written tests of both attributes (2). He found that the aptitude of a group of students in mathematics was normally distributed – that is, distributed according to the normal curve. If this group of students was provided the same amount of time for instruction and the same type of instruction, their achievement scores in mathematics were also normally distributed. In the Carroll study, the correlation between aptitude and achievement was +.70. If, however, the kind and quality of instruction were made appropriate to the characteristics and needs of each student, the correlation between aptitude and achievement approached zero. In other words, the majority of students were able to work to a given level of mastery in mathematics if the instruction was individualized. We do not know the degree to which we can transfer this concept to the learning of motor skills, but we do know that students learn motor skills at different rates and respond differently to various kinds of feedback, and thus the concept should also be appropriate to physical education.

If one teaches according to the concept of mastery learning, one does not use measures that are designed to assess a student's performance relative to other students. Rather, measures that assess the degree to which the student has met predetermined mastery levels are developed. This latter type of measure is known as a *criterion-referenced measure* (3, 4, 9), since the measure is constructed with reference to a predetermined set of criteria. A *norm-referenced measure*, on the other hand, always describes relative student performance.

The construction of a norm-referenced measure requires a different process than that of a criterion-referenced measure. With a norm-referenced measure, we *want* to obtain variability among the scores of students taking the test, and so we construct a test on which some students will receive high scores, some will be average, and some will receive low scores. How do we do this? For a written test, we develop items that have average difficulty levels and high indices of discrimination. In a test of motor skill, variability is achieved by developing a complex testing environment. For example, if a test of the tennis drive has complex accuracy and force requirements, only the well-skilled student will obtain a high score. If, on the other hand, we develop criterion-referenced measures with varying levels of mastery at different levels of difficulty, we are able to pinpoint more precisely the student's

level of achievement and to aid the student in making corrections. Most students should be able to achieve a degree of mastery in physical education activities. It is a student's advancement from one mastery level to another, not his performance in relation to other students, that is of concern. The criterion-referenced measure, then, is well suited as a formative evaluation tool.

This is not to say that summative evaluation serves no useful purpose. Most colleges use some sort of grading system, and thus instructors must gather evidence that allows them to determine grades. However, this type of evidence represents more of a final level of student achievement. Although summative evaluation provides feedback to the student, there is not much he can do to change his behavior based on the feedback he receives in the form of a grade *after* a course has been completed.

Norm-referenced measures are essential when a degree of selectivity is required by the situation. When only a certain number of people can be accepted for a job or admitted to a school, a measure that spreads people out is necessary. If, on the other hand, one wishes to know whether an individual possesses a particular competence and there are no constraints regarding how many individuals possess this skill, the use of criterion-referenced measures is appropriate. The American Red Cross life saving tests and the DGWS officiating tests are good examples of the latter situation. There is no reason why, in a general college physical education program, we do not strive to help as many students as possible in obtaining the desired skills and knowledge. There need be no constraints on how many people reach a given mastery level.

Very little information on test theory appropriate for criterion-referenced measures is available. We do not know whether the assumptions underlying the classical test theory model for norm-referenced measures also apply to criterion-referenced measures. Current theory on reliability, validity, and item analysis is based on the desirability of variability among scores. However, criterion-referenced measures are not designed to yield variability among students' scores. Since content or logical validity does not require the use of a statistic, the lack of variability in criterion-referenced measures does not alter this type of validity estimation. The estimation of reliability presents the major problem. Livingston (6) studied the reliability of criterion-referenced measures using the assumptions of the classical test theory model to develop a theory that parallels the one used for norm-referenced measures. Subsequently, Harris (5) pointed out that Livingston's accomplishment was primarily one of carefully spelling out a special case of the classic approach to reliability theory. Since the problems associated with estimating the reliability of criterion-referenced tests have not been solved at the present time we should refrain from making decisions that are permanent in nature based on the results of these measures.

How can an innovative technique such as formative evaluation be implemented systematically? Bloom, Hastings, and Madaus (1) recommend an initial approach in which the instructor teaches a given class in the same way he has always taught, but, in addition, the regular teaching is supplemented by using formative evaluation techniques. The supplementary process involves breaking a given unit of study into small subunits of learning. For each, the teacher develops diagnostic progress tests [illegible] determines levels of mastery for each of these tests. For each diagnostic test, [illegible]is techniques for correcting errors are prescribed. For example, a student who

has difficulty in learning the tennis serve might be asked to view a loop film on the serve, read material on the execution of the serve, and/or work on specific drills to correct his errors. He is directed to concentrate on aspects of the serve in which he is weak. Since a great deal of flexibility can exist in a general college program, these individual prescriptions can be conducted outside of the regular class situation, if the teacher so desires. In other words, the student might be asked to view a loopfilm prior to the next class period. The above-average student also benefits from a formative evaluation program because he can move through the formative evaluation subunits as rapidly as he is able.

How can the use of formative evaluation be coordinated with the attainment of overall departmental goals? It is not uncommon for a physical education department to specify beginner and intermediate standards of achievement in many sports and activities. In essence, these are departmental goals. Can a teacher develop his or her own formative evaluation measures based on teaching techniques that may differ from other teachers and still work toward a common set of ultimate goals? Without question, this can and must be done. It is not reasonable to ask every instructor in a department to utilize identical formative measures. If a swimming instructor starts beginning swimmers in the deep end of the pool while a second instructor initially uses the shallow end, different formative measures are necessary for the two instructors. Yet their ultimate goals for beginning swimmers may be identical, and they may in fact use the same summative measures. As a second example, a golf instructor may initiate a beginning golf class by teaching the short swing while another instructor may begin by teaching the full swing. Again, two different sets of formative measures would be required. Unless there is evidence that a given method of teaching is inefficient, several different methods might be equally appropriate in achieving a final set of goals. The teacher, then, may develop his own formative evaluation measures according to his preferred method of teaching, even though the summative measures may be used by all instructors teaching a given activity. The use of formative evaluation methods is advantageous to the student because his individual needs are considered, and to the teacher because he is allowed flexibility in carrying out each unit of teaching.

In the November-December 1971 issue of the *Journal of Health, Physical Education and Recreation*, there is an article on a unique physical education program at Hostos Community College in South Bronx, New York (8). This program has been developed using mastery learning theory and criterion-referenced measures. Thus, it is possible to implement these innovative approaches in general college physical education programs. When teachers view evaluation in a broad sense as an integral part of the learning process, students will be evaluated so that they can improve in motor performance, rather than solely for the purpose of determining final grades.

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A LOOK AT GRADES

Joann M. Johnson
University of Minnesota
Duluth, Minnesota

In a study by Anderson (1), in which 590 graduates of a teacher's college were rated on their on-the-job teaching performance by superintendants or principals, a correlation of .12 was found when these were compared with grades made in high school and of .19 when a similar comparison was made with college GPA. In a more recent study, Barr (2) showed that supervisor ratings were found to have a median correlation of .09 with the college GPA of the teachers. It appears from this evidence that about 90 percent of the elements of a teacher's success is determined by variables other than grades. If these relationships were to be used as predictors, they would show that only about one time out of a hundred are they more valid than if obtained by chance. Hoyt (8) summarized 46 studies and found no positive relationship when college grades were compared with success in the "real world outside of academia." A.T.&T. found a "slight" positive correlation between grades earned in post high school work and the salaries earned by their employees (9). Marascullo and Gill (12) found they could not differentiate the successful from the unsuccessful Ph.D. candidates by means of the undergraduate GPA. The only traditional academic variable they found significant in their effort was "a commitment to do scholarly work." Pallett (16), obviously one of the successful Ph.D. candidates, did a doctoral dissertation on predictions of success in the business world and found no positive relationships between grades and on-the-job salaries. Even in very specific technical fields (engineering and medicine, for example) there is only a small relationship between grades and success (13).

Grades have traditionally been a major factor in determining whether an applicant will be admitted to graduate school. Yet Wright (20) states that an extraordinarily high attrition rate exists among doctoral candidates. One estimate is 20 to 1. In other words, for every doctoral candidate who receives a degree, 20 others fail. Apparently factors other than those that make for high grades are of greatest influence at this advanced level. Grades probably predict grades, but they apparently are a failure in showing such things as endurance, tolerance to stressful situations, creativity, or ability to make practical applications of what has been learned.

Yet we continue to assign grades, in many cases, to the efforts of our students. It has been suggested that "to grade is to degrade" (17).

There are many other points for an antigrade polemic. How much cheating that occurs is a result of the emphasis on grades? It has been suggested that "if you want to build character try something else" (14). In terms of the value of sports, what should we try instead of grades, since there is evidence (11) that no fewer than 81 percent of college students admit to having cheated in an effort to improve their grades? What kind of validity does our grading process have in the face of ...ation such as this?

Kirschenbaum, Simon, and Napier (10), in their cleverly written book called *Wad-Ja-Get*, describe a situation familiar perhaps to all of us:

> Someone said before that most of the time people don't cheat because they're afraid of getting caught. I think the point is that we feel that there is cheating going on all around us. And a lot of the time there really is. But what is more important than how many people cheat, and how often, is the atmosphere that's created by cheating. When I write a really good paper, I'm always worried the teacher will think I've copied it from a book. When I take a test and I look up and my eyes happen to meet the teacher's, I get worried that she'll think I've been looking at other people's papers, so I have to play all sorts of ridiculous games with my eyes and face to make it obvious that I'm just taking a stretch. And when I take a test, I have to keep my paper covered so I'm not accused of helping someone else. And teachers always seem so suspicious. "Keep your eyes on your own paper." "Cover your answers." "No roving eyes." "Everybody do his own work." How many times have you heard those? They police us like we're a bunch of convicts. You'd think we all had intentions of cheating all the time. That's the feeling you get.

Jules Feiffer (7) has a wonderful cartoon series that goes as follows:

> In the school I used to go to, I got A's in all my tests . . . And all the kids would ask me, "How did you do it, Joey?" . . . And I told them, "I studied" . . . so they wouldn't play with me anymore. "The Brain!" they called me. "The Professor!" . . . Even my father! "I want you to be a normal American boy!" he yelled at me . . . So we moved away in disgrace.
>
> Now in the new school I go to I still get A's in all my tests . . . And all the kids still ask me, "How do you do it, Joey?" But now I tell them, "I cheated!"
>
> It's great to be thought of as regular.

How often are we as teachers guilty of assigning grades even though we have a poor understanding (or total ignorance) of such things as, What is a standard deviation? What is a mean, a median, a mode? What is a normal curve? What makes a test reliable? Valid? Objective? When we test for knowledge of a sport or game, do we consider a table of specifications? By this I mean does the amount of information asked for reflect the amount of time spent on, and hence the importance of, that concept? Too often 90 percent of our written examinations in sport classes are on rules, because those questions are the easiest to write. Yet it is to be hoped that we don't spend 90 percent of our class time on rules.

What does the continual emphasis on grades do to student-teacher relationships? I quote from Kirschenbaum, Napier, and Simon (10):

> In the face of the ever-present teacher evaluation and student competition, a continual source of tension and stress exists in school. Children cope with this condition by establishing certain group rules or norms, thus insuring some degree of safety for themselves. To be cooperative with the teacher, to show too much enthusiasm, to do extra work, to talk to the teacher after class: these are all considered taboo by the class. Most students would really like to get to know the teacher better, would like to show more interest and be more sponsible and would like to do additional work if the subject interested em, but they refuse to transgress the established rules of conduct. If students

weren't so fearful of adverse evaluation by the teacher, these rules would hardly be necessary; and the students would be able to learn in a more intellectually and emotionally honest environment.

There is, perhaps, no point in elaborating further on this antigrade polemic. Surely there is no need to assign grades to general education "activity" courses. At least, all students should have the option of no grades. An argument may be made in terms of whether this would be an appropriate measure to take with students majoring in physical education. Do prospective employers want to know where a student's strengths lie? If so, do grades reflect these? I think not. It is not an atypical situation, especially with the current trend toward modular scheduling and team teaching, to have the grade in one course be an average of the evaluation of performance of a student on many things. I participated in a team-taught course last quarter that consisted of volleyball, basketball, officiating volleyball and basketball, and theory of team sports. Pedagogically this combination makes good sense, but any effort to assign a grade would have to be done by averaging assessments in all these areas. Chansky (4) suggests that perhaps an analogous situation occurs when a GPA is computed. First of all, the grade itself, the staple ingredient, has no stable meaning; second, grade assignments are highly unreliable (19); third, when figuring any average one loses sight of the extremes (if a student earns an A one place and a C in another, the average is B); fourth, different levels of courses (honors or advanced courses) are seldom identified (5); and finally, grades have so many different meanings to different teachers. It would appear, therefore, that the nongrading technique is indeed suitable for classes that cover many topics.

What about the appropriateness of using some sort of nongrading technique in our lecture classes? How would such an experiment effect the motivation of students in classes such as kinesiology, tests and measurements, exercise physiology, administration and organization, history, philosophy, and so on? In order to answer this question, it is necessary to consider whether there is a "halo effect" upon grades. By the time physical education students enroll in courses such as I have just mentioned, they are usually juniors and seniors. Even in large universities, the "good" students are identified by this time, and if not, there is some evidence to indicate that the grade obtained on the first test will identify these individuals for the teacher as well as influence his subsequent mark (6). At any rate, we would probably be susceptible to the same kind of suggestive influence as the teachers who participated in Rosenthal and Jacobsen's work, reported in *Pygmalion in the Classroom* (18) and reviewed in *Wad-Ja-Get?* (10):

> In this case, the authors gave all the children in four California elementary schools an ordinary intelligence test at the beginning of the school year. The teachers were told that the tests were designed to reveal students who would probably show substantial IQ gains during the coming school year. Ten children were then selected at random from each class in the four schools and the teachers were informed that these ten children had done especially well on the test. Using these children as the experimental group and all of the other children as the controls, an intelligence test given at the end of the year revealed that the children in the experimental groups in the kindergarten, first, second and third grades made significant gains in IQ when compared with the

children in the control groups. Also, the teachers tended to rate the experimental group children higher in such areas as cooperativeness, interest, school affairs and social adjustment. The teachers' expectations contributed to these differences. The perceived results of the first test scores stimulated behaviors on the part of the teachers, and eventually on the part of the "favored" students, thus resulting in the performance discrepancy. Again, the problem is that in another situation, the stimulus might come from word of mouth (another teacher), a look at least year's report card, the color of a student's skin or even the clothes he wears. It might be from language or a teacher having observed the parents of a child. Who is to say what all the variables are which are impinging on the teacher's set? And to what degree are these influencing the grading process as well?

Such less-than-accurate evaluation can be high detrimental to performance, especially by students who receive the lower grades. Bloom suggests, in his chapter on "learning for Mastery" in *Formative and Summative Evaluation of Student Learning* by Bloom, Hastings, and Madaus (3), the following:

> Each teacher begins a new term (or course) with the expectation that about a third of his students will adequately learn what he has to teach. He expects about a third of his students to fail or to just "get by." Finally, he expects another third to learn a good deal of what he has to teach, but not enough to be regarded as "good students." This set of expectations, supported by school policies and practices in grading, becomes transmitted to the students through the grading procedures and through the methods and materials of instruction. The system creates a self-fulfilling prophecy such that the final sorting of students through the grading process becomes approximately equivalent to the original expectations.
>
> This set of expectations, which fixes the academic goals of teachers and students, is the most wasteful and destructive aspect of the present educational system. It reduces the aspirations of both teachers and students; it reduces motivation for learning in students; and it systematically destroys the ego and self-concept of a sizable group of students who are legally required to attend school for 10 to 12 years under conditions which are frustrating and humiliating year after year. The cost of this system in reducing opportunities for further learning and in alienating youth from both school and society is so great that no society can tolerate it for long.
>
> Most students (perhaps over 90 percent) can master what we have to teach them, and it is the task of instruction to find the means which will enable our students to master the subject under consideration. Our basic task is to determine what we mean by mastery of the subject and to search for the methods and materials which will enable the largest proportion of our students to attain such mastery.

Could it be that when our students stop asking each other, "Wad-ja-get?" that their performance will improve as well?

How can we motivate them without grades? It has been suggested (15) that the ever-constant condition, the human variable, is the greatest motivator. Page ...nistered a normal objective test to 74 high school classrooms. Each paper was

then placed in one of three groups as follows: on the papers in group 1, no comments were made, in group 2, teachers made free comments that seemed to them appropriate; and in group 3, a particular grade was given with a particular comment. (All A's got "Excellent, keep it up!" or an F might get "Let's raise this grade!") After papers from all of the students were treated in each of the three ways a comparison was made, and students who received the free comments significantly showed the greatest improvement over those who were treated by the other two methods. That "human touch" seems to continue to be highly important as a motivator.

How else can we evaluate students without grading them? Are we using such things as videotape as often and as completely as possible? Portable units that can be rolled or carried into the gymnasium, dance studio, swimming pool, or out onto the playing field are within the limits of most budgets. There are few things more interesting to a student than to see himself perform. After the student decides if those pants are too tight or if the hairdo is acceptable and if he's not getting fat, a student and teacher evaluation of performance is highly effective. Maybe "Wad-ja-get?" could be replaced by "How'd-I-look?"

Next, I would like to comment upon a practice that I hope is fading away. About 10 or 20 years ago a strong emphasis was placed on an attempt to establish objective tests of motor skills. Students of physical education have traditionally been subjected to various tests of this nature. These tests are usually somewhat like a game, are able to be scored objectively, can be administered to relatively large numbers, and so on down the list of criteria set up to evaluate such tests. They may have some value as practice sets (though this is questionable at times because they may tend to encourage poor form), but they should not be used to evaluate individual performance. Most of these tests have been validated by comparing the scores made on them to expert judgment, and coefficients above .60 are rare. If the expert opinion is so highly acclaimed as to be used statistically, why not just use expert opinion (the teacher) for the evaluation in the first place? It is not to be construed that such skill tests are valueless, only that they should not be used to evaluate individual motor performance.

And finally, I would like to discuss the use of a written knowledge test in an activity class. The usual situation is to require a text for each class, often one of the relatively inexpensive paperbacks from one of the series currently popular. The student purchases the book at the start of the term along with his other texts. It is then put away, later to be rediscovered on the average of three hours before the final exam. Students exclaim, "Oh THAT'S why you do it that way," or (sadder) "THAT'S how he meant us to do that." Why not give a "final exam" or "a written evaluation of techniques and rules" (if you prefer) about three weeks after the term has started? The students might read the text earlier (which is all you wanted them to do anyway), and, who knows, it may even improve their performance.

Perhaps it hasn't been fair that we have only considered student evaluation. Maybe somewhere we should have evaluated teachers, too. I will suggest here one type of evaluation often used the check list. Using this tool, let us evaluate a teacher called Socrates (10): For the first category, personal qualifications, he gets a 5 on a 1 to 5 scale (1 high, 5 low) on appearance because he dresses in an old sheet. He gets another 5 in self-confidence not sure of himself, always asking questions. Give him a 4 in use of English, because of a heavy Greek accent, and

another 5 in adaptability with the notation that he is prone to suicide by poison under stress. Category B, "Class Management," is marked as follows: 5 in organization (he doesn't keep a seating chart); 4 in appearance of his room because he doesn't have eye-catching bulletin boards; a 1 on utilization of supplies, without accompanying comment. Category C concerns teacher-pupil relationships. A 5 is given in tact and consideration, (he places students in embarrassing situations by asking questions). But he receives a 2 in attitude of class (it seems friendly toward him). Category D concerns teaching techniques. He gets a 5 in daily preparation, (he doesn't keep daily lesson plans); a 3 (average) in attention to course of study, (he is too flexible and allows students to wander to different topics); and a 5 in knowledge of subject matter because he always answers a question with a question (undoubtedly has poor background knowledge). And finally, on the last category, we give him a 5 in professional ethics (he does not belong to any professional organizations, not even PTA); a 5 on inservice training, (complete failure here, he doesn't even have a college degree); and also a 5 in parent relationships (they are all trying to get rid of him). Our final recommendation: "Mr. Socrates does not have a place in education. He should not be rehired."

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EVALUATION AS INFLUENCED BY PROGRAM CHANGES AND SUBJECTIVITY

David K. Leslie
University of Iowa
Iowa City, Iowa

When first approached to present a position paper regarding the evaluation of students in basic instructional programs, I anticipated collecting my thoughts, reviewing current literature, making notes, and organizing the material. In the process I expected to freshen my thinking regarding relevant evaluation principles and then to present my position in the form of a concise scheme of evaluation for a hypothetical program. As I progressed with the task, I began to realize I no longer held a clear position regarding the evaluation of students in such programs. Two basic reasons for my uncertainty became apparent. One stems from changes taking place in many of the basic instructional programs in our colleges and universities during the past decade. The second arises from a long-held skepticism regarding the infallibility of grading schemes without some allowance for subjective grading by the teacher.

Mathews* states that "evaluation is a continuous process dealing with overall goals of education." Evaluation implies judgement, appraisal, rating, and interpretation. Use is made of *qualitative* methods and instruments such as teacher observation, judgments, check lists, and score cards in order to consider evidence in light of value standards in terms of particular situations and goals. Mathews describes measurement as that part of evaluation that utilizes quantitative procedures to obtain information regarding an immediate objective. Therefore, the evaluation of students must be concerned with measurements of attainment of immediate objectives in light of the goals of the program and institution. Or, in other words, on the basis of these definitions, in order to determine accurately whether a lesson's or unit's objectives are being met, we must measure; in order to assess the effect of what is measured on progress toward the goals of education, we must evaluate.

There is probably little that is truly new occurring in basic instructional programs. Rather, some established practices are becoming widespread and others may be disappearing. Some labels are changing with little change in content, but some trends are developing. There appears to be a shift away from required programs toward elective programs; from programs somewhat limited in the variety of the offering toward programs with highly diversified, even exotic, offerings; from programs that consist largely of what physical educators believe students need toward programs that offer what students want.

For example, early in the past decade we saw the required program dropped at the University of California at Berkeley. Over the same decade we have observed the number of Big Ten schools with required programs steadily decline until there is

*Mathews, Donald K. *Measurement in Physical Education*. Third edition. Philadelphia: W. B. Saunders Co., 1968. p. 1.

some speculation that only a few, perhaps a couple, will have required programs next fall. During the past several years I have personally answered at least a dozen inquiries concerning requirements related to the basic instructional programs and the practices employed.

We have seen a drop in the number of programs that require students to enroll in a fitness class and/or a minimum number of activities from such categories as team, individual-dual, carry-over, and aquatics and an increase in the number of programs that allow students freedom of selection from a wide variety of offerings. We see programs, such as at Iowa State at Ames, using Cooper's *Aerobics* to develop and measure fitness, instead of using such activities as formal calisthenics for developing fitness and measuring the fitness level attained by counting sit-ups, pull-ups, and speed in running. We see programs such as the University of Iowa's offering rock climbing, flight training, parachuting, and yoga in addition to weight training, skin and scuba diving, canoeing, and the older traditional activities. At one Big Ten institution the most popular activities are dance and weight training not because these are novel activities but because the classes are conducted in the dormitories. The skills and knowledge involved in these new activities are measurable (if your parachute does not open, you fail that portion of the course), but their inclusion reflects a changing emphasis in program objectives.

The change in program objectives is toward the student's assuming an increased responsibility for the quantity, quality, and nature of the activities in which he participates. This changing emphasis in program objectives complicates the selection of appropriate grading schemes. For example, the appropriateness of a grading scheme may be affected by whether the institution has a required or an elective program; whether graduation credit is given for enrollment; whether the student is allowed a grading option such as P-F, P-no grade, or letter grade; whether the institution allows the instructor a choice between relative and absolute grading systems; whether the objectives involve primary concern for the end status of the student's achievement level or for the amount of his development during his enrollment. In addition, the limitations that exist in facilities, equipment, budget, and staff will affect the evaluation of the program's affectiveness in reaching objectives and may also affect measures of student success.

How might the above examples affect the selection of an appropriate grading scheme? An elective program with limited activity offerings and an absolute grading system with rigorous standards will attract primarily students with a high chance of success. Grading on a curve or offering additional courses on a pass-fail basis would attract additional students to the program while possibly alienating some students otherwise attracted. Students with a low chance of success in an offering will avoid electing what they believe will result in a poor grade. An institution that wishes to be highly selective may limit its offerings and use a rigorous grading scheme in order to attract only certain students. Such an institution, if it gives high educational priority to the values of a good physical education program, would probably have a required program. The selection of offerings and the grading scheme thus help the institution attract the students needed to meet institutional goals.

In institutions where the staff is overloaded with responsibilities, the staff may tend to favor grading systems that take a minimum of time and activities that take a minimum of preparation. Testing may be minimal and subjective grading emphasized.

One institution may desire a required physical education program, an absolute grading system, and high standards in order to meet its total program goals, while another institution with slightly different goals, perhaps wishing to attract a heterogeneous student body, may be unable to meet its goals if it utilizes the absolute grading system with high standards. A relative grading system with a high priority given to ability-in-activity could be used to help keep athletes eligible to compete in athletic programs. A required program using an absolute grading system could be used to stimulate students in the average ability range to work hard to achieve "above average" grades.

A program may have as one of its objectives the preparation of students in individual-dual activities with carry-over value. Yet the institution may be badly overcrowded and lacking in gymnasium facilities, play fields, and equipment so that despite scheduling adjustments there may not be space to involve an entire class in such activities as swimming, golf, archery, tennis, badminton, or bowling. Evaluation of such student experiences by testing knowledge and skill levels and assigning grades may be possible but not necessarily reasonable for all phases of instruction. The time available may not allow for both skill instruction and testing. To meet institutional objectives, the instructional and practice opportunities for the students in these activities may need to be supplemented by open labs, intramurals, club activities, or special mini-courses. Hence, an objective of providing preparation in individual-dual activities with carry-over value may be retained and to some degree attained, but because the opportunity for skill development is extremely limited the testing of skill levels for grading purposes is of questionable value and probably inappropriate. If giving letter grades is a policy of the institution, then the instructor will have to use some form of subjective evaluation in addition to knowledge testing.

Obviously there is no "best" evaluation, measurement, or grading scheme for all programs. The best evaluation, measurement, and grading scheme for a particular program not only must be consistent with the philosophy, objectives, and policies of the institution, but must reflect the degree of heterogeneity of the students, their past experiences in physical education programs, and the limitations of facilities, equipment, and staff. In some instances, a relative grading system would be preferred and, in other instances, an absolute grading system. The use of letter grades may be the best measure of the attainment of program or student objectives in some instances and the use of P-F or a student option between the two in other instances. The many considerations and problems involved in developing an appropriate evaluation scheme for a particular program, and the recognized problems of objectivity, reliability, and validity that exist with written and skills tests available for administrating such programs, lead to the conclusion that a percentage of a student's grade should be subjective.

We cannot, at this time, escape subjectivity in measurement. Subjectivity is inherent in such other evaluation forms as rating scales, descriptions, score cards, and check lists. Subjectivity exists in the decision that a given test is an appropriate measure of the achievement of a student or a class. A written test, whether essay, short answer, true-false, or multiple-choice, requires the use of language. To be valid, a test much be couched in terms that accurately represent the course content and convey understanding to the reader, whatever his verbal ability. The test must be appropriate for the reading maturity and intellectual level of the person being

tested and be free of cultural bias. Glancing at the ACT entrance scores of entering freshmen, listening to their questions, and skimming samples of their writing reveals a wide range of abilities in their use of language. Today, as our institutions encourage the disadvantaged and students of marginal ability to attempt a college education, we find students with an increasingly wide spectrum of cultural differences enrolling in our classes. Mobility and recruiting for various programs contribute to the diversification. Caution must be exercised that standards of achievement are not ignored, but if we are to provide opportunities for diverse groups of students we must measure and evaluate with appropriate tools.

If an objective of a basic instructional program is to stimulate interest and encourage participation in recreational and fitness activities, we tend to defeat ourselves when we give knowledge tests that require high verbal skills and consequently fail students who have the knowledge and are trying. We can argue that "weak" students have the right to attempt a college education and risk failure, but we must be careful that measurements and evaluations reflect our goals.

One may even question that the rules, history, or strategy of a sport, as commonly taught in basic instructional programs, constitute college-level work in any sense but the remedial. But whether he takes a remedial course or one with appropriate college-level content, a student should not be evaluated by tests that do not adequately sample what he knows or what he can do. A teacher should know his subject, his students, and the ramifications of individual differences, and he should be skilled in the techniques and methodology of evaluation. He should be capable of identifying deficiencies in a grading system, revising tests for individual and group differences, and interpreting the test results to arrive at a meaningful score. These abilities minimize and perhaps eliminate the need for subjectivity. In reality, our teachers usually are unable to carry out such practices, but they are able to adjust grades subjectively by a small percentage in order to arrive at what they believe to be a more accurate though admittedly imperfect evaluation of their students. In most cases the subjective percentage would be the same grade as the average of the remaining parts of the grade. The function of awarding a percentage of the grade on a subjective basis is to compensate for inequities in whatever tests are administered to the students. As a result, a higher level of confidence may be placed in the use of many tests.

If tests with satisfactory objectivity, reliability, and validity could be developed for use by a heterogeneous group of students in the program of an institution that has as a goal the education of a heterogeneous student population, the need for subjectivity is minimized. It is my belief that in reality, tests in basic instructional programs are only rarely, if ever, able to measure and account for all variables for which a skilled, conscientious instructor can compensate.

In summary, I would like to make two points. One, evaluation should reflect the objectives of the institution, and thus evaluation practices should be expected to vary among institutions. Second, the imperfections of present measurement techniques and evaluation schemes are still such that the subjective evaluation by a knowledgeable and conscientious teacher should be a part of a student's grade.

Evaluation of Teachers

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GENERAL CONSIDERATIONS FOR TEACHER EVALUATION

Helen M. Heitmann
University of Illinois
Chicago, Illinois

To discuss thoroughly evaluation of teachers and come to a definitive solution or agreement concerning its desirability, feasibility, and utility would take much time and would require more concrete input than what the literature currently reveals. Although we can only superficially raise questions and postulate answers, it does not mean we are engaged in an exercise in futility. The dimensions and implications of the problem are far-reaching. We are dealing with a problem of human interaction, and as such, the control variables are illusory and multifaceted. The problem is further compounded by factors determined individually by the learner, the teacher, the administrator, and the intellectual, social, and political communities. Yet there is an urgency and necessity to keep dialogue open, research ongoing, and process viable so that standards of judgment can be determined and assessment tools refined and made valid and reliable.

Originally the teaching-learning process was a natural undertaking. Those in the community who exhibited wisdom or had specific talents became the natural leaders of learning, from whom inquisitive citizens could fulfill their need for knowing. It was an informal affair, in which the student selected the scholar, artisan, or tradesman and remained with him as long as the learning encounters were valuable. Evaluation was not a pressing issue. If the student didn't learn, he sought another teacher or ceased attending the lessons.

But when schooling became institutionalized, compulsory, and comprehensive, this natural union of student and teacher became inoperable. And with these factors came a distance between teacher and student. This distance was caused by the great numbers of students to be taught, by the difference in goals and motivations among students and teachers and between student and teacher, and by the teacher's placing himself in the teaching profession instead of being elected by the population desiring to be taught. Students had to take the untalented along with the talented.

Teachers have been evaluated by many criteria during the last decades. In the university, teacher evaluation is made more complex by the research role of the professor. When the research role is favored, little is expected of the professor as a teacher. In such cases, if the student can further his knowledge and develop a quest for knowing, it is largely because of his own attributes. We have all sat through classes untouched by the words flowing from the lectern. Fortunately, a few professors touched our lives in a meaningful way, and this made the tedium of other classes bearable.

We see university requirements being questioned. Is this questioning really because of students' desire for fewer restrictions in their program or is it because of how the material is taught? We speak of relevancy. Relevancy is often not a function of the subject matter, but rather of the way the subject matter is brought to

bear on the learner. The physical education requirement is, perhaps, on its way out. We believe the subject matter to be unique, necessary, and essential for the good life. But for this to be so, the subject matter must also be self-fulfilling and relevant in the view of the recipient. We can change the sport or activities offered in the hopes of finding a natural fit between subject matter and student. But whatever we offer, if the students do not sense appreciable gain in skill competency and joy and relevancy in learning, they have every right to complain. When resistance is felt, the key is not fitting the lock.

Finally, students have had to say, "But, I am not learning." When this orchestration became loud enough and expressed not only by the drop outs but by the growing numbers of physically "in" but mentally "out," society reviewed its priorities as to who was accountable for the learning product. Today the thesis of this discussion is different from what it might have been some years ago. Today teacher evaluation must focus upon the prime objective of teaching -helping students to learn.

Upon whom should the onus of accountability be placed for the learning product? Historically, it has been upon the student. The teacher measured out his knowledge to fill lessons, and the student was to absorb this knowledge in uniform doses. If the student didn't learn, it was his fault. Secure in what was, perhaps, the cardinal learning theory of yesterday, "You can lead a horse to water, but you can't make him drink," the teacher filled the water troughs as needed. But many were emptied only by evaporation. The inducement or motivation for learning was girded on the threat of grading. It is assumed in a normal curve that some cannot learn. Sometimes attitude grades were given without realizing that the student's attitude is his reflection of our influence on him.

It is my thesis that teacher evaluation must focus upon the learning gain, motivation, and process skills induced by the teacher. Any person coming into a gymnasium or classroom to teach must share with the student the burden of accountability for learning. He must be able to effect a positive and rewarding change in the behavior of his students, provided the student seriously follows the tenets of involvement. The research role of a professor is of little value to his students unless it is brought to bear on the learning environment. Research contributions to the academic body of knowledge have specific criteria for evaluation. Research designs call for specific input, controls, treatment conditions, and conclusion limits. Objectives or hypotheses tie the project to a specific purpose or goal. Judgments can be made on an objective basis as to whether the researcher maintained the integrity of good research design, kept his conclusions within the limitations of the study, and offered conclusions from which generalizations can be drawn.

Teaching, however, has not had this objective scrutiny placed upon it. Actually, each lesson or unit of study is a research project applied to each student. The treatment is the method of instruction to induce some behavioral change that was originally hypothesized. Historically, research and teaching have been viewed as antitheses. Actually, there should be a synthesis of the tenets and intents of each.

The results of our teaching are not always immediately visible. Often we measure artificial and impermanent effectiveness. Student gain is assessed immediately after a unit, a quarter, or a semester. Memorization or mimicry serve the pupil well in ...g high on examinations. But we do not test for permanency of knowledge or

for how well the teacher has fostered the need or desire to know. We rarely seek to determine how the knowledge or skill can, or if it ever will be used in the student's future life. Most often the skills we teach in physical education are so specialized and limited to specific game functions that the carry-over factors and knowledge of skill processes are not seen. It is terminal training rather than dynamic education.

There is some value in immediate feedback. At least we can measure short-term objectives and gain some awareness of the incubation of what we hope are lasting concepts. However, the assessment of student gain must be in reference to the objectives of the instruction. Objectives for instructional units can be quantified and qualified if learning is based on meeting performance criteria, and objective assessment becomes easily attainable. But the narrower the objective the more trivial it can become. Conversely, the broader it is or the greater universal agreement it has the more illusory and nonmeasurable it becomes. Objectives must refer to affective as well as cognitive and psychomotor gain. The need is for assessment tools able to satisfy canons of objectivity without reducing high-quality goals to trivia.

The mark of a successful teacher is in his effectiveness in establishing realistic and sequentially challenging objectives of instruction and enabling students to reach these goals. Another criterion is the effectiveness with which the teacher has employed the student's resources to help him move toward a goal, whether or not it is reached. Students need to know the goals of instruction and should be involved in setting them and determining how they will be attained. Yet some open-ended objectives have value. Not knowing what the limits of expectations are may cause students to discover knowledge or acquire skills not originally conceived. When accurate evaluation can be made in light of congruence with pre-established goals, the impact of the teaching can be assessed.

Often institutions and professors are evaluated by the post-degree success of their students. Added up are the publications of their former students or how many are in *Who's Who* or the significance of the jobs they hold. This process may not be inherently bad. But it is difficult to separate a teacher's influence from the student's innate drive. This innate drive may have been the reason the student got through the teacher's class or the institution, and it may be the most important factor carried over into future endeavors. Good teachers can make previously mediocre students better. But in many instances good students can make mediocre teachers look good. Any measure of effectiveness that cannot make a causal connection between what is measured and what caused its existence is an exercise in tilting at windmills.

Evaluation goes on constantly. The assessment of what is taking place is viewed differently by the many observers. Hence, evaluation is in the eye of the evaluator. The student, the teacher, his peers, the administrator, and the community all perform a specific function in evaluation and have a vested interest in what happens in each classroom or gymnasium. Each performs a particular quality check: students, for the relevancy and desirability of the learning product; peers, for the maintenance of professional subject-matter integrity and growth; the teacher, for internal consistency between what he set out to do and what he accomplished; the administrator, for assessment of congruence with the role of the academic unit and commitment to contractual and statutory responsibilities; the community, for the ...ance of the trust invested by society. Until agreement can be reached upon

the goals of education, the views of the various participants will continue to differ. Each must know and agree to the validity of the others' frames of reference.

We could now get into the question of academic freedom *versus* traditional professional responsibility. We could explore the weight of each evaluator's judgments. Should more weight be placed on student ratings than on the administrator's rating? How much authority should the administrator wield? What are his administrative responsibilities to the student and to the general community of professional colleagues? I am not certain where the fine line is drawn. But each of the points of view must be placed on the continuum of individual to collective responsibility and be judged against the criterion of whether students are learning. What they are learning is another story. The validity and integrity of the subject matter must be judged against other criteria. The criteria for judgment are probably as important as who makes the judgments. All participants must agree mutually on the worth and desirability of the learning.

Care must be taken to avoid the halo effect, be it positive or negative, on the part of all evaluators. This effect is often left over from previous observations, or it spills over from one category of evaluation to another (for example, good committee member, therefore, good teacher; or wears funny clothes, must be a bad teacher).

When we talk about teacher evaluation, we must consider the other duties a teacher performs within his university or academic unit. Teachers enter the employ of a university for specific reasons. Some have an area of expertise and enjoy interaction with mature students in their subject; others have research desires; each has a specific area of talent. Whatever the reasons, they should be made known to the administrators. The university should use this natural gravitation of the faculty member to strengthen a team. If faculty members are to be held accountable for everything (or anything) they do, then they should have some say in what they do. A mutual agreement between the administrator and faculty member should be reached as to the dimensions of the contractual assignment. If the dimensions of the job extend to research, teaching, and committee work, on the justification that they are interrelated or give a sense of community to the faculty, then some resolution of the problem of making a collective judgment must occur. As an administrator, I believe there can be no room for failure in any area of endeavor. If the teacher is to do research, it must reflect proper process. If the researcher is to teach, he must induce learning. If the committee is to complete its charge, bona fide input from all members is necessary. I believe the teacher's interest and talent should define the degree of involvement. One teacher may desire 75 percent teaching, 15 percent research, 10 percent professional involvement, and 5 percent student advising. Another may select other areas and other percentages. But whatever is done must be done well.

The administrator and teacher must find the appropriate fit for the personality, interest, and talents of the teacher into the administrative unit. Now let me hasten to say that this is not completely a one-way street, where the teacher says "I will do only so-and-so and the heck with the rest of the classes or functions." But similarly, it cannot be a one-way street where the administrator says, "Teach this; sit on this committee," and so on. To get a blending of needs and talents, the nomothetic dimensions (the institutional needs) of the unit must be ascertained and the ideographic roles (the personnel needs) identified. Although there are no universal

traits of a good teacher or faculty member, there are conditions under which a teacher or faculty member can be more universally desirable.

The end product of teacher evaluation should be to cause growth in the teaching-learning process. Evaluative devices and uses of evaluation data must not be threatening to the teacher. They should be used for diagnostic purposes to improve teacher performance. A teacher will rarely strike out on new techniques knowing that some retrogression in effectiveness might occur until the new technique is mastered. If the evaluation is to be the omega, the teacher will stick to the old way, playing the percentages and enjoying ease and comfort.

Much attention is being directed today to the adoption by education of management objectives from industry. A wholesale adoption of these schemes is not completely compatible with educational intents. But the accountability thrust is appropriate. Further, the identification of measurable factors and the establishment of congruence among the goals, processes, and products are most applicable. Harmony between the personnel and the role they play is paramount for the success of the program. Each person, student, teacher, administrator, and community, knowing his role in its intents and dimensions, must accept the responsibility of performing that role properly and submitting his action to be judged against appropriate criteria.

Many questions must be answered before systematic and meaningful evaluation can take place. Some of these questions relate to the following concerns:

1. Should evaluation center upon the ends of instruction rather than the means?
2. In what way is process related to product?
3. Should comparative judgments be made concerning the effectiveness of one teacher's method or student learning-gain over another's?
4. What should be the criteria for the standards of judgment?
5. What is the referent to which education is directed?
6. Should evaluation culminate in a judgment relative to the worth of the endeavor, or should it contribute to the decision-making process of acceptance or rejection?
7. To what degree should subjective evaluation be employed? Need it be quantified and qualified?

The resolution of these and other questions based on research directed toward identifying facilitating factors in the teaching-learning process should give rise to the construction of a systems evaluation model. As a model emerges that is consistent with the intents of teaching, tools for assessment can be identified.

Evaluation properly devised and implemented can provide data concerning the receptivity of instruction, the long-term value of the learning encounter, and the systematic growth of the faculty member who chooses teaching as a career.

TEACHER EVALUATION: PAST AND FUTURE

Peggy Ann Steig
Eastern Michigan University
Ypsilanti, Michigan

The purpose of my presentation on this panel will be to look at some of the past teacher evaluation measures, to look briefly at present trends in higher education evaluation, and then to have some "crystal ball" visions of what may be future measures of our effectiveness and productivity in physical education. In attempting to review the problem in this manner, one need not separate and discard each phase, one from the other, but rather, look toward a possible integration of the best of all possible ideas.

Evaluation in the Past

Going back to a 1930 study report by Zak (5), good teaching was viewed as consisting of certain descriptive characteristics and practices that could be identified with "great teachers." We could look for clarity of expression, humor, enthusiasm, insistence on high standards, sympathy, interest in students, expressive voice, cordiality, patience, and so on, to describe the affective qualities of a good teacher. Or we could consider the cognitive practices of effective illustration, provision for activity of the learner, and careful preparation for each teaching exercise. As one would assume, these criteria required a subjective evaluation, usually made through observational techniques. A review of the literature on teacher evaluation shows that there was no common agreement about the description of a good teacher. For example, it was noted that there were differences of opinions between students and administrators as to who were good teachers. Extensive studies on evaluation of "expertise" in teaching have raised more questions than they have answered, because there is lack of consistency regarding the precise criteria for expert teaching and lack of agreement among professionals as to what constitutes expertise. Part of this inconsistency has been attributed to the reluctance on the part of teachers to submit to intensive and continued evaluation of their performance. Whatever the cause for lack of agreement and regardless of how crude the measure may be, the element of subjective measurement continues to be one of our techniques for determining teaching effectiveness.

Evaluation at the Present Time

Today, teachers may no longer avoid a critical evaluation process. Most recent studies vary little from their earlier counterparts, except that their precision is better in identifying the actions and patterns of excellent and nonexcellent teachers. In one recent study of Radebaugh and Johnson (3), the researchers

identify the same practices for both excellent and nonexcellent teachers, such as giving directions, approving, encouraging, commending, and reinforcing, but in addition, they pinpoint the difference in these practices as used by excellent and by nonexcellent teachers. (Incidentally, the boys' health teacher and the girls' physical education teacher in this study were in the nonexcellent group.) In general, the excellent teachers created greater opportunity for student selfdirection and involvement in the learning process.

The climate on most campuses today fosters student involvement at all levels, including course and faculty evaluation. There are numerous universities that employ student evaluations for a variety of purposes; some are published for future student use, while others purport to be for the individual teacher to improve his teaching. Whatever the motive, it also appears that evaluation remains for the most part, a voluntary choice of the individual instructor.

A recent poll by public school administrators (2) shows them to be about evenly split on their views about student evaluation of faculty. Of those who favor the idea, most agree that it should be left to the discretion of the teacher. Education in general may still be unwilling to infringe upon what heretofore has been teachers' complete autonomy. Most teachers who wish to improve their teaching probably have always employed their own student evaluation techniques, so that we may be reaching only an additional segment of the teacher population through student evaluation.

It is very interesting to compare the qualities or items found among three university instruments used for all courses and a rating scale used for evaluating science teachers, all currently in operation. The items in all four examples are exactly the same for (a) organization of the course, (b) knowledge of subject matter, (c) motivation and student interest, and (d) student involvement in the course in a variety of ways. Is this so unlike the subjective, traditional qualities that earlier evaluations have sought? I think not; only the evaluator has changed, and the process is occurring on a more massive scale.

Having reached this point in the evolution of teacher evaluation, we can make what I think is an important observation; that both past and present methods, whether subjective or objective, have been attempts to measure the teaching process and the teacher rather than the learning that takes place. For the most part, we have been measuring the affective nature of teaching, which is important but which also is not the entire process.

Evaluation in the Future

Having viewed the past and present rather quickly, we move to the 1970's, when the fashionable "in" word is *accountability*. A school board member has been quoted as saying, "Having accepted collective bargaining and the idea of teacher rights, school boards have an obligation to themselves and to the public to entertain an impatient expectation that teaching will be upgraded" (4, p. 21). In general, the profession will be held accountable for its performance in improving student progress or status. School boards have proposed that they have the right to hold teachers accountable for pupil failure and to reward them for success.

Accountability is a term from management theory that has been applied to education. It is a product of performance contracting in which a public

authority grants money to contract to achieve specific goals within the specific period of time for specific costs. (1)

After completion, an independent audit team monitors execution of the performance contract to certify results for purposes of the payment.

In education we may interprete this to mean that schools and colleges will be judged on how they perform, not by what they promise or hope to achieve nor by how they achieve it. They will be held accountable. This concept has great implication for teacher evaluation because accountability in education shifts the responsibility from the teacher as a dispenser of knowledge to the teacher as a facilitator of learning. The emphasis is now on the instructor to manage the environment and to assist the learner to learn. In other words, the emphasis is on product rather than process!

Regardless of the discipline, educational accountability can be implemented successfully only if instructional objectives have been clearly stated prior to the learning experience. A second step requires assessment of the various abilities and levels of student aptitude to determine the variety of approaches to teaching that will enable the learners to perform the desired behavior. The final step requires valid measurements of the performance objectives initially specified. This procedure can be applied to an entire educational program, such as the State of Michigan is attempting, whereby each grade has minimum performance objectives, or to specific schools and communities and individual courses.

It is rather early to observe the management procedure in practice, since this concept as applied to education is relatively new to us, appearing in the *Education Index* for the first time in June 1970. The first study brought to my attention was in a Gary, Indiana, elementary school that contracted with Behavioral Research Laboratories to achieve the national norms in certain subject areas by 1974. The first two evaluations, done by two independent evaluators, have shown the students to be below national norms. The failure is said to stem from a lack of experience in education on the part of those directing the project. I wish to propose, nevertheless, that the idea and practice may not only be thrust upon us by various corporations in the near future but that it may provide the consumer–our students–with both improved instruction and a measure of teacher effectiveness.

In applying the accountability model to teacher evaluation in physical education, we can visualize the relative ease of structuring the performance objectives in the psychomotor area, in which the professional works constantly. Through observation and simple appraisals, the second step–assessing where the individual differences lie–is also accomplished rather quickly. The third step may well be the departure point for distinguishing the "good" teacher from the "other" teacher. Many of the practices to which I referred earlier now become operative in assisting the learner to learn. The teacher becomes interested in assisting the students to reach the desired performance level instead of expecting a third of them to fail. The concept of the curve is abolished as the effective teacher expects most of his students to achieve.

Since most activity classes are skill-oriented, the measurement comes through demonstration and performance. The evaluation of the teacher takes place as the audit is taken upon completion of the course by asking the question, "How many students reached the level of performance as stated in the objectives?"

In a management setting, an outside firm would take the audit; but in the analogy I am suggesting, the teacher and the evaluator (supervisor, administrator) would work together by sharing test results in regular follow-up evaluation conferences. This system puts the teacher evaluation process on a two-way basis, in which the teacher states specific course objectives and shares these with the evaluator(s) regularly and the administration is responsible for helping the teacher succeed by providing a physical environment and climate conducive to effective teaching.

The accountability idea can be used to supplement the affective measurement obtained through observation and student evaluation. It becomes one objective measurement of learning and teaching effectiveness.

In the near future, evaluation by faculty peers will also become more prevalent and acceptable as yet another dimension of teacher evaluation, involving both subjective and objective measurement, perhaps through subject matter committees. At this time, my thesis rests with the idea that evaluation comes through the use of many techniques. Some of you may legitimately raise the question, "What administrator has that much time?" and my answer would be that he may have to make improvement of instruction the major priority in these days when our programs are hanging so precariously.

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EVALUATION OF TEACHERS: SPECIFIC ASPECTS

Ted A. Baumgartner
Indiana University
Bloomington, Indiana

In the HPER School at Indiana University, a committee for the improvement of teaching was formed in September 1969. A chairman and a member from each of the departments—physical education for men, physical education for women, health and safety, and recreation—were appointed. After several meetings, the committee decided that their first project would be to develop a procedure for the evaluation of faculty and courses by the students. This committee did develop a survey instrument that students could use to evaluate the courses they were taking and the faculty members teaching these courses. This survey instrument has gone through several modifications since December 1969, when it was first tried, but it has been used every semester and summer since then.

When students evaluate faculty and courses, it must be assumed that they will recognize good teaching and the value of a course and that they will be honest in their evaluations. These assumptions appear to be valid, particularly for major students in a required course.

Further, when using the results of student evaluation of faculty and courses the limitations of the entire evaluation process must be recognized. The evaluation of a faculty member in a certain course for a given semester should not be interpreted as being 100 percent valid. Too many uncontrolled circumstances can influence a faculty-course evaluation for a single semester. When faculty members receive a poor rating, it is important to investigate why this occurred. Through no fault of their own, faculty members with very heavy teaching loads or numerous other responsibilities may be rated poorly because they are not accessible to the students outside of class, slow in grading assignments, and/or not abreast of developments in the profession in the last couple of years. Maybe faculty members forced to teach classes they do not really care for, or are poorly prepared to teach, should not be expected to rate too highly with the students.

It is my belief that a faculty-course evaluation each semester will eventually give an indication of how the faculty member and course are being received. I believe that the faculty member who is consistently rated superior must be doing a good job.

In order to have faith in the faculty-course evaluation, we must receive ratings from a high percentage of the class. Unless students are motivated to evaluate the faculty member and course, we will get surveys only from those students who are extremely happy or unhappy with the faculty member and course.

If an evaluation of faculty and courses by the students is going to work and function in an efficient manner, the survey instrument must be simple and quick to complete, and the completed survey instruments must be scored and analyzed by machine. The survey instrument constructed by our committee meets these criteria. A copy is reproduced at the end of this paper.

When constructing our survey instrument, we had access to several evaluation forms presently in use. Using these forms as a guide and a source of questions, we constructed a 25-question survey instrument. We have since increased the instrument to 29 questions. Upon checking, we find we are obtaining almost the same information with this instrument as is obtained with other evaluation forms of 60 to 70 questions.

My responsibility on our committee was to write the 29 questions in a multiple-choice form, develop the survey instrument so that all information needed and all responses to the questions could be put on a standardized answer sheet, determine the distribution and scoring procedure to be followed, and write the computer program to analyze the data.

We are presently using the following procedure at Indiana University, with good results: (a) faculty members distribute the survey and standardized answer sheets in class; (b) students fill out the answer sheets in or outside of class; (c) a member of the class collects the answer sheets, making sure that every student returns one; (d) the answer sheets are placed in an envelope, with the instructor's name, course number, section number, and class enrollment written on the outside, and sent to my office; (e) when all answer sheets have been collected they are sent to the university scoring service, where automatic scanning equipment punches a computer card for each answer sheet; (f) the cards are arranged by class and analyzed by computer; and (g) a copy of the computer printout goes to the faculty member and his or her department head. We found that if the survey instrument is not distributed and collected in classes, a very small percentage of the class will take the time to evaluate the professor and course.

Our faculty has accepted the evaluation very well. Since faculty members are not required to have their students do the evaluation, some do not use the survey instrument. The students like the opportunity to evaluate their courses and professors, but they usually do not complain or ask to evaluate a course if a professor does not distribute the survey instrument. Evaluations are conducted for the benefit of the faculty, and none of the information obtained is available to the students. We think our survey instrument has face validity and that student evaluation of our faculty and courses has helped improve the quality of teaching in our school. Following is a copy of the survey questionnaire and results of questionnaire.

Faculty-Course Evaluation Survey

The following questions are designed to rate the Instructor and the course taught. To complete this survey, please use a *lead* pencil.

Please complete the enclosed answer sheet carefully and correctly. If instructors name and course section number are not correctly reported it will be impossible to use your answer sheet. Consult the class bulletin if you are not sure of the course section number. A sample answer sheet is displayed in each departmental office.

On the enclosed answer sheet: (A) Place the *instructor's name* in the box called "Your Last Name–Your First Name" and blacken the letters boxes which correspond to your instructors name. (B) Place the course number in the box "Code" and blacken the boxes which correspond to the course number. (In

place of the first letter in the course number use a number (A = 1, H = 2, M = 3, P = 4, R = 5, S = 6, T = 7, W = 8)). (c) Place the *section number* in the box called "Student Number" and blacken the boxes of the course you are evaluating.

Now read each question and place your answer on the enclosed answer sheet.

Please mark one answer for each question and erase completely when necessary.

EXAMPLE 1. Amount of time instructor spent on discussion in class.

A. Appropriate time
B. Too much
C. Too little
D. Far too much
E. Far too little

If your answer is "Too little" mark "C" on the answer sheet.

A B C D E

1. 

1. What is your college grade point average?

A. 3.50 and higher B. 3.00-3.49 C. 2.50-2.99
D. 2.01–2.49 E. Below 2.0

2. Did the instructor spend an appropriate amount of time in class discussion?

A. Appropriate amount B. Too much C. Too little
D. Far too much E. Far too little

3. Did the instructor cover an appropriate amount of material for the time and credit given to the course?

A. Appropriate amount B. Too much C. Too little
D. Far too much E. Far too little

4. How would you rate the difficulty of the material in the course?

A. Reasonable B. Difficult C. Easy
D. Extremely difficult E. Very easy

5. To what extent did the size of the class affect the teaching of the material?

A. Class size was appropriate.
B. Class size was too large.
C. Class size was too small.
D. Class size was far too large.
E. Class size was far too small.

6. What was the value of this course in meeting your educational objectives?

A. Excellent B. Above average C. Average D. Below average
E. Terrible

7. My response to the previous question was due to:

   A. The course met my educational objectives.
   B. The course was slightly repetitious of material in other courses.
   C. The course was very repetitious of material in other courses.
   D. The course made little contribution to my educational objectives.
   E. The course made no contribution to my educational objectives.

8. How would you rate the instructor's personality?

   A. Excellent B. Above average C. Average D. Below average
   E. Terrible

9. When discussion arose, how helpful was the instructor in guiding the discussion?

   A. Excellent B. Above average C. Average D. Below average
   E. Terrible

10. How satisfactory was the amount of time the instructor was available for conferences in his office? (If you don't know leave blank).

    A. Excellent B. Above average C. Average D. Below average
    E. Terrible

11. If you had conferences with the instructor to discuss the subject matter or your performance in class, how helpful were these discussions? (If none leave blank).

    A. Excellent B. Above average C. Average D. Below average
    E. Terrible

12. How helpful were the exams in furthering your understanding of the subject matter?

    A. Excellent B. Above average C. Average D. Below average
    E. Terrible

13. How well did the exams cover the subject matter of the course?

    A. Excellent B. Above average C. Average D. Below average
    E. Terrible

14. How satisfactory was the number of exams in the course?

    A. Excellent B. Above average C. Average D. Below average
    E. Terrible

15. How satisfactory was the scoring system used to determine your grade?

    A. Excellent B. Above average C. Average D. Below average
    E. Terrible

16. How well did the instructor directly or indirectly encourage independent thinking?

    A. Excellent B. Above average C. Average D. Below average
    E. Terrible

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17. How would you rate the instructor's awareness of student difficulties and student failure to understand?

A. Excellent B. Above average C. Average D. Below average

E. Terrible

18. How would you rate the instructor's understanding attitude toward student's efforts?

A. Excellent B. Above average C. Average D. Below average

E. Terrible

19. How would you rate the instructor's ability to criticize student efforts on a constructive basis?

A. Excellent B. Above average C. Average D. Below average

E. Terrible

20. How would you rate the preparation of the instructor for class meetings?

A. Excellent B. Above average C. Average D. Below average

E. Terrible

21. How would you rate the instructor's knowledge of the material presented in the course?

A. Excellent B. Above average C. Average D. Below average

E. Terrible

22. How helpful were the class lectures or class presentations in furthering your understanding of the subject matter?

A. Excellent B. Above average C. Average D. Below average

E. Terrible

23. How would you rate the logical order in which material was presented in class?

A. Excellent B. Above average C. Average D. Below average

E. Terrible

24. How well was material presented in class at an understandable speed?

A. Excellent B. Above average C. Average D. Below average

E. Terrible

25. What was the value of the text books and other assigned readings in the course?

A. Excellent B. Above average C. Average D. Below average

E. Terrible

26. How well did the instructor stimulate your interest?

A. Excellent B. Above average C. Average D. Below average

E. Terrible

27. How would you rate the instructor's interest and enthusiasm for the subject taught?

A. Excellent B. Above average C. Average D. Below average

E. Terrible

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28. What was your overall rating of the course?

A. Excellent B. Above average C. Average D. Below average

E. Terrible

29. What was your overall rating of the instructor?

A. Excellent B. Above average C. Average D. Below average

E. Terrible

Turn this question booklet and your answer sheet in at any of the collection points in the Dean's Office (Room 111) or Departmental Offices.

RESULTS OF QUESTIONNAIRE

(CLASS SIZE, 41; PERCENT RESPONSE 97.56)

QUESTION	MEAN	STAND DEV	RESPONSE FREQUENCY RESP-E	RESP-D	RESP-C	RESP-B	RESP-A	BLANK
1. WHAT WAS YOUR GRADE POINT AVERAGE	2.97	.94	1.00	3.00	3.00	22.00	11.00	0.00
2. APPROPRIATENESS OF CLASS DISCUSSION TIME	4.00	0.00	0.00	0.00	0.00	0.00	40.00	0.00
3. AMOUNT OF MATERIAL COVERED IN CLASS	3.88	.46	0.00	0.00	2.00	1.00	37.00	0.00
4. DIFFICULTY OF THE MATERIAL IN THE COURSE	3.82	.44	0.00	0.00	1.00	5.00	34.00	0.00
5. DID CLASS SIZE AFFECT TEACHING OF MATERIAL	3.22	.69	0.00	2.00	0.00	25.00	13.00	0.00
6. VALUE OF COURSE IN MEETING YOUR EDUC OBJECT	3.42	.77	0.00	1.00	4.00	12.00	23.00	0.00
7. RESPONSE TO PREVIOUS QUESTION WAS DUE TO	3.72	.59	0.00	1.00	0.00	8.00	31.00	0.00
8. PERSONALITY OF INSTRUCTOR	3.92	.26	0.00	0.00	0.00	3.00	37.00	0.00
9. HOW HELPFUL WAS INSTR IN GUID CLASS DISCUSS	3.80	.46	0.00	0.00	1.00	6.00	33.00	0.00
10. HOW AVAILABLE WAS INSTRUCTOR IN HIS OFFICE	3.78	.53	0.00	0.00	2.00	4.00	30.00	4.00
11. HOW HELPFUL WERE OFFICE CONFERENCES	3.67	.62	0.00	1.00	0.00	9.00	26.00	4.00
12. EXAMS FURTHERED YOUR UNDERSTAND OF SUBJECT	3.13	.68	0.00	1.00	4.00	24.00	11.00	0.00
13. HOW WELL DID EXAMS COVER THE SUBJECT MATTER	3.02	.65	0.00	1.00	5.00	26.00	8.00	0.00
14. HOW SATISFACTORY WAS NUMBER OF EXAMS	3.32	.85	0.00	0.00	10.00	7.00	23.00	0.00
15. WAS SCORING SYSTEM FOR GRADES SATISFACTORY	3.18	.75	0.00	1.00	5.00	19.00	14.00	1.00
16. INSTRUCTOR ENCOURAGED INDEPENDENT THINKING	3.65	.57	0.00	0.00	2.00	10.00	28.00	0.00
17. INSTRUCTOR AWARE OF STUDENT DIFFICULTIES	3.65	.57	0.00	0.00	2.00	10.00	28.00	0.00
18. INSTR HAD POSITIVE ATTIT TOWARD STUD EFFORT	3.67	.57	0.00	0.00	2.00	9.00	29.00	0.00
19. INSTR CRITIZED STUD EFFORT CONSTRUCTIVELY	3.63	.53	0.00	0.00	1.00	13.00	26.00	0.00
20. PREPARATION OF INSTRUCTOR FOR CLASS MEETINGS	3.90	.49	0.00	1.00	0.00	1.00	38.00	0.00
21. INSTR KNOWLEDGE OF MATERIAL PRESENT IN CLASS	3.98	.44	0.00	0.00	2.00	0.00	38.00	0.00
22. HOW HELPFUL WERE CLASS LECTURE-PRESENTATION	3.72	.50	0.00	0.00	1.00	9.00	30.00	0.00
23. MATERIAL WAS PRESENTED IN LOGICAL ORDER	3.52	.63	0.00	1.00	0.00	16.00	23.00	0.00
24. MATERIAL PRESENTED AT UNDERSTANDABLE SPEED	3.47	.67	0.00	1.00	1.00	16.00	22.00	0.00
25. VALUE OF TEXTBOOK AND ASSIGNED READINGS	3.18	.77	0.00	0.00	10.00	16.00	14.00	0.00
26. HOW WELL DID INSTR STIMULATE YOUR INTEREST	3.60	.62	0.00	1.00	0.00	13.00	26.00	0.00
27. INTEREST AND ENTHUSIASM OF INSTR FOR SUBJECT	3.95	.22	0.00	0.00	0.00	2.00	38.00	0.00
28. OVERALL RATING OF THE COURSE	3.60	.62	0.00	1.00	0.00	13.00	26.00	0.00
29. OVERALL RATING OF THE INSTRUCTOR	3.88	.51	0.00	1.00	0.00	2.00	37.00	0.00

TO CALCULATE MEAN-- RESP-A = 4, RESP-B = 3, ETC.

Developing Quality Instruction

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THE INTERDISCIPLINARY APPROACH

Max Cogan
Northeast Missouri State College
Maryville, Missouri

Ten enemies cannot do a man
the harm that he does to himself.
Yiddish Proverb

The most important part of physical education is basic instruction. It serves as a foundation for intramurals, voluntary recreation, extramurals, and varsity athletics. It is the only segment of physical education dedicated to serving all students regardless of ability. Ideally, the principle of equality is germane to basic instruction. Each student is entitled to an equal opportunity to attain the benefits of living in harmony with his biological nature, limited only by his inheritance. General physical education has added significance in colleges engaged in professional preparation, since it serves as a model for students preparing for careers in physical education.

Despite its importance, the basic program frequently has been either neglected or unimaginative. Often, responsibility for its conduct lies in the hands of coaches or graduate assistants who see their primary growth through other endeavors. Although a major goal is to encourage voluntary participation during and after completion of the program, facilities either may be unavailable because of lack of funds to provide adequate supervision and maintenance during free hours and weekends or they may be dominated by varsity athletics.

Man's culture has changed profoundly, but his biological needs remain the same. Never has there been such abundant evidence to justify the need for physical education, not only on physical but also on psychological and social grounds. A human being functions as an organism. Although it is convenient to speak of different aspects of man's nature as separate entities, they can be fully understood only as they interact. Therefore, it may be useful for all people to jog as a precaution against heart disease, but it may be an absolute necessity for a highly competitive person whose work is sedentary. College-educated people tend to have high levels of aspiration and usually work in sedentary occupations. Drugs, pills, and other indirect methods of dealing with stresses caused by modern living are temporary and inadequate solutions compared with attaining a natural balance between physical and mental activity, stress and relaxation.

The basis for general physical education is well established, but this does not guarantee its acceptance. Education is going through a period of unprecedented self-examination. Traditional practices relating to curriculum content, management of classes and requirements, and accepted views of student thinking, learning, and motivation are in flux. This is an era in which not only are behavioral objectives paramount but instructors are held accountable for achieving them. The ability of the profession to meet these challenges will determine the significance of the role of general physical education in higher education.

FOLLOW-UP SURVEY OF SELECTED INSTITUTIONS

Questionnaires

In November of 1969, questionnaires were sent to 245 members of the National College Physical Education Association for Men (NCPEAM) to ascertain the creative approaches that their colleges were using in basic instruction. By December 22, 1969, 166 questionnaires had been returned, and the results of the study were reported at the Seventy-Third Annual Meeting of the NCPEAM (3).

Of those responding to the 1969 study, 129 were sent nearly identical questionnaires in November and December of 1971. Four institutions not in the original study were added because of their unique situations or approaches. By December 29, 1971, complete returns, many with additional materials, were received from 104 institutions. (Two other questionnaires were returned uncompleted because respondents had changed institutions.) The institutions chosen had indicated that they were conducting good and possibly creative programs or were contemplating changes they hoped would produce positive results. The word *creative* is used in the questionnaires because it is assumed that *creative* implies a new or different approach to instruction or program and that change is instituted with hopes of improving the quality of instruction or offerings.

Participants were asked to respond to the following questions:

Is your program required or elective?

If required, how many years?

If elective, what limits exist concerning credits which may count toward graduation?

Have you defended your required program in the past five years? Since December 1969?

Has threatened or actual loss of your requirement stimulated creative approaches to your program?

Describe creative approaches to basic instruction that have been initiated or are being considered in your department.

Although some figures were obtained concerning the status of required and elective programs, they were incidental to the purpose of the survey and their meaning is limited by the nature of the sample. In some instances references are made to the earlier study primarily for comparison or contrast.

Required vs. Elective

Of the 104 respondents, 83 indicated that their institution had a required program. Nine institutions had required or elective programs depending on general education requirements of the particular college at their university. The most common requirements were four semesters or two years (32) and two semesters or one year (28). Other requirements ranged from one to eight semesters, with a number of institutions having provisions for students to meet part or all of their requirement through testing of competencies.

Twelve indicated elective programs with patterns varying from no limit other student's program to three quarter-hours. One respondent indicated that ution's program is strictly voluntary recreation, though highly competitive,

with no credits toward graduation. A number of institutions permit students to elect courses in physical education in addition to the requirement; it did not appear to be the dominant pattern, however. These ranged from a course each semester or quarter or unlimited except by program.

Program Defense as a Stimulus for Change

Of the 104 respondents, 82 indicated that their program had been defended in the past five years, and 38 noted the need for program defense in the past two years. Four institutions have lost their requirement recently, and one additional institution will change to elective because of new elective general education requirements. Four departments have gone elective by choice; one additional department will change to elective by choice in 1972; and three are considering the possibility. Five respondents indicated that their requirement has been dropped from two years to one year, three by departmental request. Another has been lowered from two years to one and one-half years, and another department is considering dropping one year of its two-year requirement. Some of the cuts are caused by lack of staff, facilities, or funds; some because of a sincere belief that college students resent requirements, often with good reason. It is noted that excellent instruction will attract students without the necessity of a requirement.

Loss of a requirement was not necessarily interpreted as an attack on physical education. Bernard Pollack of Brooklyn College explained that starting in 1972 all subject areas will be on an elective basis. In both the earlier and present study, Wes Ruff of Stanford observed that there was little support for required programs, since those in math, history, and other departments were also dropped. In addition, some departments simply believe that the "stigma" of a requirement leads to poorly motivated students, is a deterrent to creativity, and encourages mediocre teaching.

This indicates a change in attitude by some authorities in physical education consonant with changes taking place in education in general. Several respondents, primarily from large institutions, have noted the advantages of the elective approach, although they originally felt that it was imposed on them. Carl Peterson of the University of Pittsburgh states that the general program has been elective for 70 percent of the students—those in the College of Arts and Sciences—for the past three years. The first year enrollment dropped to 40 percent, the second year it increased to 70 percent, and this year the enrollment is equal to what it was under the requirement. With new approaches to the program, enrollment should continue to grow. In addition to program changes, he notes that the staff members realize they must "produce" to attract students and that they are more conscious of meeting the individual student's needs as the student sees them. Nearly all classes are coeducational, offerings have been increased from 40 to 81, activities are offered on three to four performance levels, and individuals and institutions outside the university are utilized. A one-week course in skiing is offered in Europe, for example. Phil Stanley of the University of Dayton also described some positive changes as a result of losing the university requirement, although it has been retained by the Schools of Business and Education. He observes that staff members are much more conscientious about their input into the program, and they are more [illegible]tive to the interests and needs of the student. The variety of offerings has [illegible]sed, more activities are coeducational, and lifetime sports are emphasized.

Experiments in independent-study fitness programs are promising, and a new course has been designed to evaluate the role of sports in everyday life as well as to evaluate personal health. Stanley reports that about 65 percent of the number of students enrolled when the program was required are now participating, but expectations for growth are good (3, pp. 132-34). Finally, lack of staff, facilities, and funds has made the elective approach more practical for some schools.

On the basis of this survey, the trend toward dropping the requirement appears moderate. It is clear, however, that modifications of programs and requirements are numerous; movement toward lowering requirements is one facet.

There are still some strong arguments for retaining the requirement. Curtis Coutts of SUNY at Binghamton observes that the two-semester requirement would be necessary to acquaint students with college physical education, since many of their experiences in high school have been negative. Frank Beardon of Rice University reports that physical education is now the only course required of all students for graduation. Evidently the University recognizes the uniqueness and value of the Rice program. John Nettleton of Colorado State University states that last year the program was retained by a vote of 105 to 3, and credit was raised from one-half credit per quarter course to one full credit. Augmentation of the general program by a voluntary recreation program with 23,000 participants per week may have much to do with the acceptance of the general program. Facilities are made available from 6 to 8 a.m. and 3 to 10 p.m. on weekdays and on Saturday and Sunday afternoons. Surveys, some of which will be discussed later, indicate strong acceptance of the requirement by students at some institutions. Finally, elective programs do have an inherent limitation; students who need physical education the most may choose it the least. At one institution students demanded the reinstatement of a one-year requirement, and at another, a seventh quarter was added emphasizing an honors approach.

Many respondents noted that defense of their program was seen more as a challenge than a threat. Frequently, it has been a stimulus for a complete re-evaluation. Comments such as, "We are always defending," or "We may just lose this battle next year," seem to be indicative of the times. As Lyle Schwarzenback of the University of Northern Iowa observes, "It's becoming an annual confrontation. Accountability is definitely the key word in higher education." This pressure may be more important than whether the program is required or elective in developing quality instruction.

APPROACHES FOR DEVELOPING QUALITY INSTRUCTION

The trends noted in the 1969 study are more definite in 1971, and the impetus for change and experimentation is more pronounced. The physical educators who participated in this study are aware of the need to meet the challenge of change and are seeking new ways to gain acceptance and respect from colleagues and students. As one respondent regretfully reports, "Failure to move from a 30 year old program may well have contributed to the loss of our required program in two of the three major divisions of our college."

Sensitivity to Student Needs

One advantage proponents of the elective approach claim is that elective programs are more sensitive to student needs and desires. James B. Delamater of

New Mexico State University observes that students elect their offerings because they have confidence in the quality of instruction they receive. Very few classes are offered which the staff believes are "good for students" when students disagree. Such thinking is not limited to colleges with elective programs. Ward Tishler of the University of Montevallo, where there is a two-year requirement, says that the aim of his department is to encourage desirable learning by being sensitive to the real needs of students. A positive self-image is what is hoped is developed by teaching the total person through physical education.

Glenn Robinson of South Dakota State University reports the value of student representation on the basic instruction committee. Smaller classes are used for individualized teaching, evaluation forms have been revised by student-centered committees, and students are genuinely involved in evaluation. New course offerings and added sections of established courses that are popular are direct approaches to improving student motivation. For example, Lloyd Messersmith of Southern Methodist University explains that attempts to make the program meaningful for the student are being made by offering the following new courses: bicycling, karate, sailing, coeducational volleyball, coeducational paddleball, weight training, and by increasing tennis classes.

Flexible Scheduling

A number of schools report changes that allow students more latitude in meeting requirements. One institution has changed its requirement from four semesters to four credits enabling students to complete their requirements in one year. Another altered its time from two hours to three hours per activity to allow for travel. A number of institutions, where previously students were restricted to meeting their requirements in freshman or sophomore years, now permit students to meet their requirements any time during their four years. Some colleges make use of double periods to increase instructional time; some are offering courses that meet daily. Students like these courses, but they may create scheduling difficulties. Jim Loveless of DePauw University states in a position paper that students may fulfill their requirements at their own pace, either four times a week for one semester or two times a week for four semesters. Don Casady notes that at the University of Iowa classes are scheduled Saturday mornings and at night for convenience of students. Camping weekends, one-week concentrated courses, and courses between semesters are additional approaches. These and other examples of flexibility, such as permitting a wider range of choices in meeting the general physical education requirement, add to student comfort and tend to develop a more positive attitude toward the program. Independent study, which represents even more flexibility, is discussed in a separate section.

Applied Research

A number of institutions indicate the use of research in addition to testing procedures to improve instruction. Ralph Johnson of the University of Georgia indicates that a survey of student opinion was most helpful in retaining the ment. Student surveys at Oregon University, California State College at Long and Jersey City State College were useful in shifting sections and initiating

unique course offerings. James Bailey of Jersey City State College reports that student evaluation of the program, instruction, facilities, activities enjoyed, and new activities desired was useful in evaluating the program. Surprisingly, students in this metropolitan school indicated that they would most like to receive instruction in skiing and ice skating. It was concluded that skating might be done at a local stadium, and an intensive two-week course in skiing could be offered during the Christmas break. Some schools have used surveys to discover student reaction to election of activities if requirements are lowered. When a large percentage of students indicate that they will elect activities, the department is less threatened by change. Rudy Moe of Brigham Young University states that a graduate student has completed a study evaluating an experimental foundations program, a typical method of using graduate research in improving program.

Fred Drews of North Carolina State University forwarded a curriculum proposal, which was an excellent example of using research to improve instruction and to assist in gaining acceptance of needed revisions. The document is bound, indexed, and contains 64 pages (4). Three attitude surveys with a validated instrument were taken to ascertain student support for the required program. An activity-preference survey was used to determine student interests; similar surveys annually provide guidance in scheduling of courses. It indicated that students had high interest in vigorous lifetime sports, which are scheduled to handle high enrollments. Interviews to determine student attitudes and opinions were scheduled with students chosen at random. Support for the requirement and for a health-fitness course for all students was obtained. A bibliography was prepared to indicate the extensive evidence in support of a comprehensive physical education program. Written and telephoned opinions were solicited to demonstrate that expert professional opinion concurred with the proposal. An in-depth study by the department on the impact of physical education grades dispelled the notion that grading in physical education was damaging to overall academic records. These studies, numerous meetings, inservice training, and other concrete steps were taken to prepare for acceptance and implementation of the new program.

Classification of Students

The trend of classifying students noted in the 1969 study appears more pronounced in 1971. The advantages of classification are obvious; it is surprising that it has not been used more in the past.

Medical. For years, authorities in health and physical education have extolled the virtues of a thorough medical examination for classification and guidance of students. Unfortunately, in practice its value is often ignored. Some institutions are exceptions. At Colorado State University students are evaluated by medical authorities and classified from 1 to 5, with rating 1 representing unlimited participation and rating 5 representing a medically prescribed program. At the University of North Carolina medical examinations are required for admission. Students are classified into three categories on the basis of the examinations: those without restriction, those limited to a special activity class prescribed by the medical and physical education departments, and those either temporarily or permanently excused. At Duke University all students are given a medical and physical examination before registration. Students with disabilities register for

adapted physical education and are assigned to classes suited to their needs. Other freshmen register in Physical Education I and participate in a series of proficiency tests for further classification.

Proficiency Tests. The two most common proficiency tests are fitness and swimming tests. These tests are commonly used for exemptions as well as classification. For example, at DePauw University five of the fitness tests developed by the National Council on Physical Fitness are used to test entering freshmen. A minimum standard, the 50th percentile (DePauw's norms) is utilized to classify students. Those scoring below the standard are scheduled in a program to improve fitness for a maximum of one semester. Entering freshmen also must pass a swimming five-minute "survival" test or enroll in a beginning swimming course. As in most institutions with similar requirements, the swimming requirement is met first.

At Brigham Young University classification of students in skiing instruction has been very successful. This spring all students in tennis classes meeting during a given hour will be tested and placed in ability groups. Homogeneous grouping for such activities is a great help to the instructor who can adapt his instruction to the level of the students' abilities. This practice seems to have gained impetus in the past two years. In addition, pretesting of skills in foundation and conceptual programs is common and used both for classification and exemption. Health inventories of incoming students have obvious value in planning instruction, and they have provided evidence for requiring health courses at some institutions. There also is a movement toward more testing of the understanding of concepts of fitness, and the results frequently are startling. An example will be cited in the next section.

Competency Requirements. Often combined with proficiency testing for classification is proficiency testing for exemption. There is a strong trend, accentuated in the past two years, to exempt students from part or all of their requirement if they can demonstrate satisfactory competence. In some cases academic credit may be given. Numerous institutions have some competency testing; many are considering the possibility of initiating such programs.

Willis Stetson of Swarthmore College states that the program has changed from a straight two-year requirement to one in which physical fitness standards determine who needs physical education. Students are classified into three categories, and their ability to maintain or improve their fitness scores determines how many quarters are required. Three of the required six quarters may be exempted through proficiency tests at the University of Georgia; two of the four required semesters may be exempted by proficiency testing at the North Carolina State University; and perhaps 500 or more proficiency examinations are given yearly at the University of Tennessee. To be exempted from freshman physical education at the University of North Carolina, students must score a minimum of 200 on the motor ability test, meet the swimming requirement, and show proficiency in three activities other than softball, basketball, and football. At Ohio Wesleyan it is possible for a freshman to complete his requirement (one year) by the fourth week of the first term via proficiency.

The University of Illinois at Chicago Circle has initiated a new proficiency program. A student can complete the two-year requirement as rapidly as he can dule and pass six tests, probably a minimum of one quarter. The new program n in the fall quarter of 1971. Leo Gedvilas reports that more than 1,200

freshmen took a written proficiency test covering concepts of physical fitness. A passing grade of "C" was acceptable in lieu of course PEM 100, Developmental Activities. Although expectations were that 25 to 50 percent would pass, only three students (0.25 percent) passed. Gedvilas observes, "Results were astonishing. It might be said that the test was purposely made extremely difficult to prevent students from passing, however, such was not the case." At the completion of the course only 14 (1.1 percent) failed a test measuring the same concepts, giving evidence that the course was fulfilling its objective.

Ernie Rangazas of SUNY at Plattsburg explains that there is no time limit in the required program. It is based on a competency requirement, and a student is encouraged to enroll in a physical education course each semester until he has completed all requirements. Each student must demonstrate acceptable proficiency in five areas: successful completion of PE 101, Basic Foundations of Health and Physical Education; achievement of an acceptable score on the men's physical efficiency tests; demonstration of proficiency in two individual or dual sports; demonstration of acceptable swimming efficiency; and demonstration of proficiency in a specialized or extra-class program (team sports, rhythmics, camping, gymnastics). There are eight listings indicating how the last competency may be fulfilled. A number of respondents philosophically endorsed approaches similar to that at Plattsburg. Finally, frequent use of the 12-minute run indicates the strong influence of aerobics. Some institutions also use fairly sophisticated procedures such as body typing, measurement of adipose tissue, and assessment of posture.

Broadening the Program

The practice of prescribing the same activities for all students is dying; its demise cannot come soon enough. The same trend exists in offering team sports courses, particularly those that dominate public school programs. Efforts to enlarge and vary offerings have done much to improve the quality of the general program.

Coeducational activities. The move toward more coeducational classes continues. Some colleges simply offer all their activities except contact sports on a coeducational basis. As Carl Peterson of Pittsburgh University observes, this results in more economical use of staff and equipment, greater diversity in the program, simplicity in scheduling, and happier students. Charles Kovacic of the University of California at Davis adds that coeducational classes boost enrollment and helps women to learn more effectively. Undoubtedly, it has the same effect on men.

Lifetime sports, recreational sports, conditioning activities, and self defense. The growth of offerings in lifetime sports has been phenomenal. As one respondent observes, basketball, baseball, and touch football are "long gone." Although there are numerous reasons for this shift in curriculum content, the influence of the Lifetime Sports Educational Project has done much to motivate it and to help in providing the skills needed for effective large-group instruction.

The listings of courses at various institutions are impressive. Popular courses include yoga, angling, circuit training, tennis, golf, swimming, skin and scuba diving, diving, water skiing, badminton, fartlek training, archery, bowling, ice skating, figure skating, rugby, soccer, jogging, conditioning, rhythmic exercises, weight g, kayaking, curling, figure improvement, body building, weight control, , fencing, surfing, handball, paddleball, sailing, hiking, mountaineering,

modern dance, folk dance, camping, orienteering, self-defense for women, lacrosse, gymnastics, judo, karate, sports parachuting, canoeing, equitation, skiing, power volleyball, coed flag football, ballet, tap dance, *ad infinitim*. Some of these courses are not new; what is new is their universal acceptance, signalling the coming demise of the basketball-football-baseball mentality, at least as far as the general program in higher education is concerned.

Increasing the scope of the program when funds are limited, as they currently are in most institutions, has encouraged physical educators to look beyond traditional approaches to instruction. Jim Ewers of Utah states that as a result of student interest cross-country skiing, scuba diving, sailing, ice hockey, trap shooting, horseback riding, rifle marksmanship and hunting safety, karate, judo, and Mexican dance have been added. Geographical location and ethnic groups on campus gave impetus to adding these courses. A unique feature is the employment of part-time personnel in the community to teach many of these specialized classes. Many of them do not have college degrees, but they are experts in what they are teaching. In classes such as ice hockey, sailing, and horseback riding students pay a fee of $15 per student, per quarter. This fee is paid directly to the agency (stable, rink, gun club), and they provide equipment (skates, sailboats, horses, ammunition). The agencies are pleased, and the arrangement is economically feasible. The instructor is paid from the departmental budget. Finally, Ewers emphasizes that the department works hard to "sell" the program to all students. Enrollment continues to increase 25 percent each quarter.

Many other institutions report the use of off-campus facilities and personnel, even some small institutions. For example, it is unlikely that an institution could offer ocean fishing, surfing, and alpine skiing on campus.

Offering courses at beginning, intermediate, and advanced levels improves the teaching-learning situation and seems to be a common practice. In some cases even four or five levels are available. A student who is a novice at paddleball no longer has to learn and compete with advanced players. He can enroll at the beginning level or even in coeducational paddleball.

Traditional grading is common at the institutions in this survey, and several respondents indicate that their grades are for the first time counted in the overall average for graduation. Nevertheless, more institutions report pass-fail options than in the 1969 study. This is in line with changing practices in general education and is bound to remove threat from students who desire to enroll in courses in which they lack ability.

Lecture-Laboratory Courses

Combining intellectual content with laboratory experience is a very popular approach at many institutions. These courses carry various titles but frequently include the term *foundations*. Recent titles emphasize conceptual approaches. These courses aim at assisting the student to gain enough information about the value of fitness and the nature of his personal needs so that he can make intelligent decisions concerning the role of physical activity in his life.

William Whetsell of Marietta College explains that a health-lecture series was
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l three years ago in which professional experts were used. Doctors, law health educators, and psychologists presented lectures on such topics as

drugs, first aid, family relations, and aerobics. The program proved interesting and beneficial, and the administration accepted health education as a full-semester course required of all freshmen. Claude Wolfe of Manchester College states that in the introductory class, visiting lecturers in psychology and sociology discuss the role of physical activity in cultural and psychological development. The class meets one day a week in the classroom and twice weekly for activity. Activity time is used to introduce new skills and sports; these are determined from an inventory of the needs of incoming freshmen. Fitness testing is used to assist students in developing a realistic self-image. They seem to appreciate having an opportunity to look at themselves and their current and future needs.

Such institutions as Michigan State University, University of Illinois, and University of Toledo are well known for their foundations programs, and they have done much to popularize the concept. Texts developed for these courses have been widely used by other institutions. These courses emphasize lecture-laboratory approaches, and students are graded on their mastery of knowledge and application of concepts. Fitness and skill evaluation is used for the purpose of developing insight rather than grading. These programs seem to be continually in flux.

Perry Johnson of Toledo University indicates that great emphasis is being given to an individual's feelings about himself and the things he studies. Louie Bogan of the University of North Dakota forwarded the course outline for the departmental comprehensive foundations course and information concerning their fitness test. The test is especially designed to measure factors of general physical fitness rather than motor fitness. The scoring procedure is unique, since calculations are made measuring the amount of work rather than the number of repetitions. This allows for valid comparisons with other students different in physique. Wayne McKinney of Southwest Missouri State College states that Neuromuscular Activity in Modern Living may be the most important course in the college. A comprehensive, 32-page lecture syllabus has been developed for the course. Textbooks and reference books are utilized, and students participate in selected laboratory experiences. An impressive laboratory manual was developed by George Simpson to assist lab instructors.

The conceptual approaches developed by Corbin and his associates at Texas A and M University (Corbin is now at Kansas State University) and by Beck, Feingold, and Tieman of the University of Illinois at Chicago Circle are well publicized and have been very influential. The Chicago Circle program was designed with the assistance of learning psychologists. Tapes and slides have been developed for lectures in support of instruction.

Some institutions report resistance to foundations courses. F. W. Bierhaus of the University of Colorado explains that students wanted activity itself rather than philosophy or the scientific basis for it. The foundations course was dropped as a requirement.

Independent Study and Contract Courses

Independent study seems to be gaining acceptance as a method of fulfilling course requirements at some institutions. This may be an option during the last of the requirement or an option available after demonstrating certain levels of competence. Ideally, the student would have an opportunity to work out his own

program and be evaluated on the basis of achieving his stated objectives. At Loma Linda University the student is required to participate in a seventh quarter, which is an attempt to move the student out of the college setting into life within the community. William Napier notes that the older student reacts positively to an individually designed program that he can conduct at home.

Contract courses seem to offer a promising approach in allowing a student more choice in fulfilling a course requirement. They permit the student to design his own course with the guidance of his instructor and provide him with latitude to make it meaningful. Resource people, tapes, loop films, slides, books, and other materials are available. The student is evaluated on how well he achieves his stated objectives. Douglas Padla of Temple University sent materials describing the institution's Human Performance Laboratory. The program is new but appears to possess great potential. A student may select the activity and performance level he wishes to attain. He then designs a contract for course credits specifying activity and performance. A table is provided to assist in writing contracts. The student completes the table and arranges for a meeting with his instructor. If the proposal is acceptable, the student keeps one copy of the contract and another copy is placed in a laboratory file. If the proposal is unacceptable, then renegotiation takes place until agreement is reached. Usually, one credit is awarded for each performance level mastered in an activity. When the student believes he has learned an activity he may ask to take knowledge and skill examinations. Individual learning packages are provided in addition to books, films, film loops, video replay, and other aids. Space is provided for practice during selected times, and club and team membership is encouraged. The approach would seem to be a model for those who believe in individualized instruction and for those who believe that competence rather than hours in attendance should be the basis for awarding credits. A similar approach is being used for majors.

Other Unique Approaches

LaVerne College instituted three coeducational courses, which have been popular. Throwing includes common balls, javelins, knives, frisbies, boomerangs, and others. Climbing includes ladders, trees, ropes, stilts, beginning mountain climbing, and others. Bicycling involves selection, repair, and short- and long-distance riding.

A. J. Hovland of the University of Wisconsin observes that at Wisconsin they are working on standards and a concern for achieving them. Program modules present well defined problem situations requiring students to make realistic decisions and develop skills. He notes that the program is challenging to students.

Carl Selin of the Coast Guard Academy describes the development of a survival program designed for the Maine woods and lakes region. The course is popular since cadets are anxious to test their ability to survive in the rugged environment.

John Friedrick reports that Duke University now requires all students to learn drown-proofing, mouth-to-mouth resuscitation, and heart massage. All students are taught relaxation techniques. Friedrick has prepared a manual for the course, entitled *Scientific Relaxation Techniques to Combat Stress*.

Wayne McKinney of Southwest Missouri State College designs activity courses so they contribute to liberal arts education as they develop skills. Lou Bowers of

the University of South Florida reports a new design for courses on the elective basis. Laboratory courses in lifetime activities meet in blocks of two two-hours sessions per week for one or two credits. Other courses are designed to expand the student's knowledge of human response to vigorous activity. These courses carry credit ranging from two to four hours and assist students in attaining higher levels of functional efficiency. Special competency courses are offered on a two to four-hour basis, and opportunities are available for students to develop experimental courses. Students have the option of letter grades or pass-fail throughout the entire program.

Arnold Flath of Oregon State University forwarded a new proposal for general education courses. Students participate in a laboratory symposium for human health and physical development, which is coeducational and team taught. Through a battery of tests, students begin exploration of activities related to the five aspects of the discipline: physiological, kinesiological, sociological, psychological, and esthetic. The "how and why" of each type of exercise is also emphasized. For example, in a fitness-jogging experience the student learns about the desirable aspects of the "training effect." After the initial course the student may concentrate in one or several areas as he sees fit. Total hours are still arbitrary.

In addition to a very broad and diversified required program the University of Oregon offers unique courses organized through SEARCH (Students Exploratory Actions Regarding Curricular Heterodoxy). Listed in the SEARCH flyer forwarded by E. R. Reuter were courses in yoga, mountaineering, rock climbing, and park and recreation design. SEARCH courses are initiated by students or faculty, and all are a result of cooperation. They are labeled *innovative* because they are different from standard courses and designed to demonstrate ways toward curricular improvement. SEARCH is an agency of the Association of Students at the University of Oregon.

Sports Club, Workshops, and Honors Programs

The sports club movement seems to have reached a plateau, based on a comparison between the 1969 and 1971 studies. Some institutions permit students to earn credits through sports club membership or intramurals, but some professionals believe this contrary to the spirit of voluntary participation that underlies intramurals. Both sports clubs and intramurals are a natural outgrowth of the basic program, and some respondents noted that they were so successful they might be causing problems in the intercollegiate program. Sports clubs tend to develop where there is high student interest but limited funding. Tulane, for example, has new sports clubs in judo, fencing, lacrosse, handball, and karate.

Workshops are used by some departments to stimulate student interest. For example, Ann Wagner of St. Olaf College explains that students sign up for two- or three-day workshops in such areas as body mechanics, weight control, relaxation, and stress.

Some institutions encourage honors programs in which students take complete responsibility for their programs. A good example is the honors proficiency [illegible]m at DePauw University. The proficiency may be fulfilled by intercollegiate [illegible]ics, intramurals, recreation programs, or "block contracts" of activities.

Inservice Training

Many institutions provide for careful inservice training to assure quality instruction. The department at North Carolina State University schedules specific dates for reviewing such subjects as cardiorespiratory testing, the use of the electrocardiograph, and so on. Wes Ruff notes that at Stanford new teaching assistants have an orientation program including clinics in popular activities in the program. At any given time during the year a master teacher will provide a clinic for any teacher teaching out of his area of competence. In this sense they have team teaching. Actually, team teaching offers ideal opportunities for matching two people who can complement each other and is a natural form of inservice training.

Facilities

Elaborate facilities are obvious advantages in developing quality instruction. But even the best facility is of little use if it is not available to students. Felicia West of Miami Dade Junior College notes that the new facility includes an olympic pool, a large gymnasium, a separate combative room with wall-to-wall mats, a dance studio with mirrors, and new locker facilities. Combined with excellent outdoor facilities, it is bound to develop interest in the program. The college utilizes community facilities such as golf courses, driving ranges, sailboats. In return, the new facility is opened to the community whenever possible.

Adaptations of facilities such as swinging panels for three-wall handball courts, artificially built ski hills, and the use of such equipment as skiing simulators, volleyball spiking devices, and harnesses for gymnastics were typical adjustments to improve instruction.

EPILOGUE

Certain obstacles exist to obtaining quality instruction in the general program of physical education. Although the program is the foundation of the profession, often it is given secondary priority. For example, some professionals believe that preparation of majors is their important role and the general program would be best eliminated. Of course, the basic program that they neglect is the same program that they are preparing majors to teach. Students identify more with the example the instructor sets than the philosophy he preaches.

In the 1969 study, one respondent offered the comment "no coaches" as evidence of the quality of his institution's program. Several respondents in the present study indicated that they had little hope for positive change, since coaches were responsible for teaching. Does a man automatically become a bad teacher because he is a coach? The opposite should be true; a coach should be a master teacher. When coaches are bad teachers, the problem must stem from their motivation or from the manner in which they are hired. Coaches who are expected to teach must be hired on the basis of their competence in subject areas as well as for their coaching abilities. A coach who is unprepared for his class or fails to meet his class should suffer the same consequences as any other teacher. A man who is a coach is a scholar of his sport; he should be an asset to his department. Many are, but some are not. The profession needs to face this problem openly.

Some other practices warrant re-examination. For example, physical education may be required of those who need it least. According to the *Executive Fitness Newsletter*, Dr. Samuel M. Fox III stated, "It is more advisable to pass a careful physical examination if one intends to be sedentary in order to establish whether one's health is good enough to stand the inactivity" (6). This unusual way of assessing health needs might be a more valid criterion for exemptions from requirements than present criteria. Persons in their forties or fifties usually are excused. The dangers of heart disease are greater in middle age than in the late teens and twenties. Athletes frequently are exempted. Dr. Erich Geiringer is quoted in *Parade* magazine as saying that he is disturbed about the former athlete who is flabby and prone to disease. After retirement there is a sharp decline in his activity but no decrease in his appetite. The doctor did state, however, that although statistics did not favor longer life for the athlete, it is well proven that daily exercise combined with eating sparingly will lengthen life (7). The practice of excusing athletes makes little sense; they may need to be physically educated for their own protection. Many institutions have little or no provision for adaptive physical education. The experience in Pennsylvania should be sufficient to impress professionals with its helpfulness in gaining acceptance for the total program (5). Often, students who qualify for the adaptive program need physical education more than others. Charles Corbin of Kansas State University makes an interesting comment. He observes, "The only legitimate reason for a requirement is a remedial program for students who are not physically educated by the time they get here. We allow proficiency testing for those who are not remedial. Most are." As noted earlier, students also often lack an adequate understanding of fitness concepts. It is commonly believed that most college students resent required physical education. Fred Drews of North Carolina State University reports, however, that student surveys indicate the opposite, ". . . the very great majority of our students favor a required program."

James Lavery of Ohio University explained that when the three-quarter physical education requirement was eliminated two years ago, students demanded a return of the activity courses before the ruling could go into effect. Classes were reinstated with several provisions set by the department, including lifetime sports emphasis, pass-fail grading, one-credit hour for two class meetings per week, classes taught by graduate assistants and highly skilled students, enrollments limited by financial conditions, classes scheduled around professional preparation courses, and so on. In a letter to a colleague at another university Lavery observes:

> Student response to this program has been overwhelming. Each quarter, over 2,000 students are enrolled with 300-500 close-outs in certain activities, depending on the season; golf, tennis, ice skating, are examples. Class attendance has been extremely high, the students are enthusiastic about the classes, and many have been added to satisfy the needs of small but interested groups—cycling and hiking have proven popular and were started on such requests.

Although most institutions of higher education have gone beyond programs that meet the needs of only the upper 10 percent, many still are "hung-up" on ...iums, playing fields, and competitive sports. Bill Johnson and his associates

at Brookdale Community College have developed a unique philosophy and program that emphasizes the concept of fitness.

The physical education team at Brookdale was highly stimulated by a visit to NASA Headquarters where they observed the NASA Stress Lab program. After extended discussion and planning, they decided on an adaptation of the NASA program for Brookdale. This approach was overwhelmingly accepted by trustees, faculty, and administration. As noted in a 47-page paper prepared by Johnson and his team, "A fitness breakthrough had taken place which owes its genesis to the NASA's Division of Occupational Health and Environmental Medicine" (2, p. 4).

A pretest routine has been established. Participation in workouts is determined by the free time in the participant's schedule, and "drop-in" hours are from 10 a.m. and 10 p.m. daily. Labs are located in the basement of academic buildings, and each is equipped with lockers and showers for men and women. This frees them from conflict with the gymnasium and makes them accessible to students between classes. The aim is to make personal fitness a part of the individual's life style. Specific exercise stations are similar to those at NASA Headquarters, including treadmill walk, sit-ups, striking bag, wall pulleys, bicycle, rowing machine, thigh curl-leg extension machine, dumb bells, treadmill-jog, balance beam, and provisions for cool-off walk, sauna, and showers. The total workout is about 45 minutes, almost identical to the NASA program. The program goes beyond the NASA model in two ways to make it more suitable for a college environment. First, a fitness profile is given to all students. In addition to a medical examination it includes (a) physiologic parameters (height-weight, cardiovasular, pulmonary function, muscular strength, skin fold measurements); (b) physical activity interest inventory; and (c) individual's physical activity history. The results are used to develop individual programs, identify cardiorespiratory health problems, and provide data for student health records and for a pilot program for a projected county preventive medicine program. Second, the program is supplemented with course instruction in many adult sport skills; these are labeled Second-Fitness Center Course Offerings. An example of how the program functions is illustrated in the following case study (2, p. 9):

> Tom, a 1971 graduate of Long Branch High School was sightless from a childhood accident at age 10. His experience in physical education activities was extremely limited.
>
> His Physiologic Parameters indicated a need for: improvement in muscular endurance and a severe need to improve cardiorespiratory capacity.
>
> The results of the Physical Activity Interest Inventory and the Physical Activity History indicate no interest or participation in physical activity.
>
> In his program counseling session with theFitness Learning Lab staff member, Tom became aware of the potential program and guidance that the Fitness Lab provided to handicapped students and agreed to participate.
>
> Under the close supervision of the Fitness Learning Lab technician Tom has made substantial gains in both areas. He has tentatively decided to continue in the program during his stay at Brookdale.

There is no better way of obtaining support for the basic program than involving [illegible]. They may need physical education more than they realize, and efforts to

involve them result in good public relations. Institutions reporting faculty involvement in programs indicate the value of this practice. Physical education demonstrations, publicizing offerings, and highlighting the expertise of instructors in the school paper also were reported as effective methods of public relations. In addition, some colleges open their facilities to the public. James Bailey of Jersey City State College describes an excellent example involving both faculty and members of the community who are enrolled in an adult fitness program. At various times, weight and skin-fold measurements and cholesterol counts are taken. When an individual is the subject os his own research, physical fitness becomes more meaningful.

Finally, instruction is best evaluated in terms of the long-run effect it has on the student. Since quality denotes standards, this creates a dilemma for the physical education instructor. He hopes to assist the student to develop a love of fitness and yet he knows because of inherited differences some students will get little satisfaction from copeting with others. This is a situation of which physical educators have long been aware; colleagues in other disciplines are gradually facing the same problem. The traditional grading system may defeat the purpose of encouraging participation by those who need physical education most. Therefore, other grading options should be explored or criteria other than skill need to be used (1).

"Ten men cannot do a man the harm that he does to himself." A program whose need is well established cannot be harmed by opponents unless the instruction and design of the program are self-defeating. And finally, improvements in methods of instruction and program design will be unproductive unless we take Carl Peterson's advice. He observes, "How could I have been so smug . . . known so little about kids. I think I'm beginning to learn now how to teach *students*."

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THE STATUS OF GENERAL INSTRUCTION PROGRAMS OF PHYSICAL EDUCATION IN FOUR-YEAR COLLEGES AND UNIVERSITIES: 1971-72*

Joseph B. Oxendine
Temple University
Philadelphia, Pennsylvania

During the past few years there have been regular and persistent questions raised about the propriety of "requiring" courses, particularly in areas outside the student's major curriculum. At issue is the matter of individual choice versus a prescribed curriculum. Thus, a serious challenge is being made relative to the essential nature of such courses as English, math, languages, basic sciences, and other general education courses that traditionally have been required. In a few institutions with which the author is familiar, all specific course requirements outside the student's major curriculum have been eliminated. It would be speculative to suggest the extent of this trend toward the elimination of uniform course requirements.

Among the most prevalent requirements for the general college student over the past few years have been courses in physical education.** The policy of requiring courses in physical education has been challenged as frequently as have other requirements, perhaps more so. In recent years there have been reports of significant changes in requirements, as well as in such program practices as grading, credits, patterns of course offerings, competency examinations, and even the existence of physical education programs. However, one cannot intelligently discuss such changes or trends without specific information. Consequently, there is a need for periodic descriptions of existing requirements and practices for the general physical education program.

This study was designed to describe the current status and practices of general instructional programs of physical education in four-year colleges and universities in the United States. In order to detect recent trends, the results were compared with several similar studies over the past few years, particularly those conducted by this author in 1967-68(4) and 1960-61(3) and by Hunsicker in 1954(1).

Procedures

A four-page questionnaire dealing with course offerings, requirements, credits, evaluation practices, and trends was prepared. This document, along with a covering letter, was mailed on October 1, 1971, to the chairmen of physical education departments in 1,143 four-year colleges and universities. The addressees included all institutions listed in the *College Blue Book* (13th edition, Volume 3, 1969) that

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**Physical education, as used in this discussion, refers to the general instructional program, referred to as the "required," "service," or "nonmajor" program.

met the following criteria: (a) a four-year institution; (b) having undergraduate enrollment of 500 or more students; (c) accredited by the regional accrediting agency; and (d) classified as a college or university or by a similar term descriptive of a general institution of higher learning. Restricted professional schools, seminaries, conservatories, or other such specialized institutions were not included. Unlike the Oxendine study in 1961 or the Hunsicker study, the total population of general colleges and universities (rather than a sample) was included in this study. Using these criteria, 1,143 institutions were identified and were mailed the questionnaires. Of these, 788 (69 percent) were completed and returned in time to be included in the analysis. These returns compare with 723 in the Oxendine study of 1968, 265 in the 1961 study, and approximately 100 in the Hunsicker study of 1954.

The 788 returned questionnaires were categorized into five groups according to the size of the undergraduate enrollment, three groups according to the sex component of the student body (all male, all female, and coeducational), and two groups according to the public or private affiliation of the institution. This institutional description was provided by the respondent. All grouping, tabulation, and computations were done by hand and with a desk calculator.

The data from the questionnaires are presented in Tables 1 and 2. Table 1 includes an analysis of the data based on comparison by size of the undergraduate enrollment. Also listed in this table is a summary of returns from all institutions (in boldface type). Table 2 presents a comparison of institutions according to the public-private affiliation as well as by the sex component of the student body. For ease of interpretation, data are presented in percentages of respondents to each question rather than raw scores. The number of overall returns in each category is provided, and inasmuch as not all questionnaires were completed in their entirety, the number of respondents to each question is listed. Therefore, the percentages are based on individual question responses rather than on the basis of the total of 788 respondents. For comparative purposes, results from the Oxendine studies of 1967-68 and 1960-61 are presented in Table 1 where such information is available, i.e., where similar questions were asked or analyses made.

Results

A physical education program for the general college student exists in practically all institutions. Of the 788 respondents, 95 percent reported that physical education is included as a part of the course offerings (see Table 1). Only one institution in the "over 10,000" group and three in the "5,000-10,000" category reported that no physical education courses were taught. Somewhat greater numbers of smaller institutions indicated the absence of curricular offerings in physical education. Inasmuch as this particular question was not asked in either of the two previous studies, there is no way of comparing the prevalence of physical education programs over the past decade.

The requirement of physical education in four-year institutions has decreased substantially over the past four years. Of the responding institutions, 74 percent reported that physical education was required of all students. This compares with 87 percent in 1968, 83 percent in 1960, and 86 percent in the Hunsicker study of 1954. Approximately the same percentage as in previous studies report that

physical education is required of students in "some schools or departments." Consequently, it must be assumed that 10 to 15 percent of the institutions have eliminated the physical education requirement within the past few years. This conclusion is supported by three additional sources of information. First, in 1960 and 1968, respectively, 5 and 6 percent of the institutions reported that none of the students was required to take physical education, whereas in this study 18 percent of the institutions reported the absence of such a requirement. Second, 12 percent reported that the requirement had been eliminated over the past five years compared with only 3 percent reporting that such a requirement had been instituted. Third, the number of schools reporting a decrease in the requirement exceeded the number reporting an increase by 13 percent. In addition, Magoon's recent study(2) reported that physical education was required of 76 percent of college women in this country.

Nevertheless, it is important to note that roughly three-fourths of all institutions report a physical education requirement for all students and that an additional 8 percent report that physical education is required of "those in some colleges or departments." Very large institutions are less likely to have a requirement than are those of moderate to smaller size. Several respondents indicated that physical education had been grouped with two or three other subjects into a category from which one or more courses must be taken. Other courses frequently mentioned in this group include art, music, industrial arts, and home economics. On the other hand, a few institutions reported that physical education was the only specific requirement in the curriculum.

Given the recent upheaval in college and university curriculums, and in view of many comments on the returned questionnaires, it appears safe to assume that required courses other than physical education have also been reduced.

As noted in Table 2, both public and private institutions have realized a drop in the physical education requirement, with reductions in the public group being more acute. The all-male institutions, though small in number, show a slight increase in the requirement, while the all-female group report a sharp decrease. Of the all-female institutions, 55 percent reported that the requirement had been either decreased or eliminated during the past five years.

The curtailment of the physical education requirement on a substantial basis has been a very recent development. A large majority of those institutions eliminating the physical education requirement have done so during the past four years. One-half indicate that the requirement has been eliminated within the past two years, while another one-fourth place this action three to four years ago. Only 5 percent place the termination of the requirement from five to eight years ago, and the remaining institutions report that no such requirement has ever existed.

The extent of the requirement has been reduced in many institutions where a requirement remains in existence. In previous studies, 68 and 69 percent (in 1960 and 1968 respectively) of the requiring institutions reported that physical education was mandated for two or more academic years, with the overwhelming majority being for exactly two years. In this study, only 57 percent reported a requirement for more than one year. Practically no institutions reported a three- or four-year requirement. Consistent with this finding, the highest percentage of institutions require four semester-hours (or six quarter-hours) for graduation, followed in order by two, three, and one semester-hours.

Student elective practices in physical education where no requirement exists were investigated to some extent. The gathering of helpful information on this question was hampered because of the relatively small number of institutions without a requirement and the recency of the elective program. Where no requirement exists, respondents were asked to estimate the percentage of students who elect physical education courses. In many cases the response was dependent upon sparse information and on occasion was reported as a rough guess. On the average, institutions reported that approximately one-fourth of the students take physical education where no requirement exists. However, several institutions, though indicating that the immediate drop-off was dramatic, reported an upsurge during the second and third years to around 50 percent. (Many respondents commented on the positive aspects of an elective program in terms of forced introspection, with resulting program improvements as well as changes in attitudes on the part of students.)

Competency examinations are being used more and more as a means of exempting students from the physical education requirement. Of the responding institutions, 30 percent report the use of competency examinations now as compared to only 18 percent four years ago. Larger institutions are particularly prone to provide this alternative to course requirements.

Course offerings in physical education programs for the general college student continue to emphasize recreational, lifetime, and individualized activities. These activities continue to show the greatest growth, particularly in larger institutions. In comparison, team sports have shown a rather dramatic decrease in course offerings. One-half of all institutions report that team sports have decreased within the past five years. Many report that though team activities are practically eliminated from general physical education, they continue as a strong part of the intramural program.

In several institutions both with and without a requirement, the respondent reported an upsurge in club activity. Clubs listed include most of the recreational skills offered in the curriculum, as well as some activities not in class programs.

Coeducational classes in physical education have shown a dramatic increase during the past few years. Of all institutions, 70 percent reported an increase in coeducational offerings within the past five years. Only 1 percent reported a decrease. This trend toward coeducational classes, though detectable in the 1960 and 1968 studies, has accelerated within the past four years. The reporting institutions indicated that on the average 57 percent of all courses were coeducational. Forty percent of the institutions of all sizes state that 75 percent or more of all physical education classes are offered on a coeducational basis.

The awarding of credits for physical education classes has increased substantially since 1968. More than 90 percent of all institutions with enrollments of 2,500 or more award credits toward graduation for physical education courses. As was reflected in earlier studies, a higher percentage of larger and moderate-sized institutions award such credits for physical education. Similarly, a much higher percentage of public institutions (compared to private) award credit for physical education. More than half the institutions award credit on the basis of one semester-hour for two clock hours per week in class. This is followed in order by the awarding of one credit for one clock hour, one credit for three clock hours, and one credit for four clock hours per week.

Grading practices in physical education have changed significantly during the past few years. Although two-thirds of the institutions continue to offer letter grades, 41 percent now offer grades on either a pass/fail or credit/no credit basis. It is apparent that some institutions use both systems in their grading scheme. These grading patterns are reflective of other courses in the institution, inasmuch as 85 percent report that the system used in physical education is consistent with other courses. Moderate-sized and larger institutions have a greater tendency than do smaller institutions to adhere to a grading pattern consistent with other institutional courses. Private institutions are more prone to use a pass/fail system and also to set up a special marking system for physical education, whereas public institutions usually follow the general institutional pattern and also count physical education grades in the grade point average of students. The number of institutions that count physical education grades in the grade point averages has increased in recent years. Larger institutions, especially, follow the practice of counting physical education grades.

The administration of final written examinations in physical education has not changed greatly during the past few years. However, there is a growing tendency for departments to leave the administration of final examinations to the discretion of the instructor. The great majority of institutions report that final examinations continue to be administered either in all of the courses or in those of some of the instructors.

Physical performance examinations are currently administered at the discretion of the instructor more frequently than as a general departmental regulation. As with the written examinations, this reflects greater flexibility within the physical education program. Less weight is now devoted to skill and fitness in grading than was the case several years ago. More respondents now indicate that it is impossible to generalize the grading procedure for all instructors.

Student evaluation of classes as a general pattern or at the option of the instructor is followed in almost all large institutions and those of moderate size. One half of the large institutions have formalized this practice into a departmental policy. Where such evaluations are used they are more frequently made available to the instructor, with about one-half of the institutions reporting that such evaluations are forwarded to the department chairmen.

SUMMARY OF FINDINGS

1. Questionnaires were mailed to 1,143 four-year colleges and universities. Those completed and returned amounted to 788 (69 percent).
2. Of all the institutions reporting, 95 percent offer programs in physical education for the general college student.
3. Physical education is required for all students at 74 percent of the institutions. An additional 8 percent have a requirement for students in certain schools or departments.
4. During the past four years, there has been a 10 to 15 percent decrease in the number of institutions requiring physical education. The great majority of these curricular changes have occurred within the past two years.

5. The majority of institutions with a requirement mandate physical education for a period of two years. However, there has been a slight shift toward a one-year requirement.
6. In institutions where the requirement has been eliminated, approximately one-fourth of the students elect to take physical education. There is some indication that this number increases after the first year.
7. Greater flexibility in physical education programs today allow more faculty and student options regarding independent study, honors courses, competency exams, dress, the grading system, and general class routine.
8. There is an increasing tendency for physical education courses to receive academic credit and to count in the grade point average.
9. Recreational activities or lifetime sports continue to grow in prevalence, while team sports show a decrease.
10. Coeducational courses continue to grow to the extent that the majority of physical education courses are now of this type.
11. Some institutions express satisfaction with the elimination of the physical education requirement, citing improved programs and general attitudes on the part of students who elect to take courses.

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TABLE 1
Questionnaire Results for all Institutions Grouped According to the Number of Undergraduate Students

Questionnaire Items	Institutions Grouped by Size: 500-1,000 N=219	1,000-2,500 N=264	2,500-5,000 N=117	5,000-10,000 N=101	Over 10,000 N= 94	All Institutions N=788	1967-68 Study N=723	1960-61 Study N=259
	PERCENTAGE							
A. PROGRAMS AND REQUIREMENTS								
1. Physical education courses for the general college student: (N=788)								
a. are offered	94	93	95	97	99	95	--	--
b. are not offered	6	7	5	3	1	5	--	--
2. For graduation, physical education is required of: (N=778)								
a. all students	79	79	74	71	51	74	87	83
b. none of the students	17	16	17	15	31	18	6	5
c. some colleges or departments	4	5	9	14	18	8	7	12
3. Before graduation, students must take physical education: (N=578)								
a. one year	42	42	34	53	53	43	31	24
b. two years	57	57	60	47	45	55	66	60
c. three years	1	1	4	0	0	1	2	3
d. four years	0	0	2	0	2	1	1	5

4. During the past five years, course requirements have: (N=753)								
a. increased	14	12	15	8	9	12	15	24
b. decreased	27	25	23	25	23	25	14	11
c. remained constant	43	52	51	47	49	48	74	64
d. been eliminated	12	8	9	18	18	12	3	--
e. been established	4	3	2	2	1	3	1	--
5. Where no physical education requirement exists, it was terminated: (N=206)								
a. during the past two years	68	34	44	61	55	50	--	--
b. three-four years ago	15	43	16	12	27	18	--	--
c. five-eight years ago	4	7	4	4	6	27	--	--
d. never had a requirement	13	16	36	23	12	5	--	--
6. Where no requirement exists, approximate percentage of students who elect physical education courses: (N=137)								
a. less than 20%	23	62	48	33	53	44	--	--
b. 21–40%	51	7	48	45	29	35	--	--
c. 41–60%	14	14	4	11	12	12	--	--
d. 61–80%	12	17	0	11	6	9	--	--
7. Students are excused from the physical education requirement for: (N=788)*								
a. medical reasons	59	61	55	60	51	58	--	50
b. prior military service	27	30	39	46	35	33	33	46
c. age	26	22	34	32	21	26	28	--

d. varsity sports	21	25	18	22	11	**21**	44	--
e. other (ROTC, marital status, psychological problems, etc.)	23	34	39	43	38	**32**	43	--
8. Approximate percentage of students excused: (N=524)**								
a. 0–10%	96	93	96	95	98	**95**	--	--
b. 11–20%	3	4	4	0	2	**3**	--	--
9. In lieu of a course requirement competency tests: (N=598)								
a. are offered	21	20	52	29	39	**30**	18	--
b. are not offered	79	80	48	71	61	**70**	82	--

B. COURSE OFFERINGS

1. All physical education courses are (N=656):								
a. categorized by general areas	40	46	39	33	43	**41**	--	--
b. not categorized	60	54	61	67	57	**59**	--	--

(In order of frequency, the categories most frequently listed were team sports, individual sports, aquatics, basic physical education, dance, lifetime sports, and fitness.)

2. Types of activities that have *increased* during the past five years: (N=788)*								
a. recreational activities	57	58	60	68	81	**62**	62	66
b. fitness/weight control	34	32	48	37	43	**37**	50	--
c. gymnastics	26	31	39	40	32	**32**	43	40
d. aquatics	30	38	41	53	41	**39**	40	33
e. rhythms/dance	28	30	49	40	44	**35**	30	30

f. team sports	17	20	17	12	13	17	25	27
g. adapted activities	11	13	15	15	18	13	21	--
3. Types of activities that have *decreased* during the past five years: (N=788)								
a. team sports	49	48	48	54	59	50	38	35
(No other activities were listed by more than 10% of respondents.)								
4. Coeducational courses are: (N=716)								
a. offered and required	17	23	32	23	14	14	22	14
b. offered as electives	58	62	59	71	83	64	47	50
c. not offered	25	15	9	6	3	22	31	36
5. During the past five years the proportion of coed. classes has: (N=635)								
a. remained constant	33	26	31	26	31	29	42	46
b. increased	66	73	69	74	67	70	56	50
c. decreased	1	1	0	0	2	1	2	4
6. The percentage of courses that are coed. is: (N=492)								
a. less than 25%	20	22	22	18	32	23	--	--
b. 25–49%	19	15	13	16	17	16	--	--
c. 50–74%	21	23	18	26	16	21	--	--
d. 75% and above	40	40	47	40	35	40	--	--
(For all institutions, 57% of courses offered are coeducational.)								

7. Independent study courses: (N=771)								
a. are offered	46	40	27	24	15	**34**	--	--
b. are not offered	54	60	73	76	85	66	--	--
8. In proportion to enrollment, the instructional staff during the past five years has: (N=715)								
a. remained constant	54	47	45	30	32	**44**	33	43
b. increased	36	38	40	54	38	**40**	59	49
c. decreased	10	15	15	16	30	**16**	8	8
9. In proportion to enrollment, facilities during the past five years have: (N=738)								
a. remained constant	62	45	46	34	38	**48**	39	41
b. increased	35	47	44	52	43	**43**	48	42
c. decreased	3	8	10	14	19	**9**	13	16
C. CREDITS								
1. Credits toward graduation: (N=733)								
a. are given	73	77	92	91	91	**82**	74	76
b. are not given	27	23	8	9	9	**18**	26	24
2. Before graduation students must complete: (N=554)								
a. 1 semester-hour	7	5	5	5	1	**5**	3	3
b. 2 semester-hours (or 3 quarter-hrs.)	37	25	27	40	39	**32**	28	21
c. 3 semester-hours	9	14	16	16	39	**14**	7	3
d. 4 semester-hours (or 6 quarter-hrs.)	38	42	38	33	25	**37**	55	42
e. 5 semester-hours or more	9	14	14	6	6	**12**	4	--

3. Number of semester-hours given per weekly clock hour: (N=527)**								
a. one-fourth	7	6	7	8	9	7	--	8
b. one-third	3	11	13	16	24	12	--	10
c. one-half	58	62	41	59	43	54	41	26
d. one	22	18	33	14	19	21	17	7
4. Average time per week in class: (N=647)								
a. 90–119 minutes	56	53	51	53	52	53	41	--
b. 120–149 minutes	32	27	21	19	14	25	27	--
c. 150–179 minutes	12	20	28	28	34	22	12	--
D. GRADING AND EVALUATION								
1. Marks in physical education are: (N=788)*								
a. letter	64	60	61	76	90	67	77	74
b. pass/fail or credit/no credit	40	38	43	33	56	41	21	19
2. Marks in physical education are: (N=424)								
a. consistent with those in other courses	84	76	90	94	92	85	82	--
b. not consistent with those in other courses	16	24	10	6	8	15	18	--
3. Marks in physical education: (N=696)								
a. count in grade point average	63	62	83	74	84	70	63	67
b. do not count in grade point average	37	38	17	26	16	30	37	33
4. Final written exams are: (N=691)								
a. given in all courses	41	43	49	53	47	45	50	42

b. given in some courses	41	38	47	44	46	41	34	36
c. not given	18	19	4	3	7	14	16	22
5. Physical performance exams are: (N=677)								
a. given in all courses	41	39	49	51	54	44	61	--
b. given in some courses	41	44	41	44	36	42	27	--
c. not given	18	17	10	5	10	14	12	--
6. Final marks are based on the following factors with average percentages indicated: (N=788)*								
a. proficiency-skill	49	46	53	53	67	40	68	43
b. physical fitness	24	21	19	20	19	19	43	--
c. knowledge	28	31	30	32	33	44	63	20
d. personal qualities	22	19	16	19	21	25	44	16
e. impossible to generalize for all instructors	41	42	48	43	63	45	--	--
7. Student evaluations of courses are: (N=750)								
a. departmental policy	29	39	44	42	52	39	--	--
b. option of instructor	59	50	53	56	46	54	--	--
c. nonexistent	12	11	3	2	2	8	--	--
8. Student evaluations are made available to: (N=570)*								
a. individual instructors	52	75	71	80	78	69	--	--
b. department chairman	44	48	53	59	57	50	--	--
c. student body	14	11	17	17	11	13	--	--

*Some respondents checked more than one alternative.

**Some responses were outside the alternatives shown.

TABLE 2
Questionnaire Results for all Institutions Grouped by Public-Private Affiliation and by Sex Make-up of the Student Body

Questionnaire Items	Affiliation		Sex Make-Up		
	Public	Private	All Female	All Male	Coed
	N=324	N=464	N= 67	N= 16	N=705
A. PROGRAMS AND REQUIREMENTS	PERCENTAGE				
1. Physical education courses for the general college student:					
a. are offered	9/	93	90	94	95
b. are not offered	3	7	10	6	5
2. For graduation, physical education is required of:					
a. all students	70	77	71	86	74
b. none of the students	18	18	21	7	18
c. students in some colleges or departments	12	5	8	7	8
3. Before graduation, students must take physical education:					
a. one year	42	43	35	31	45
b. two years	52	56	65	61	54
c. three years	4	1	0	0	0
d. four years	2	0	0	8	1

4. During the past five years, course requirements have:					
a. increased	10	13	5	31	12
b. decreased	25	26	41	25	24
c. remained constant	53	47	40	44	50
d. been eliminated	10	11	14	0	11
e. been established	2	3	0	0	3
5. Where no physical education requirement exists, it was terminated:					
a. during the past two years	52	45	57	0	55
b. three to four years ago	18	35	14	--	17
c. five to eight years ago	3	7	22	--	6
d. never had a requirement	27	13	7	--	22
6. Where no requirement exists, approximate percentage of students electing physical education courses:					
a. less than 20%	48	41	18	--	48
b. 21–40%	31	38	46	--	34
c. 41–60%	13	10	9	--	10
d. 61–80%	8	11	27	--	8
7. Students are excused from the physical education requirement for:*					
a. medical reasons	56	59	67	63	57
b. prior military service	39	29	1	56	35
c. age	29	24	61	13	23

d. varsity sports	14	25	10	75	20
e. other (ROTC, marital status, psychological problems, etc.)	37	30	18	25	32
8. Percentage of students excused for above reasons:**					
a. 0–10%	95	95	100	93	95
b. 11–20%	2	4	0	8	3
9. In lieu of course requirements, competency tests:					
a. are offered	32%	27%	27%	27%	29%
b. are not offered	68	73	73	73	71

B. COURSE OFFERINGS

1. All physical education courses are:					
a. categorized by general areas	41	40	35	36	41
b. not categorized	59	60	65	64	59

(In order of frequency the categories most frequently listed were team sports, individual sports, aquatics, basic physical education, dance, lifetime sports, and fitness.)

2. Types of activities that have increased during the past five years:					
a. recreational activities	70	57	34	75	65
b. fitness/weight control	36	34	26	50	38
c. gymnastics	39	29	21	0	35
d. aquatics	40	34	25	25	41
e. rhythms/dance	43	30	33	13	36
f. team sports	15	19	13	38	17
g. adapted activities	16	11	1	6	14

3. Types of activities that have decreased during the past five years:					
a. Team sports	52	49	61	44	36
(No other activities were listed by more than 10% of respondents.)					
4. Coeducational courses are:					
a. offered and required	26	19	0	0	36
b. offered as electives	67	62	16	29	57
c. not offered	7	19	84	71	7
5. During the past five years, the proportion of coeducational classes has: *					
a. remained constant	29	28	58	60	28
b. increased	70	71	42	40	71
c. decreased	1	1	0	0	1
6. Percentage of coeducational courses:					
a. less than 25%	23	22	50	0	23
b. 25–49%	17	15	0	33	14
c. 50–74%	20	22	0	34	22
d. 75% and above	40	41	50	33	41
7. Independent study courses:					
a. are offered	19	46	46	33	34
b. are not offered	81	54	54	67	66
8. In proportion to enrollment the instructional staff during the past five years has:					
a. remained constant	36	48	46	47	42

b. increased	48	30	24	41	39
c. decreased	16	22	30	12	19
9. In proportion to enrollment facilities during the past five years have:					
a. remained constant	38	54	72	40	47
b. increased	48	40	23	47	42
c. decreased	14	6	5	13	11
C. CREDITS					
1. Credits toward graduation:					
a. are given	93	73	48	56	85
b. are not given	7	27	52	44	15
2. Before graduation students must complete:					
a. 1 semester-hour	3	7	4	0	5
b. 2 semester-hours (or 3 quarter-hours)	32	33	37	29	32
c. 3 semester-hours	18	11	4	0	15
d. 4 semester-hours (or 6 quarter-hours)	33	40	48	43	37
e. 5 semester-hours or more	14	9	7	28	11
3. Number of semester hours given per weekly clock hour:**					
a. one-fourth	6	8	4	0	7
b. one-third	16	12	8	20	12
c. one-half	52	52	62	40	54
d. one	21	23	19	20	21

4. Average time per week in class:					
a. 90–119 minutes	54	53	60	34	51
b. 120–149 minutes	19	29	20	31	27
c. 150–179 minutes	27	18	20	15	22
D. GRADING AND EVALUATION					
1. Marks in physical education are: *					
a. letter	83	60	63	44	70
b. pass/fail or credit/no credit	36	42	43	56	62
2. Marks in physical education are:					
a. consistent with those in other courses	92	77	72	44	87
b. not consistent with those in other courses	8	23	28	56	13
3. Marks in physical education:					
a. count in grade point averages	84	59	40	37	73
b. do not count in grade point averages	16	41	60	63	27
4. Final written exams are:					
a. given in all activity courses	54	38	35	18	46
b. given in some courses	43	41	38	29	43
c. not given	3	21	27	53	11
5. Physical performance exams are:					
a. given in all courses	44	37	38	37	46
b. given in some courses	51	43	36	25	43
c. not given	5	20	26	38	11

6. Final marks are based on the following factors with average percentages indicated:*					
a. proficiency-skill	54	51	53	53	52
b. physical fitness	22	22	30	25	22
c. knowledge	32	32	36	27	32
d. personal qualities	18	21	25	23	19
e. impossible to generalize for all instructors	54	41	51	44	46
7. Student evaluation of courses are:					
a. departmental policy	45	35	38	24	40
b. option of instructor	52	54	59	47	53
c. nonexistent	3	11	3	29	7
8. Student evaluations are made available to:*					
a. individual instructors	78	73	74	35	76
b. department chairman	54	46	43	24	38
c. student body	14	14	13	12	14

*Some respondents checked more than one alternative.

**Some respondents were outside the alternatives shown.

Debate: Voluntary or Required Physical Education

REQUIREMENTS IN A LIBERAL ENVIRONMENT

Jack E. Razor
University of Illinois
Urbana-Champaign, Illinois

Because I am a physical educator by profession and thus a conservative by definition and innuendo by colleagues in other disciplines, my position as advocate of required physical education in higher education should be a behavioral response and a task eagerly sought. May I suggest that labels are misleading; I support the requirement with some trepidation, and the profundity of my remarks is open to analysis.

The question of whether physical education – or any experience, regardless of discipline – should be required has generally been a source of debate among those within a field of endeavor who feel their particular area is worthy of study by all students and those from outside that discipline who do not want the subject to be required because (a) they feel it is not worthy of investigation by all students; (b) such a requirement would detract from the interest and support of their own discipline; (c) they are influenced by political considerations, including economics; and (d) students in higher education already know what and how much knowledge they need and therefore, the value judgment should be made by them. Today, however, I find myself in the somewhat awkward position of debating with colleagues in my own field that our discipline, broadly conceived and widely interpreted, has something unique to offer young men and women regardless of their vocational pursuits, political inclinations, or vested interests. While many, if not all, of you firmly believe that physical education can make significant contributions to the education of college students, you are not willing to have the subject required. Why? May I hypothesize – and my personal convictions give credence to this point – that you are unwilling to impose your value judgments, convictions, knowledge, and understanding on others. Such a position does not necessarily suggest that the student knows as much or more than you about physical activity in particular or physical education in general; it is, rather, supportive of the liberal approach, which postulates that students be permitted to resolve the course of their lives and select those educational experiences that appear at the time relevant and of sustaining value.

Unfortunately, what appears germane and cogent at one point in time may be an anachronism in a very short period of time. Will physical education and activity be antiquated in the near or distant future? A review of those experiences thought to be essential for the good and productive life by early sages and intellectuals reveals that physical activity was important then, and it apparently is thought to be now by those of us in the profession. If this were not the case, we would be discussing whether we should have physical education or eliminate it completely instead of debating whether to require it or make it voluntary.

The contention that each of you thinks physical education can make significant contributions to college students may be a fallacious assumption. To those of you

who question the statement, the debate of the requirement tends to be an academic one, and our discussions should center on the identification of appropriate experiences and the qualitative aspects of their operation.

Besides the issues of imposing value judgments and the capacity of physical education to make substantive contributions to students, there is the contention that if a program of quality is offered, students will opt to take physical activity and related courses. I know some students will; I also know some students will not. Some students will enroll in the courses that they perceive to be relevant and that are acknowledged to be well taught, for the thrill of learning and participation. Some will enroll in courses, depending upon institutional policy, for academic credit to satisfy a graduation requirement and/or to increase their grade point average. Some students, however, will not enroll because their academic advisor, seeing no requirement, will place them in other courses or labs, and hence they will not have the time for physical eudcation. Some will not enroll because it is simply too much trouble for the benefits thought to be derived.

Some educators will counter that eliminating those students who are there basically to satisfy the requirement will enhance the teaching-learning situation. No doubt it will, but making the teaching experience a more pleasant one is not justification for eliminating those students who need and could benefit from instruction. Sometimes our personal concern for a pleasant teaching environment, with "eager" students, outweighs the broader contribution we are capable of making.

The advocacy of a requirement for physical education typically, and justifiably, includes several concepts that should be mentioned but cannot be extrapolated upon. One that is most frequently employed, and just referred to, is that if there is no requirement the students who need physical education the most will not take it. While I recognize that by requiring physical education we are, in effect, saying "we know what is best for you," that particular suggestion is not unknown in other professions or even in ours with our own major students.

I think that we have some evidence to support the fact that regular physical activity and the knowledge governing it can be of benefit to young adults, and the best way to secure these benefits is by active involvement. We know that inertia must be overcome to facilitate purposeful movement and that the incentives for moving are both internal and external. I do not believe that we know the extent to which required learning and participation are detrimental to individuals; perhaps psychologists do. I *believe* that attitudes can be amelioratively altered even when learning situations are required. I *know* learning can take place in a required setting. Therefore, I doubt that we do a great disservice to students by requiring them to have opportunities to alter their behavioral attitudes and increase their knowledge relative to the development of their own physical well-being.

Another rationale for requiring physical education is the need for physical activity to develop and maintain the physical, social, and psychological characteristics inherent in man. While some would question whether observable contributions to each of these can be made under the conditions in which we must operate, an acknowledgement that we have the potential to do so regenerates the suggestion that our discussion should not be concerned with the requirement but with the improvement of the quality of our program offerings and teaching. once acknowledged the capacity of physical education to make significant

educational contributions to students in higher education, those concerned about making value judgments for students should ask: by what province do we, as knowledgeable professionals, have the right to eliminate students from our programs by not requiring physical education?

Another of the oddities of the recommendation to abolish the requirement is that it comes at a time of unprecedented concern about our ecological problems. The university community is solidly behind the efforts to prevent the disturbances of nature's ecological balance. However, we also have problems of human ecology that are of more serious consequence than those of our physical environment. Human erosion is rampant. A part of this trend is lack of physical activity. The physical education requirement is definitely related to the conservation of human resources. Just as no one in industry is exempt from complying with health standards and pollution laws, perhaps no one individual should be exempt from responsible physical maintenance. Unless there is a requirement, those students who are the weakest, the most inept, uncoordinated, and most lacking in endurance and movement skills will only continue to deteriorate.*

Further, I do not believe that we should apologize for requiring an experience in our discipline. I frequently hear that a similar type of experience is not required in such other disciplines as music, art, and philosophy. There are those, however, who feel that to be liberally educated one should have some knowledge of appreciation of the arts, and for fulfillment of the "good" life one should become involved with some art form either as a participant or as a connoisseur. Not to require an experience because it is not fashionable or because it is not compatible with a current educational trend does not take into account the value and content of the experience. At times I think we are more concerned with the procedures and administrative logistics of programs than we are with their content and contribution.

In relation to the feeling that a requirement may be restrictive and not permit individual latitude in course selection, it has been documented that at our institution students who are permitted to select their courses on an elective basis tend to select courses from only a few disciplines and in narrowly defined areas of concentration. The suggestion that free selection of courses will lead to a more liberal education appears to be false.

A final point to consider – and I have attempted to allude to the concept throughout this discussion – is that students may not be upset with or opposed to requirements; rather, they may be disenchanted with physical education. A majority have had no structured elementary physical education; their junior high experience was conducted by the numbers, *en masse;* and the high school programs have tended to replicate earlier experiences. Is it any wonder that when they enter the university they are skeptical of physical education? The foregoing is not, however, an argument for voluntary physical education – quite the contrary! With what is known of the student's entry background, his behavioral repertoire, and the potential of our discipline to contribute to his education, perhaps we should strongly consider instituting or retaining the requirement.

Anyone trying to learn and become more knowledgeable should be required to respond in certain ways thought to be conducive to facilitate the acquisition of the

*Harrison. *Physical Fitness News Letter* (University of Oregon) 17:4; May 1971.

knowledge desired. The absence of models inside and outside the university does not contribute to independence, and this is reflected by the increasing amounts of guidance and assistance students – unobtrusively – want and require. They tend to reject, visibly, the principle that Alma Mater stands *in loco parentis*, but they inconsistently ask her for more bounty, privileges, and protections. They do not want to be told where or how to live, but they want and demand free contraceptives. They want to disrupt speeches and free enterprise, but they also demand free legal aid and defense when in trouble. They do not want the university to engage in certain types of research, but they want research funds, computer time, and revenue to obtain subjects for an experiment. They want to select the courses, determine their content, identify the instructor, and give the grades – but they will undoubtedly hold the university accountable for their education a few years hence.

In conclusion, if we cannot operate a required program efficiently and effectively, or if we are not permitted to by an autonomous agency outside the university, then by all means let us conduct an elective program. If we feel the entry behavior of the student precludes a universal requirement, then let us conduct a selective required program for those who can benefit from instruction. In any event, let us objectively evaluate the issue and not be swept by the tide of emotion, lest we return 20 years hence attempting to restore required programs.

THE ARCHITECTURAL PROCESS AND REQUIRED FOUNDATION PHYSICAL EDUCATION

Edward L. Deam
University of Illinois
Chicago, Circle, Illinois

I come to the Mid-American Conference as a rank layman who views the physical education scene from the vantage point of an architect and an architectural consultant, half FTE administrator and half FTE teacher of architectural design. If I have any credentials for my portion of this program, they come from reflections upon the great pleasure of competitive high school basketball and tennis and the agonies of sitting on the University of Pennsylvania freshman and junior varsity basketball bench, from chairing the special committee to study the physical education requirement at the University of Illinois in 1967-68, and finally from being the U.I.C.C. faculty representative to intercollegiate athletics for the last two years. From the basketball experience I learned that it is more fun to play than to sit. From the special committee I discovered the value of qualitative consultation to interdisciplinary committees and I learned how difficult it is to make just and qualitative decisions for different intercollegiate constituencies.

I wish (a) to give you a glimpse of the architectural process, (b) to try to connect this process to the physical education process, and (c) to state what I think a required foundation physical education should be.

In order to support the proposition that physical education should be required on the foundation level, it is necessary to support the following suppositions:

1. That one can indeed rationalize the requirement of any university course.
2. That multilevel, variable, interconnected student growth is nurtured in the university setting, and the components of this growth are the analytical, perceptual, conceptual, sociological, and physiological aspects.
3. That a foundation course should be (a) a generalized exposure to the field, (b) appetite-building, and (c) oriented toward both content and skill.
4. That the process of making micro and macro environments is analogous to the physical education process.

In my field the process of making environments can be encapsulated into a kind of curvilinear process, which begins with problem identification, inventory of what is known, research and/or data accumulation in areas that are unknown, synthesis of that which is relevant to the problem, performance prescription, operational prescription, the schematics, definitive design, production, implementation, and evaluation. The process can be thought of as the *x*-ordinate in a two-dimensional matrix, while the *y*-ordinate is task, technique, and the subjective factors implicit in the making of physical environments. Task can be expanded to include discrete considerations of site, landscape, physical environment, human need (physical, psychological, social) and the eco-political administrative realities. Technique can be expanded to include considerations about site logistics, structure, materials and methods, environmental controls, detail. The subjective realm can be expanded to discrete considerations about scale, form, color, light, esthetics, geometry,

proportion, and the like. It would seem to me that a foundation course in the making of physical environment would identify consideration of all aspects of the process and how they relate to the task-technique-subjective constellation. Further, if the university would nurture foundation courses in how to analyze, how to perceive, and how to conceive what should be, we could plug in relevant packages from the above-mentioned environmental matrix.

For our purposes, we now imagine the following:

1. An all-university consensus in favor of foundation courses dramatizing analysis, perception, conception, and the sociological and physiological aspects.
2. That the "architectural process" can be grafted to the "physical education process."
3. That the x and y axis of the architectural process are now the x and y axis of the "physical education process."
4. That the z-axis of a three-dimensional matrix, which will constitute the content of "required physical education," will probably deal with–
   a. physiological growth and deterioration,
   b. the whole realm of leisure,
   c. individual recreation,
   d. group recreation,
   e. intercollegiate athletics.

It is then possible to summarize that a foundation course dealing with the state of physical growth is in order, can be rationalized, and can be extraordinarily helpful to a student in a university setting.

SOME COMPUNCTIONS ABOUT CURRICULAR COERCION

Jack L. Armstrong
Macalester College
St. Paul, Minnesota

One of the assumptions implicit in the list of distribution requirements for graduation in many college catalogs is that the totality of liberal learning must be accomplished in a four-year period. Many of these lists ignore the prior academic background and life experience of all of the entering students. Often they also ignore the many *differences* that exist among the backgrounds and experiences of the students. Finally, they appear to ignore that the very essence of a liberal arts education, and I think of most other kinds of education, is not absorption of specific content but the development of skills and attitudes that encourage the active pursuit of learning experiences long after the receipt of a college degree. Therefore, if we acknowledge, first, that a student's secondary school education has provided him with knowledge that will enhance his life experience and, second, that he will have the opportunity to continue to learn about many aspects of the world around him after he leaves college, then we can concede that a student's becoming an educated man or woman is not completely dependent on the breadth and depth of courses he takes in college. Furthermore, if we acknowledge that different students have different needs to fulfill in order to meet even an agreed-upon definition of an educated man or woman, we would not ask all students to complete the same set of distribution requirements.

Moreover, if we are to require certain courses, how are we to decide which ones should be required? Is philosophy more important than anthropology? What is the purpose of requiring a course in the natural sciences? Can that purpose be accomplished more completely with geology than physiological psychology? Is it really more important that an accomplished young musician take a fine arts course rather than yet another course in his history major? Is intermediate proficiency in German more crucial to being a liberated human being than a course on the history and literature of Germany?

If you are in favor of a set of requirements, you may feel that I have misrepresented your position, overstated the case in order to make a point. Many colleges have relaxed the specificity of their requirements. Perhaps you support that relaxation but believe that a student should at least have *exposure* to the three major divisions of knowledge, that without this exposure, he cannot know what he might like to pursue in his continuing education after college. Again I ask -what about his high school exposure? What about the hundreds of daily experiences before and after college that can stimulate his or her interest in learning French, or going to the symphony, or studying economics, or making ceramics, or pursuing astronomy? If we have done our job of developing an excitement about learning, of creating a desire for continuing self-improvement and self-fulfillment, then the activities that contribute to liberal learning will occur long after graduation.

Consider also what I believe to be the high probability that a list of requirements is not necessary to produce breadth in a student's college education. We have data at our school to support the belief that this breadth is produced by voluntary choice. There are exceptions, but the unnecessary damage to motivation and attitudes of large numbers to ensure that the small number of exceptions is prevented is too large a price to pay.

Another reason to consider not having lists of specific requirements for college students is that these lists in today's college catalogs may not be there for the *educational* reasons most commonly cited. It is very possible that these lists are there most frequently as a substitute for advising. A list of requirements is a substitute for a faculty member's sitting down and talking with a student about his educational goals and the goals of the college and how these might be best fulfilled in his case. It is a replacement for a faculty member's thinking about why this particular student would benefit, in that faculty member's judgment, from taking this or that course and then attempting to communicate that rationale to the student. It is a substitute for the kind of discussion about learning and goals of learning between a young learner and a more experienced learner that should be at the very center of our educational process.

Why is the advising task viewed as so onerous? Why is it avoided? Could it be because faculty members find it no easier to think about these things and then organize, synthesize, and communicate these thoughts than do students, whom they sometimes criticize for avoiding these same activities? Some faculty members say, "It all just takes too much time"—time away from their research, which is, for some, the main reason for residing in an academic community; time away from their teaching—after all, discussing educational goals, values, and attitudes with students is not teaching, is it; we all know that too often teaching consists primarily of lecturing; often, lecturing about information that could be more easily analyzed and organized if studied in printed form.

It is hard to come by evidence that teaching, as it is normally defined in academe, has had any lasting impact on college students. Teaching of the future must contain a larger component of thoughtful, goal-oriented discussion about learning between a more experienced learner, the teacher, and the less experienced learner, the student. Obviously, this calls for a reallocation of time on the part of the teacher—more of a concern for meeting a student's need to learn and less of a preoccupation, on the part of a teacher, with meeting his own particular psychological needs through teaching in the time-honored manners.

But what does all of this have to do with physical education? My point is that while I definitely believe physical education is important, I do not believe it should be required any more than social science, or physical science, or humanities should be required. Were not most students exposed to physical education in high school? Isn't there the very high probability that educated people will give new attention to their physical condition after college, particularly at a time when our society's value of this condition is so emphasized? How many students required to take physical education fulfill the requirement with basketball or football or softball already learned? How many learn new sports of greater future value? How many would fail to take up tennis or skiing at a later date because they had not taken a course in college? If you will permit a personal reference, I did not learn golf, or badminton, ...ing, or biking, or skiing in college. Since college, I have engaged in all of these

activities. I took up tennis during college but on my own during the summers. I fulfilled my physical education requirement with the usual sports learned in high school plus archery and wrestling, neither of which I have engaged in since.

The question must be, what are we trying to accomplish with a requirement? And does it really accomplish that purpose? Is the distaste generated for sports activity by forced participation balanced by an increase in post-college physical exercise produced by exposure to and development of skills in carry-over sports? I seriously doubt it.

Whatever the purpose of teaching physical education in college, I believe that it can be accomplished with greater net result by an attractive voluntary physical education program coupled with conscientious advising by an educated faculty.