The Physical Educator Vol. 73 • pp. 671–688 • 2016
https://doi.org/10.18666/TPE-2016-V73-I4-6554

PEDAGOGY

Content Analysis of Conceptually Based Physical Education in Southeastern United States Universities and Colleges

Suzanne Ellen Williams, Leon Greene, Sonya Satinsky, John Neuberger

Abstract

Purpose: *The purposes of this study were to explore PE in higher education through the offering of traditional activity- and skills-based physical education (ASPE) and conceptually based physical education (CPE) courses and to conduct an exploratory content analysis on the CPE available to students in randomized colleges and universities in the Southeastern United States.* ***Method:*** *A randomized sample of 56 institutions was screened to determine if PE and CPE courses were offered and/or required, followed by a closer examination of the CPE courses.* ***Results:*** *Preliminary research indicated that 73% of the institutions required PE as a general education requirement, 77% offered CPE, and 46% included CPE in the general education requirements. Further research suggested that upon comparison to national health- and PE-related standards and recommendations, many course content analysis criteria dependent variables including course components, description and objectives, curriculum, and evaluation scored 50% or higher, which indicated shared characteristics among all of the CPE courses.* ***Conclusions:*** *PE and CPE are important components of high-*

Suzanne Ellen Williams is an assistant professor, Kinesiology and Sport Science, University of South Dakota. Leon Greene is an associate professor, Health, Sport, & Exercise Sciences, University of Kansas. Sonya Satinsky is director, Center for Health Promotion, University of Massachusetts. John Neuberger is a professor, Preventive Medicine and Public Health, University of Kansas Medical Center. Please send author correspondence to suzanne.williams@usd.edu

er education, with the majority of the institutions in this sample including PE in their general education requirements. In addition, most of these institutions offered CPE, with nearly half stipulating a CPE requirement. More specifically, this sample of CPE courses shared many commonalities. Programming combining health education concepts in the classroom and regular PA and exercise in a laboratory setting may encourage students to have active, healthy lifestyles during the semester of enrollment that can be continued later in life.

A variety of physical education (PE) programs are being offered in higher education, including activity- or skills-related physical education (ASPE) and conceptually based physical education (CPE). Basic ASPE instructional programs were initially developed to be offered to the general college and university student populations and were designed to introduce the principles of health education and foster physical and skill development (Sloane & Sloane, 1986). Still today, students and faculty recognize these courses as central to PE programming on most college and university campuses. The status and nature of this activity- or skills-related instruction has evolved over the years and continues to be regarded as an important component of PE.

CPE was implemented to expand upon the traditional activity- and skills-based programming and, in addition, to build on that foundation by integrating physical activity (PA) and exercise with health and fitness concepts (Brynteson & Adams, 1993). CPE is considered a multidimensional course with the underlying philosophy that students should be instructed in a greater awareness of the importance of PA and exercise, in understanding their exercise needs more fully, and in the means to gain the most from their exercise to fulfill these needs (Corbin & Laurie, 1978). The significance of this type of course, then and now, is its intellectual and experiential qualities. Primary goals of the lecture are to assist college and university students in achieving an appropriate level of health and science literacy, to equip them with the knowledge and analytical skills needed to navigate through the labyrinth of diet and exercise myths and programs in today's society, and to support active students' health and exercise efforts. This type of course can promote not only an improved understanding of concepts such as energy balance and proper nutrition, but also the characteristics and prac-

tices of optimal health, thereby aiding students in exerting healthful behavioral change. The associated lab provides the opportunity to learn and practice various forms of PA and exercise and to use the coinciding concepts being learned in the classroom.

Literature Review

Higher education institutions slowly began to embrace CPE programming in the 1960s. In 1966, proponents for this concepts-based approach strongly believed that knowledgeable students had an increased likelihood to engage in healthy decision-making concerning their PA, fitness behaviors, and health (Carr & Walker, 1968; Corbin & Laurie, 1978; Flath & Leigh, 1966; Hallatt & Koenig, 1967).

The literature reveals that CPE-related course offerings including lifetime fitness classes are being broadly offered and addresses specific successful programs such as Project GRAD (Graduate Ready for Activity Daily; Calfas et al., 2000; Sallis et al., 1999), ARTEC Project (Active Recreation Tertiary Education Campuses; Leslie, Sparling, & Owen, 2001), Project TEAM (Teaching Exercise/Activity Maintenance; Buckworth, 2001), Training Interventions and Genetics of Exercise Response (TIGER) Study (Sailors et al., 2010), among many others, though not all are identified in this literature review (Adams, 1992; Brynteson & Adams, 1993; Carr & Walker, 1968; Corbin & Laurie, 1978; Flath & Leigh, 1966; Hallatt & Koenig, 1967; Laurie, 1981; Pearman, Valois, Sargent, Saunders, Drane, & Macera, 1997; Slava, Laurie, & Corbin, 1984; Terry, Erickson, & Johnson, 1977; Trimble & Hensley, 1990).

These intervention-inspired courses and programs were designed to highlight the importance of advocating, educating, and supporting integrated methodologies fusing the exercise and behavioral sciences, as well as the importance of providing opportunities and guidance in the application of these to students' lives. Some offerings included comprehensive CPE-based courses, complete with a lecture component, which is intended to educate college and university students about the health benefits of PA and risks of physical inactivity, the recommended PA and exercise patterns to promote health and fitness, the principles of injury prevention, and the theories and methods of behavioral self-management (Sallis et al., 1999), and a lab component to teach physical activities and help students use self-management techniques to implement their own exercise

program. Other institutions proffered activity-inspired media promotion and activity class programming, providing demonstrations of various activities, assorted fitness classes, and fitness assessments to students at no charge. Participation in these course offerings, programs, and services demonstrated that the majority of the students complied with exercise protocol, persisting in exercise despite encountering barriers such as finances, time, and other obligations. Such efforts also demonstrated that matching intervention offerings to students' perceived needs and preferences could influence PA in the university setting. Last, an increased adoption and maintenance of PA and exercise among young adults in transition from college and university to the adult roles was also witnessed. The motivation and success of these early documented offerings appear to be based on college credit, on merely student self-efficacy—based on the nonjudgmental approach used in the studies to teach students to exercise within their target heart rate zone, which should have produced positive physical changes—and on the social contexts of group/class membership.

Despite a lack of more recent research studies, the knowledge of theory and application learned through previous work continues to guide and support CPE programming. Since its early implementation in the 1960s, slow evolvement in the 1970s, and growth surge in the 1980s, this type of programming has seen a great deal of study and implementation in the 1990–2000s (Corbin & Laurie, 1978). Trimble and Hensley (1990) reported that approximately half of the surveyed colleges and universities offered a concepts-based course, and 33% of all higher education institutions accepted this type of PE course as a general education requirement. Other statistics show that by 2000 the percentage of higher education institutions offering a lecture–laboratory course increased to 60%. There was further growth with 90% of the reporting colleges and universities offering CPE in 2009 (Kulinna, Warfield, Jonaitis, Dean, & Corbin, 2009). There has been an upwards trend in the increased offering of CPE in the last few decades, but there is also the threat of all PE being discontinued as a requirement, and even eliminated altogether, because of the lack of financial resources and call to revise and/or decrease graduation requirements (Coe, Pivarnik, Womack, Reeves, & Malina, 2006; Kupchella, 2009). Efforts need to be continually

sought to research CPE programming and its provision of physical and health education sufficiently, including effective exercise interventions to young adult college and university students while they are in school and well beyond in their lifetime.

Method

Purpose and Design

The purposes of this study were to investigate the offering of ASPE and CPE courses and to conduct an exploratory content analysis on the CPE available to students in randomized colleges and universities in the Southeastern United States. The primary intent was to explore and analyze CPE courses to determine commonalities among the programs. The secondary purpose was twofold: (a) to obtain a description of the PE requirements (including ASPE and CPE) at each institution and (b) to determine whether each institution offers CPE as an elective.

The design of this research study was a randomized exploratory content analysis. The National Center for Education Statistics (NCES) was researched to identify 4-year general education public and private liberal arts colleges and universities in the Southeastern region of the United States including the states of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia. According to these statistics, there are 296 colleges and universities in this geographical area (NCES, 2013). A random sample of approximately 20% was generated through SPSS, with 56 correctly identified to be subject to further analysis. Approval was sought from the institutional review boards (IRBs) at the principal investigator's institutions; however, it was deemed unnecessary because human participants were not used.

Procedures

Following the randomized selection of colleges and universities in the Southeast, preliminary research concerning their PE requirements and CPE course offerings was completed. General education requirements from the institutions' program catalogs were examined to determine the presence of PE requirements and availability of CPE programming. Further research included contacting the

identified department or staff affiliated with PE from each of the randomized institutions, and the following CPE course materials were requested: course syllabus, which was looked to contain the course components (duration of semester, percentages of lecture and activity), description and objectives, curriculum topics, and coursework to be evaluated; exams covering the material taught; and handouts or descriptions of course topics, assignments, activities, technology, or teaching aids not referred to in the course syllabus. Study participation was noncompensated and voluntary. Each institution was assured that information collected would be used only for study purposes and remain confidential.

CPE course content was sought through direct examination of the course by reviewing the aforementioned materials; however, if a lack of clarity existed, questions were posed to the appropriate department/staff of the institution. For this course content analysis, message content was the primary focus, with the primary investigator responsible for key word coding. A highlighted key word or phrase from each criterion was compared to the data obtained from the course components, description and objectives, curriculum topics, and evaluation, and it was determined whether each message content variable was compliant. The syllabus was relied upon to provide this information and acquired through the department/course webpage on the website of the institution and/or requested directly from the instructor listed to teach the course.

CPE course content analysis was facilitated through a modified content analysis system assessment instrument that was developed including a number of criteria dependent variables. The creation of these dependent variables was guided, in part, through the culmination of slight modifications from primarily three references. These sources of guidance included the Health Education Curriculum Analysis Tool (HECAT) and the Physical Education Curriculum Analysis Tool (PECAT), both created by the Centers for Disease Control and Prevention (CDC) for school and adolescent health, and Knowledge, Skills, and Abilities (KSAs), as identified and recognized by the American College of Sports Medicine (ACSM). In addition, the investigator proposed a small number of curriculum content-related additions. The proposed additions included broader health topics often offered in more inclusive lifetime

health-and-wellness-related courses, but not included in the references from the CDC and the ACSM.

The HECAT builds on the "characteristics of effective health education curricula" (CDC, 2009, p. 1) and health education topic module areas as recognized by the CDC, as well as the National Health Education Standards (NHES) formulated by the Joint Committee on National Health Education Standards (CDC, 2009). The PECAT is based on the National Standards for Physical Education (NSPE) as set forth by the National Association for Sport and Physical Education (NASPE) that are required to be incorporated into successful school PE programs (CDC, 2006). The KSAs declared by the ACSM are a set of expectations often applied to higher education exercise-science-related degree courses and health-and-fitness-related general education (ACSM, 2010). In addition, other unique criteria dependent variables that have been recognized to be included in lifetime health-and-wellness-related courses were sought and recorded including stress management, as well as spiritual, social, and environmental health (Kupchella, 2009; LaFountaine, Neisen, & Parsons, 2006; McCormick & Lockwood, 2006; McGee, Nagel, & Moore, 2003). All of the course content analysis criteria dependent variables were modified and developed, with the key terms or phrases highlighted, and used for this study in the review of CPE course components, description and objectives, curriculum, and evaluation measures (see Table 1).

Table 1
CPE Course Content Analysis Criteria Dependent Variables

Source of guidance	Description
Course Components	
HECAT.C11	Course provides adequate time for instruction and opportunity for learning (semester duration)
PECAT9-12.S3	Associated lab allows learner to participate regularly in physical activity (% lecture, activity)

Table 1 (cont.)

Source of guidance	Description
Description and Objectives	
HECAT.C1	Focuses on clear health goals and related behavioral outcomes
HECAT.C2	Is research based and theory driven
HECAT.C3	Addresses individual and group norms that support health-enhancing behaviors
HECAT.C5	Addresses social pressures and influences
HECAT.C10	Incorporates learning strategies, teaching methods, and materials that are culturally inclusive
Curriculum	
HECAT.M.PHW/HECAT.C7	Personal health and wellness
HECAT.M.PA/PECAT9-12.S2	Physical activity/fitness/exercise principles[a]
ACSM.1.8	Body composition[a] and weight management
ACSM.1.2	Pathophysiology and risk factors/prevention
DSADD.1[a]	Stress management
HECAT.C4,5/ACSM.1.9	Human behavior and counseling
HECAT.M.ATD	Alcohol, tobacco, and other drugs
HECAT.M.SH	Sexual health
HECAT.M.S	Safety
HECAT.M.V	Violence
HECAT.M.MEH	Mental and emotional health
DSADD.2[a]	Spiritual health
DSADD.3[a]	Social health
DSADD.4[a]	Environmental health

Table 1 (cont.)

Source of guidance	Description
Evaluation	
Pre-, post-fitness assessment	
PECAT9-12.S2	The learner demonstrates understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities
Quizzes, exams	
HECAT.S1	Students will comprehend concepts related to health promotion and disease prevention to enhance health
Personal improvement project Journal (incl. exercise)	
HECAT.S2	Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors
HECAT.S5	Students will demonstrate the ability to use decision-making skills to enhance health
HECAT.S6	Students will demonstrate the ability to use goal-setting skills to enhance health
HECAT.S7	Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks
HECAT.C4	Focuses on increasing personal perception of risk and harmfulness of engaging in specific health risk behaviors and reinforcing protective factors
HECAT.C5	Addresses social pressures and influences
HECAT.C6	Builds personal competence, social competence, and self-efficacy by addressing skills

Table 1 (cont.)

Source of guidance	Description
HECAT.C7	Provides functional health knowledge that is basic, is accurate, and directly contributes to health-promoting decisions and behaviors
HECAT.C9	Provides age- and developmentally appropriate information, learning strategies, teaching methods, and materials
HECAT.C12	Provides opportunities to reinforce skills and positive health behaviors
PECAT9-12.S4	The learner achieves and maintains a health-enhancing level of physical fitness
PECAT9-12.S6	The learner values physical activity for health, enjoyment, challenge, self-expression, and/or social interaction
Wellness research paper	
HECAT.S3	Students will demonstrate the ability to access valid information and products and services to enhance health
Discussions, activities, case studies	
HECAT.S4	Students will demonstrate the interpersonal communication skills to enhance health and avoid or reduce health risks
HECAT.C3	Addresses individuals and group norms that support health-enhancing behaviors
HECAT.C8	Uses strategies designed to personalize information and engage students
HECAT.C13	Provides opportunities to make positive connections with influential others

Table 1 (cont.)

Source of guidance	Description
Community health advocacy project	
HECAT.S8	Students will demonstrate the ability to advocate for personal, family, and community health

Note. ACSM.1 = ACSM Knowledge, Skills, and Abilities. General Population; DSADD = Dissertation Study Added Component (criteria independently added by investigator); HECAT.C = Health Education Curriculum Analysis Tool. Characteristics of Effective Health Education Curricula; HECAT.M = Health Education Curriculum Analysis Tool. Health Topic Modules; HECAT.S = Health Education Curriculum Analysis Tool. National Health Education Standards; PECAT9-12.S = Physical Education Curriculum Analysis Tool for 9th–12th grade. National Standards for Physical Education.

[a]Component added to existing criteria.

The HECAT health education curricula and the NSPE from the PECAT were referenced in the analysis of the CPE course components, description and objectives, and some modes of evaluation. HECAT health education curricula and health topic modules, NSPE from the PECAT, the ACSM KSAs, and independently added criteria provided curriculum guidance. And primarily the NHES and health education curricula of the HECAT, along with select NSPE from the PECAT, enabled analysis of evaluation within the CPE courses. Various types of recognized evaluations demonstrating the NHES and health education curricula of the HECAT were included, NSPE from the PECAT were included, and review provided opportunity for other modes to be identified.

The content analysis criteria dependent variables used for this research were sought from professional organizations for educators and practitioners intended to provide guidelines for school-aged and adolescent health education. These recognized standards pertain to slightly younger age groups in particular, but the organizations attempt to reach all children and adolescents, preparing them for young adulthood. Given the relatively close proximity in age, as well as the decline of participation in daily PE, these guidelines seem to be justifiable for the young adult college and university student population (CDC, 2006). Accordingly, given the role of career preparation for health educators and exercise-science-related practitioners, these

review methods tend to provide more stringent health and exercise education standards because their use is intended to govern health-, sports-medicine-, and exercise-science-related education and practices. The CPE courses in this study were not designed to prepare professionals for the health education or exercise science fields; however, their related curricula were intended to instruct and provide quality experiences and support for health and fitness knowledge by providing competency-based health education. The use of such strict guidelines composing the modified content analysis system of this study was predicted to be appropriate and deemed reliable because it would reinforce the importance of the depth and breadth of CPE for the college and university student populations.

Data Analysis

Descriptive statistics were used to look at the primary and secondary foci of this study. For the primary investigation of CPE course content, 20 of the 56 (36%) institutions responded to the initial inquiry of course materials. The CPE course syllabus was the primary resource provided by all of the participating institutions, with two offering access to other course materials on an online course management platform. Therefore, the syllabus was the focus in the analysis of the course content. All of the CPE courses shared many commonalities, including their course components, description and objectives, curriculum, and evaluation. Descriptive statistics revealed that 17 of the 28 course content criteria dependent variables scored 50% or higher for 61% of the courses sharing commonalities and characteristics (see Table 2). For the secondary investigation regarding the institutional PE requirements and CPE offering, the investigator examined all 56 institutions through independent research of the course catalog for each institution. PE was included in the general education requirements in 41 of the 56 randomized institutions, for 73%. Furthermore, of these, 26 out of 56 (46%) specifically had a CPE requirement. Additionally, a CPE course offering was found in 43 of the 56 institutions, revealing that 77% of the randomized institutions offered a CPE-related course as either a required course or an elective course (see Table 3).

Table 2
CPE Exploratory Content Analysis Results

Criteria dependent variables	Institutions *N* = 20	%
Course components		
Adequate time	20	1.00
Regular PA	15	.75
Description and objectives		
Clear health goals, behavioral outcomes	20	1.00
Research based, theory driven	20	1.00
Individual and group health-enhancing norms	18	.90
Social pressures, influences	15	.75
Culturally inclusive teaching strategies, materials	3	.15
Curriculum		
Personal health and wellness	20	1.00
PA/fitness/exercise principles	20	1.00
Nutrition and healthy eating	19	.95
Body composition and weight management	17	.85
Pathophysiology and risk factors/prevention	15	.75
Stress management	18	.90
Human behavior and counseling	12	.60
Alcohol, tobacco, and other drugs	12	.60
Sexual health	9	.45
Safety	10	.50
Violence	3	.15
Mental and emotional health	6	.30
Spiritual health	2	.10
Social health	6	.30
Environmental health	4	.20
Evaluation		
Pre-, post-fitness assessment	9	.45
Exams, quizzes	18	.90
Personal improvement project; journal; self-evaluation	16	.80
Wellness research paper	7	.35
Small group discussions, activities, case studies	8	.40
Community health advocacy/promotion assignment	1	.05

Table 3
PE Requirements/CPE Course Offerings

Institutional requirements/course offerings	Institutions $N = 56$	%
PE general education requirement	41	.73
CPE general education requirement	26	.46
CPE course offering	43	.77

Discussion

The investigation and review of data for this exploratory content analysis study were based on an inductive approach focusing on specific observations leading to generalizations and inferences about the likenesses of CPE courses and of PE and CPE course offerings and requirements (Prince & Felder, 2006). Course materials were solicited, with primarily the syllabus being supplied and serving as the evidence. Then careful examination took place, and the course syllabi were compared to the content analysis criteria dependent variables that composed the modified assessment instrument. Key content words and phrases taken directly from national educational and professional standards that served as the criteria dependent variables were presumed to be trustworthy and reliable. After considerable review that led to a discernible pattern, results indicated many commonalities among the CPE course offerings. The similar content criteria inferred that the educators in the randomized CPE courses were attempting to incorporate the recommendations based on the expert guidance of the CDC, Joint Committee on National Health Education Standards, NASPE, and ACSM into their course content. In addition, the inclusion of PE in the general education requirements and CPE offerings of the institutions demonstrated a fairly optimal perspective on the importance of PE and CPE, with the majority of the institutions requiring PE as an integral component of their general education curriculum as well as offering CPE. In fact, nearly half required the latter, particularly as a part of their general education requirements. These results suggest the vital importance of CPE programming as a specific, notable part of general education. This study yielded comparable results to earlier studies, even demonstrating a higher statistical finding that approximately 77% of

colleges and universities offer CPE and 46% accept it as a general education requirement (Kulinna et al., 2009; Trimble & Hensley, 1990). Paralleled growth was also evident, with 60% of higher education institutions offering CPE by 2000 and 73% currently, according to this study sample, though it appears that growth may have spiked at 90% in 2009 (Kulinna et al., 2009). Despite the slight decrease, CPE in higher education remains fairly high. However, even this decrease demonstrates the need for continued research and support to maintain and support CPE programming.

Conclusion

This study yielded a number of conclusions. CPE offers students attainment of the intellectual knowledge of health and fitness learned in the classroom and the experiential opportunity to participate in regular PA and exercise in a laboratory setting, thereby encouraging lifelong habits associated with an active, healthy lifestyle. Thus, CPE programming should continue to be implemented to include physical and health education, along with PA and exercise recommendations, at the higher education level for maximum effectiveness. Moreover, CPE is an effective measure in positively affecting the lives of college and university students during the time of their enrollment in the course and in preparing them to strive to attain regular PA and improved health throughout their lifetime. Further study is warranted into the curricular content of CPE courses to bolster present and future CPE programming.

Recommendations

Based on the utilized methodology and findings of this study, there are a number of suggested recommendations for future research. To aid research, researchers might provide an incentive for participating institutions to fulfill an entire request of course materials including the syllabus, topic schedule, exam copies, coursework, and other instructional aids or additionally request access to CPE instructors' online classroom management platforms to gain additional course materials and perspective into the manner in which the courses are taught. Another measure to ensure greater reliability and validity is use of a panel of investigators designated to review the course materials, rather than only one primary investigator. For further investigation into content and possibly pedagogy, researchers

could inquire about the course (student) enrollment to gain further insight into instructor–student ratio; class participation; and successful, sustainable pedagogical methods.

References

Adams, T., II. (1992). A comparison of attitudes and exercise behaviors of alumni from universities with varying degrees of physical education programs. *Research Quarterly for Exercise and Sport, 63,* 148–152. https://doi.org/10.1080/02701367.1992.10607574

American College of Sports Medicine. (2010). *ACSM's guidelines for exercise testing and prescription* (8th ed.). Philadelphia, PA: Lippincott, Williams, & Wilkins.

Brynteson, P., & Adams, T. M., II. (1993). The effects of conceptually based physical education programs on attitudes and exercise habits of college alumni after 2–11 years of follow-up. *Research Quarterly for Exercise and Sport, 64,* 208–214. https://doi.org/10.1080/02701367.1993.10608798

Buckworth, J. (2001). Exercise adherence in college students: Issues and preliminary results. *Quest, 53,* 335–345. https://doi.org/10.1080/00336297.2001.10491750

Calfas, K. J., Sallis, J. F., Nichols, J. F., Sarkin, J. A., Johnson, M. F., Caparosa, S., . . . Alcaraz, J. E. (2000). Project GRAD: Two-year outcomes of a randomized controlled physical activity intervention among young adults. *American Journal of Preventive Medicine, 18,* 28–37. https://doi.org/10.1016/S0749-3797(99)00117-8

Carr, W., & Walker, W. (1968). Adapting "foundations" to the small liberal arts college program. *The Physical Educator, 25,* 27–28.

Centers for Disease Control and Prevention. (2006). *Physical Education Curriculum Analysis Tool (PECAT)*. Retrieved from http://www.cdc.gov/healthyyouth/pecat/pdf/PECAT.pdf

Centers for Disease Control and Prevention. (2009). *Health Education Curriculum Analysis Tool (HECAT) overview.* Retrieved from http://www.cdc.gov/healthyyouth/hecat/pdf/hecat_overview.pdf

Coe, D. P., Pivarnik, J. M., Womack, C. J., Reeves, M. J., & Malina, R. M. (2006). Effect of physical education and activity levels on academic achievement in children. *Medicine & Science in Sports & Exercise, 38,* 1515–1519. https://doi.org/10.1249/01.mss.0000227537.13175.1b

Corbin, C. B., & Laurie, D. (1978). Exercise for a lifetime: An educational effort. *Physician and Sports Medicine, 7,* 51–55.

Flath, A., & Leigh, R. (1966). "Know why" in basic instruction. *The Physical Educator, 23,* 163–164.

Hallatt, D., & Koenig, W. (1967). The "hows" or "whys": Which comes first? *The Physical Educator, 24,* 171–172.

Kulinna, P. H., Warfield, W. W., Jonaitis, S., Dean, M., & Corbin, C. (2009). The progression and characteristics of conceptually based fitness/wellness courses at American universities and colleges. *Journal of American College Health, 58,* 127–131. https://doi.org/10.1080/07448480903221327

Kupchella, C. E. (2009). Colleges and universities should give more broad-based attention to health and wellness—at all levels. *Journal of American College Health, 58,* 185–186. https://doi.org/10.1080/07448480903375946

LaFountaine, J., Neisen, M., & Parsons, R. (2006). Wellness factors in first year college students. *American Journal of Health Studies, 21,* 214–218.

Laurie, D. (1981). Knowledge, attitudes, and reported behavior before and after a lecture-laboratory physical fitness class. *The Physical Educator, 38,* 50–54.

Leslie, E., Sparling, P. B., & Owen, N. (2001). University campus settings and the promotion of physical activity in young adults: Lessons from research in Australia and the USA. *Health Education, 101,* 116–125. https://doi.org/10.1108/09654280110387880

McCormick, J., & Lockwood, P. (2006). College student perception of wellness concepts. *The Physical Educator, 63,* 78–103.

McGee, M., Nagel, L., & Moore, M. K. (2003). A study of university classroom strategies aimed at increasing spiritual health. *College Student Journal, 37,* 583–595.

National Center for Education Statistics. (2013). College navigator. Retrieved March 5, 2013, from http://nces.ed.gov/collegenavigator/?s=AL+AR+FL+GA+KY+LA+MS+NC+SC+TN+VA+WV&l=93&ic=1

Pearman, S. N., III, & Valois, R. F., Sargent, R. G., Saunders, R. P., Drane, J. W., & Macera, C. A. (1997). The impact of a required college health and physical education course on the health status of alumni. *Journal of American College Health, 46,* 77–85. https://doi.org/10.1080/07448489709595591

Prince, M. J., & Felder, R. M. (2006). Inductive teaching and learning methods: Definitions, comparisons, and research bases. *Journal of Engineering Education, 95,* 123–138. https://doi.org/10.1002/j.2168-9830.2006.tb00884.x

Sailors, M. H., Jackson, A. S., McFarlin, B. K., Turpin, I., Ellis, K. J., Foreyt, J. P., . . . Bray, M. S. (2010). Exposing college students to exercise: The training interventions and genetics of exercise response (TIGER) study. *Journal of American College Health, 59,* 13–20. https://doi.org/10.1080/07448481.2010.483712

Sallis, J. F., Calfas, K. J., Nichols, J. F., Sarkin, J. A., Johnson, M. F., Caparosa, S., . . . Alcaraz, J. E. (1999). Evaluation of a university course to promote physical activity: Project GRAD. *Research Quarterly for Exercise and Sport, 70,* 1–10. https://doi.org/10.1080/02701367.1999.10607725

Slava, S., Laurie, D., & Corbin, C. B. (1984). Long-term effects of a conceptual physical education program. *Research Quarterly for Exercise and Sport, 55,* 161–168. https://doi.org/10.1080/02701367.1984.10608393

Sloane, D. C., & Sloane, B. C. (1986). Changing opportunities: An overview of the history of college health education. *Journal of American College Health, 34,* 271–273. https://doi.org/10.1080/07448481.1986.9938949

Terry, J. W., Erickson, C., & Johnson, D. J. (1977). Changing habits by changing attitudes. *Journal of Physical Education, Recreation, and Dance, 48,* 13.

Trimble, R. T., & Hensley, L. D. (1990). Basic instruction programs at four-year colleges and universities. *Journal of Physical Education, Recreation, and Dance, 61,* 64-73. https://doi.org/10.1080/07303084.1990.10604555