

COMPONENTS AND ISSUES OF AN EXEMPLARY MIDDLE LEVEL  
PHYSICAL EDUCATION PROGRAM: EXPERT OPINION

by

Dawn Karyl McCrumb

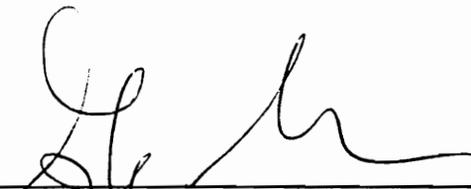
Dissertation submitted to the faculty of the  
Virginia Polytechnic Institute and State University  
in partial fulfillment of the requirements for the degree of

DOCTORATE OF EDUCATION

in

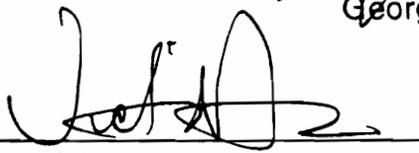
Curriculum and Instruction

APPROVED:



---

George Graham, Chair



---

V. Fu



---

M. Lichtman



---

T. Gatewood



---

J. Poole

September 4, 1997  
Blacksburg, Virginia

c.2

LD

5655

V856

1997

M397

c.2

COMPONENTS AND ISSUES OF AN EXEMPLARY MIDDLE LEVEL  
PHYSICAL EDUCATION PROGRAM: EXPERT OPINION

by

Dawn Karyl McCrumb

Committee Chair: George Graham

Curriculum and Instruction

ABSTRACT

A serious crisis stemming from a lack of quality programs, support, and clear direction currently faces secondary physical education throughout the United States. Therefore, the purpose of this study was to identify the components of an exemplary middle level physical education program and the issues facing the implementation of such a program. A three round modified Delphi questionnaire was employed to obtain consensus from a national panel of sixty experts in the fields of physical education, middle level education, and middle level physical education. The final analysis of data resulted in a consensus-based list of components of an exemplary middle level physical education program and the critical issues facing the implementation of such a program. With the identification of the important components and issues, perhaps a clear definition and direction for change will begin to emerge to help improve the lack of identity, poor conditions, and marginality that currently plague middle level physical education.

## ACKNOWLEDGMENTS

Dr. George Graham is the epitome of an educator. His vision to change the world of physical education for elementary children has motivated me to do the same for young adolescents at the middle level. His guidance, patience, and friendship mean much to me. I thank him for the exemplary mentorship he provided in the process of my becoming a better teacher educator.

I want to thank the sixty experts who participated in this study and contemplated on middle level physical education. Their combined opinion will hopefully provide useful insight for the development of exemplary middle level physical education programs.

Thanks is extended to my committee, Drs. Tom Gatewood, Victoria Fu, Marilyn Lichtman, and Jon Poole for their insights and suggestions. Each has challenged me: daring me to question, to discover, and to look beyond the ordinary.

Special thanks go to my friends Starla, Steve, Rosie, and Wendy. Each has taught me about friendship and collegiality by providing unconditional encouragement and support. The confidence, motivation, and white zinfandel they so freely shared with me has been most appreciated.

Last, but far from least, I want to thank my friend Betsy. My adventure through graduate school would not have been realized without her initial encouragement and support.

## DEDICATION

This dissertation is dedicated in loving memory of my dad, Chester LeRoy McCrumb, Jr., whose boundless love and encouragement I will never forget. I also dedicate this work to my mom, Joan L. Smerkol McCrumb, for her love, endless prayers, and eternal optimism she so graciously provides throughout my life.

## TABLE OF CONTENTS

	Page
Abstract . . . . .	ii
Acknowledgments . . . . .	iii
Dedication . . . . .	iv
Table of Contents . . . . .	v
List of Tables . . . . .	x
Chapter I	
INTRODUCTION . . . . .	1
Young Adolescence . . . . .	3
Special Needs . . . . .	3
Educational Response to Special Needs . . . . .	4
The Emergence of the Middle School . . . . .	4
The Middle Level Movement . . . . .	5
Growth and Reform . . . . .	6
Middle Level Physical Education at a Crossroads . . . . .	7
A Cure for Middle Level Physical Education. . . . .	9
A Lack of Identity . . . . .	10
Emerging Support for Middle Level PE . . . . .	12
Recent Backlash . . . . .	12
Statement of Purpose . . . . .	14
Research Questions . . . . .	14
Significance of the Study . . . . .	14
Delimitations . . . . .	15
Limitations. . . . .	16

Definition of Terms . . . . .	16
Summary . . . . .	19
<b>Chapter 2</b>	
REVIEW OF LITERATURE. . . . .	21
Development during Young Adolescence . . . . .	21
The Physical Domain . . . . .	24
The Cognitive Domain . . . . .	28
The Social Domain . . . . .	31
The Emotional Domain . . . . .	32
Middle Level Literature . . . . .	35
Historical Perspective . . . . .	35
The Middle School Concept . . . . .	38
Physical Education Literature . . . . .	42
Research on Middle Level Physical Education . . . . .	45
The Delphi Technique . . . . .	46
Summary. . . . .	49
<b>Chapter 3</b>	
METHODOLOGY . . . . .	51
The Delphi Technique . . . . .	51
Questionnaire Design . . . . .	52
First Pilot Study . . . . .	52
Second Pilot Study . . . . .	52
Expert Selection . . . . .	54
Expert Criteria . . . . .	54

Procedures . . . . .	56
Respondents . . . . .	56
Data Collection . . . . .	57
Round One . . . . .	58
Round Two . . . . .	59
Round Three . . . . .	60
Statistical Analysis. . . . .	61
Rounds One, Two, and Three . . . . .	61
Summary . . . . .	62

Chapter 4

PRESENTATION OF DATA . . . . .	63
Round One . . . . .	63
Analysis of Round One . . . . .	64
Round Two . . . . .	73
Analysis of Round Two . . . . .	73
Round Three . . . . .	74
Analysis of Round Three . . . . .	74
Congruency of Components . . . . .	78
Carnegie Recommendations . . . . .	79
Appropriate Practice Guidelines . . . . .	81
Congruency of Issues . . . . .	83
Carnegie Recommendations . . . . .	84
Appropriate Practice Guidelines . . . . .	84
Summary . . . . .	89

Chapter 5

DISCUSSION AND IMPLICATIONS . . . . .	90
A Voice of Consensus . . . . .	90
Components and Issues . . . . .	93
Non-Consensus Items . . . . .	95
Implications . . . . .	97
Teacher Education Programs . . . . .	98
Conditions Beyond the Control of the Profession . . . . .	101
Summary . . . . .	103

Chapter 6

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FUTURE RESEARCH . . . . .	105
Summary of Study . . . . .	105
Conclusions.. . . . .	107
Recommendations for Future Research . . . . .	108
REFERENCES . . . . .	112

APPENDICES

A	First Pilot Study . . . . .	131
B	Second Pilot Study . . . . .	140
C	Delphi Coverletter . . . . .	153
D	Expert Criteria Sheet . . . . .	154
E	Consent Form . . . . .	155
F	Round One Questionnaire . . . . .	157
G	Round Two Directions . . . . .	163
H	Round Two Questionnaire . . . . .	165

I	Round Three Directions . . . . .	171
J	Round Three Questionnaire . . . . .	173
K	Round Two Frequency Chart . . . . .	176
L	Weighted Scores of Components and Issues . . . . .	179
VITA	. . . . .	184

## LIST OF TABLES

Table		Page
1	Number of Research Articles in Leading PE Journals	11
2	Relevant Experience and Specialty of Experts . . . . .	56
3	Purpose of Individual Rounds . . . . .	58
4	Summary of Returns for Round One . . . . .	64
5	Items Achieving Consensus during Round One . . . . .	65
6	Items Achieving Consensus by Sub-Group/s . . . . .	68
7	Items Eliminated after Round One . . . . .	70
8	Additional Items Suggested by Experts . . . . .	71
9	Summary of Returns for Round Two . . . . .	73
10	Ranked Order of Components . . . . .	76
11	Ranked Order of Issues . . . . .	77
12	Congruency of Components & Carnegie Recommendations	79
13	Congruency of Components & Appropriate Practices	82
14	Congruency of Issues & Carnegie Recommendations	86
15	Congruency of Issues & Appropriate Practices . . . . .	88

## CHAPTER 1

### Introduction

Young adolescence is a distinct and unique time in life. Perhaps it is the energy or mystery of which an unknown author writes that captures our imagination when considering this transient stage.

Attempting to define a 'tween-ager' is equivalent to catching the wind, counting the raindrops in a thunderstorm, or wiping a broken egg off the kitchen floor. They actually defy containment and coherence, and just when you think you've got them, they slither off in another direction. (Ohio Middle School Journal, 1982)

Ironically, it is not only the 'tween-ager' who is undefined and often evasive. It appears that physical education for this particular age group is equally uncertain about itself. The lack of research on exemplary middle level physical education programs is disturbing. More so, is the lack of advancement and innovation by teachers over the years. Students can still be found in squads performing the same boring and often dangerous exercises or being subjected to the age old process of team selection in front of peers. Though there are many quality physical education programs and teachers, they unfortunately appear to be in the minority. An attempt to improve the state of physical education at the middle level by ensuring a safe, enjoyable place to learn skills, experience a variety of activities, and lead young adolescents in developing a healthy lifestyle is needed. If not, the future of physical education will

ultimately be extinct. Thus, this study was designed to reverse the lack of attention to the middle level by identify the components of an exemplary middle level physical education program and the issues facing the implementation of such a program. As this chapter convincingly illustrates, there is a critical need for a baseline study to stimulate professional conversation on this topic.

Therefore, Chapter One develops a case for this study by providing a summary of the special needs and educational responses associated with young adolescence; an account of the middle school movement; and an explanation of the current dilemma of secondary physical education particularly at the middle level. Together, this information leads the reader to the purpose of this study, the research questions which provided direction, the significance of the outcome, how the study was delimited by the researcher and the foreseen limitations, definition of terms, and finally a brief summary of the first chapter.

It must be remembered that it is the young adolescent who is the central reason for examining the components and issues connected with exemplary physical education programs. Therefore, it makes sense to begin with a review of who these students are and what they are about; their needs, development, and concerns. By focusing on pre-teens it is more likely that their needs will be addressed instead of what is traditionally believed to be necessary in a physical education program.

### Young Adolescence

No longer a child nor quite an adult, the young adolescent is caught between these worlds, and the difference between the two is immense. The physically developing body, broadening cognitive capability, expanding social circle, and evolving nature of emotions are in a state of flux, thus creating a dynamic yet unstable environment for the young adolescent. Adults tend to assume that since the physical body is maturing at such a rapid rate, all other developmental domains are equally progressing (Newton, 1995). This misconception is often a source of conflict between the adult and young adolescent. Suddenly, the 10 to 15 year old is accountable for higher standards, usually associated with adulthood, even though the young adolescent is incapable of regularly meeting such standards during this period of development (Manning, 1993).

### Special Needs

The young adolescent has a plethora of needs that are unique to this transescent stage of life (Eichhorn, 1987). Turbulence has long been associated with the movement from childhood to adulthood, often being referred to as stress and storm [italics added] (Hall, 1904). Although more change occurs during young adolescence than in any other period of life except for infancy (Bailey & Burton, 1982; Schickedanz, Schickedanz, Hansen, & Forsyth, 1993), it would be unfair to categorize all as rebellious, hormonal, struggling, outlandish, or boisterous. Yet, this popular, but distorted view has depicted young adolescents as irrational, precarious, and

troublesome, thus leading to misunderstanding and unnecessary fear of this age group (Stevenson, 1992).

### Educational Response to Special Needs

The special needs of young adolescents tend to present a predicament for the middle grader, parents, siblings, peers, teachers, and the school system. Physical growth spurts, advancement of cognitive abilities, emotional development including personal and sexual identity, extending social relationships, and an increase in parental expectations and personal responsibility combine to create special needs for this age group.

Throughout educational history there have been a number of attempts to address these special needs of young adolescents within the school structure. The National Middle School Association [NMSA] (1982) has suggested that, "the middle school is an educational response to the needs and characteristics of youngsters during transescence and, as such, deals with the full range of intellectual and developmental needs" (p. 9). It appears that educators are being encouraged to design developmentally appropriate programs that assist young adolescents through this transitional period of life-something junior highs were not designed to accomplish.

### The Emergence of the Middle School

The one room school house became obsolete shortly after the Civil War due to a dramatic increase in the number of students attending first through twelfth grade. Many school organizational patterns have since been developed to efficiently accommodate the

great influx of students attending public schools. However, these traditional patterns (e.g., 8-4 and 6-3-3) have "neglected the needs of young adolescents in the middle grades" (McEwin, 1992, p. 35), thus raising many questions about the appropriateness of grouping certain grades together (Carnegie Council on Adolescent Development [CCAD], 1989; Gatewood, 1981).

Young adolescents have traditionally been divided between the elementary and junior high schools. However, the middle level, sixth through eighth grades, provides a unique educational opportunity directed at addressing the special needs of young adolescents (NMSA, 1995). In addition, the CCAD (1989) suggests considering an alternative to traditional patterns due to the growing concern that the junior high model of seventh, eighth, and ninth grades is little more than a watered down senior high program lacking responsiveness to students' needs (Johnson, 1988).

### The Middle Level Movement

In response to the disillusionment with the junior high model, and the inclusion of kindergarten into the elementary level, educators have recognized the need for yet another organizational arrangement. Thus, the middle level movement was established in the early 1960's and led by William Alexander, respectfully known as the father of middle school (McEwin, 1992). This movement was created specifically to address the special needs of the young adolescent while easing the population overload in elementary schools. The middle level movement directs its attention to the

special needs of the students caught in the middle [italics added] of transition; that being elementary to senior high, and more importantly, childhood to adulthood.

### Growth and Reform

Since 1960, the total number of middle schools in the United States has grown from 20 to well over 7,000 and is currently outnumbering junior high schools two to one (Johnson, 1988). This phenomenal exodus from the junior high model to the middle school is, in part, based on the realization that sixth through eighth graders share similar needs which can be effectively addressed when assembled in one school (NMSA, 1982).

Middle level education is not the only area engaged in reform. The Carnegie Task Force on Teaching as a Profession (1986), the Holmes Group (1986), and the National Commission on Excellence in Education (1983) each issued a call for national reform in all levels of education. Site based management, empowerment of teachers, improved curriculum, and teacher accountability are some of the issues addressed in these reports.

Many national leaders in physical education are currently suggesting the need for reform, specifically at the secondary level (Locke, 1992; Siedentop & O'Sullivan, 1992; Stroot, 1994). Rink's (1993) words delivered to participants at a national physical education conference clearly defines the problem as follows: "The [physical education] profession as a whole has not made a

significant attempt to articulate what a good secondary program should be" (p. 2).

### Middle Level Physical Education at a 'Cross Road'

Physical education at the middle and high school level is currently standing at a crossroads, as grimly reported throughout Critical crossroads: Middle and secondary school physical education (Rink, 1993). The proceedings from the National Association for Sport and Physical Education conference in 1991 entitled "Critical Crossroads" highlighted two major issues: (a) the serious dilemma currently facing secondary physical education, and (b) the necessity to examine emerging reform throughout education as it relates to middle and high school physical education. Rink summarized this plight as follows: "Something is wrong in secondary physical education that needs attention, and although this crisis is acknowledged by many, few seem to know what to do to make it better. . ." (p. 1).

The lack of quality programs and support seem to be at the center of the secondary physical education problem (Rink, 1993). There are many reasons why physical educators need to take an active role in reversing this downward trend in middle and high school physical education. However, the most important reason for recognizing and addressing this problem is, of course, the students. Eliminating secondary physical education could prevent students from refining motor skills, participating in physical activity on a regular basis, understanding the benefits associated with physical

activity, or valuing activity and its contribution leading toward a healthy lifestyle as recommended in Healthy People 2000 (U. S. Department of Health & Human Services [USDHHS], 1990), the National Physical Education Standards (NASPE, 1995), and the Physically Educated Person document (NASPE, 1990).

Since physical activity declines as age increases and approximately 25% of 12-21 year olds report no vigorous activity (USDHHS, 1996) it might seem obvious that school health programs including physical education would be on the rise. However, research has indicated that although 92% of the middle grades require at least one course in physical education, only half require the equivalent of three years of physical education instruction (Pate, Small, Ross, Young, Flint, & Warren, 1995). To further illustrate this point, a Center of Disease Control and Prevention survey revealed that the Healthy People 2000 recommendation to increase the proportion of school age children participating in daily physical education by 50% not only failed to become a reality, but indicated a decrease in student participation (USDHHS, 1996).

Rink (1993) summarizes the arguments many believe contribute to the current dilemma and marginal position of physical education at the secondary level. Such arguments include:

1. Failure of the profession to articulate the goals of the program.
2. Failure on the part of state and local districts to have any expectations for secondary programs or hold secondary teachers accountable for quality programs or good teaching.

3. Failure on the part of teachers to act professional irrespective of a lack of accountability.
4. Failure of teacher preparation programs to prepare teachers for actual school settings and to support the teachers in the schools.
5. Conditions beyond control of the profession, such as 'back to basics' movement, current economic conditions, class size, and lack of equipment and facilities.

Rink is not alone in believing there are serious problems in secondary physical education. Other noted leaders echo the same concern about the status and problems at this level including Bain (1990), Graham (1990), Lambert (1989), Locke (1974), O'Sullivan (1989), Pate & Hohn (1994b), Siedentop (1987), and Templin (1987).

#### A Cure for Middle Level Physical Education

Siedentop (1992) urges physical educators "to think differently about secondary physical education" (p. 70) and insists that small changes will not be enough to elevate physical education to much more than "a marginal subject in secondary education" (p. 69). Siedentop suggests:

We need to develop a new American physical education.

We need to develop forms of physical education that differ dramatically from multi-activity programs that dominate our curricula. We need to restructure. We need to take risks. We need to produce results. (p. 70)

The battle cry has been sounded. Secondary physical education, as we know it, is not working. Physical educators must engage in a

major, creative overhaul of programs to become an integral part of the secondary education inclusive of the middle level.

### A Lack of Identity

It is a telling sign that few references in Critical crossroads: Middle and secondary school physical education (Rink, 1993) specifically address the middle level. This is a common phenomenon for middle level education to be viewed as a part of the elementary or secondary program and not as its own entity. Basically, the middle level is "suffering from a lack of identity in the media and elsewhere" (Johnson, 1988, p. 27) and it is no different in physical education. Placek (1992) suggests this lack of identity as one of the major problems affecting middle level physical education.

The absence of identity for middle level physical education is most evident by the lack of research found in the leading physical education journals: Journal of Teaching Physical Education (JTPE); Quest (QT); Research Quarterly for Exercise and Sport (RQES); and The Physical Educator (PE). Rarely are articles published specifically on middle level physical education (Placek, 1992).

The lack of physical education research on young adolescence or middle level programs is illustrated in Table 1. The researcher reviewed four of the major research journals in physical education from 1982-1996. The total number of articles found in each issue was counted as well as the number of articles dedicated to middle school physical education. The criteria for selection was that it provided insight into a middle school physical education program

through research, review of literature, or opinion of one or more components or current issues. Many of the articles center around topics such as (a) changing or improving secondary physical education (Graham, K., 1993; Locke, 1992; Paese, 1983; Pate & Hohn, 1994a; Pifer, 1987); (b) curriculum (Ennis, 1993; Pangrazi, Darst, Fedorchek, & Coyle, 1982; Placek, 1992; Sariscsany & Darst, 1993); (c) activity levels of young adolescents (Anderssen & Wold, 1992; Pangrazi, Corbin, & Welk, 1996); (d) assessment (Deutsch, 1984; Lund, 1992; Veal, 1992a & b); (e) participation styles of middle school boys and girls (Griffin, 1984 & 1985a & b); (f) current fitness levels (Corbin & Pangrazi, 1992; Kuntzleman & Reiff, 1992; Lacy & LaMaster, 1990); (g) motivation (Duncan, 1993; Mitchell, 1996; Tjeerdsma, 1995); and appropriate teaching practices (Bottom, 1993; Bredekamp, 1992).

---

Table 1  
No. of Middle Level (ML) Articles in Physical Education Journals

Journal	Yrs. reviewed	Total no. articles	No. of ML articles	% of ML articles
JTPE	1982-1996	255	14	(5%)
PE	1982-1996	554	25	(7%)
QT	1982-1996	336	7	(2%)
RQES	1982-1996	796	35	(4%)
Totals	14 years	1,941	81	(4%)

Note. Yrs. = Years. The total number of articles represents the approximate number of articles published from 1982 to 1996. The number of middle level articles represents those specific to middle level. The percentage of middle level articles represents the number

of middle level articles compared to the total number of articles published.

### Emerging Support for Middle Level Physical Education

It should be noted that there were no articles found that defined exemplary middle level physical education, provided a comprehensive look into an exemplary program or articulated a direction for middle level physical education based on the research. This supports Placek's (1992) statement that "no strong voice of consensus is present from the profession about appropriate middle school curriculum" (p. 333). It appears as though the leadership in middle level and high school physical education is more reactive in nature usually following the lead of their more pro-active elementary colleagues. For example, NASPE finally published the Appropriate Practices for Middle School Physical Education (Middle and Secondary School Physical Education Council [MASSPEC], 1995) document three years after the popular Developmentally Appropriate Physical Education Practices (Council on Physical Education for Children [COPEC], 1992). In addition, NASPE (1992a) developed Guidelines for Middle School Physical Education which was published five years behind the document for elementary physical education.

### Recent Backlash

Currently, a backlash is effectively extinguishing many of the advances designed to create a positive middle level identity within physical education. For example, the first national physical education middle level newsletter, Middle School Physical Education,

emerged in January, 1995 and was recently combined with the high school newsletter, Teaching Secondary Physical Education. In addition, sessions specific to middle level physical education were included in the historically elementary physical education national conference in July, 1995. Many of the elementary teachers were disappointed with the inclusion of secondary physical education and some reported boycotting the conference because they felt having the secondary teachers would dilute the program focus of elementary physical education.

Though it appeared that the physical education profession was directing a superficial amount of effort toward the middle grades the current backlash of chronically late attempts to improve may suggest a general lack of interest, absence of a clear direction, or little desire for substantial change even though professionals agree that secondary physical education is in deep trouble. The general sense of inertia that seems to plague secondary physical education may support Rink's (1993) notion that finding answers to these problems may be "a lost cause" (p. 2). A lost cause perhaps but statements like this led to the decision to design a national study that would generate discussion, formulate direction, and explore ways to change physical education at the middle level before it is too late.

One place to begin was to organize a panel of experts to explore and identify the important components and issues needed to develop an exemplary middle level physical education program.

Expert consensus may begin to formulate a clear definition and direction for middle level physical education.

### Statement of the Purpose

Therefore, the purpose of this inquiry was to identify the components of an exemplary middle level physical education program and the issues facing the implementation of such a program.

### Research Questions

The following research questions were the focus of the three rounds of Delphi questionnaires.

1. What are the unique components of an exemplary middle level physical education program as identified by a national panel of experts?
2. What are the critical issues facing the implementation of these components into programs?
3. Are the components and issues identified in agreement with the recommendations set forth by the Carnegie Council on Adolescent Development (1989)?
4. Are the components and issues identified congruent with the Appropriate practices for middle school physical education (MASSPEC, 1995)?

### Significance of the Study

Through the consensus from experts in the fields of physical education, middle level education, and middle level physical education, it is hoped that further discussion and direction for change to improve the lack of identity, poor condition, and

marginality of physical education at the middle level will be the result of this study.

As Siedentop (1992) so poignantly asserts, to "think differently about physical education for youth," (p. 70) while being "consistent with guidelines which are directing emerging trends in middle and high school restructuring" (p. 71) would certainly be a major step in the construction of exemplary middle level physical education. Through a consensus seeking technique, this Delphi study, provided a forum to 'think differently' while remaining 'consistent with guidelines' of the middle level concept.

#### Delimitations

This study was delimited in three specific ways. First, the panel of experts were selected to represent the fields of physical education, middle level education, and middle level physical education. Each panelist has demonstrated an interest in the reform of physical education, the advancement of the middle level concept, and/or involvement with middle level physical education on a regional or national level.

Secondly, the initial items (components and issues) were assembled during two pilot studies. The final questionnaire for Round One was filtered by a focus group to eliminate general (e.g., teacher effectiveness) and redundant responses as well as broaden similar responses.

The third delimitation occurred during the analysis of Round One. Items receiving a mean of four or greater by one or more sub-

groups were included in Round Two providing a second chance to gain consensus. Normally, items not receiving a mean of four or more by the entire panel of experts are eliminated excluding the more imaginative but lesser known opinions. This delimitation offered a solution to this possible error.

### Limitations

Regardless of the care taken to eliminate all possible obstacles there were still limitations in this study. The first was that experts may have limited knowledge of all areas of the study (i.e., middle school concept, quality physical education, program reform, or the constraints of teaching physical education) any of which may limit their judgment. Another limitation dealing with experts is that their opinions may not be representative of a national consensus. This study was also limited by the lack of research on exemplary middle level physical education.

### Definition of Terms

For the purpose of this study, the following terms were used: Components are the critical or essential elements that are unique to an exemplary middle level physical education program and are within a teachers control.

Concrete Operational Thinking is the ability to recognize relationships, think inductively, and initiate logical thinking processes (Miller, 1989).

Consensus is the combined mean of four or greater by the four subgroups for the responses 'Important' and 'Very Important' categories.

Delphi Technique is a qualitative research process to improve decision making by utilizing written, informed opinions by subject matter experts (Fortier, 1984) while providing the anonymity to communicate subjective estimations on complex topics that lack in the amount or availability of information (Jones & Twiss, 1978).

Developmentally Appropriate Practices accommodate a variety of individual differences such as cultural identity, previous movement experiences, fitness and skill levels, intellectual, physical, social/emotional maturity (MASSPEC, 1995).

Exemplary Programs use a majority of recommendations of the Carnegie Commission as the foundation (Doda, George, & McEwin, 1987; Epstein & Maclver, 1990) to take an active role not only in the education of middle level students, but in the delivery of a successful transition from childhood to adolescence (George & Alexander, 1993).

Experts are those who have an applicable specialty or relevant experience (Scheele, 1975) in an area of middle level education, physical education or middle level physical education.

Filtering was a process performed by a focus group who individually coded responses and discussed the elimination of a number of duplicated or overlapping questionnaire items and combine others into broader conceptual statements (Jenkins & Jenkins, 1991a).

Formal Operational Thinking is the ability to solve a problem by conceptualizing abstract relationships and applying inductive thinking.

Growth Spurt usually begins at age 9 or 10 for girls and between the ages of 11 and 12 for boys (Tanner, 1973).

Issues are the critical or essential elements that are unique to an exemplary middle level physical education program but are outside the realm of a teachers control.

Instructionally Appropriate Physical Education incorporates the best practices, derived from both research and experiences teaching young adolescents, into a program that maximizes opportunities for learning and success for all students (MASSPEC, 1995).

Junior High Model is a traditional organizational pattern of seventh, eighth, and ninth grades that is little more than a watered down senior high program lacking responsiveness to students' needs (Johnson, 1988).

Middle Level is "an educational response to the needs and characteristics of young adolescence during transescence and, as such, deals with the full range of intellectual and developmental needs" (NMSA, 1982, p. 9); generally sixth through eighth grades.

Middle School Concept is based on the realization that 10 to 14 year olds need guidance and time for a successful transition, especially at school (Eichhorn, 1987).

Middle School Movement directs its attention to the special needs of the students caught in the middle of transition. It was established in

the early 1960's as a response to the disillusionment with the junior high model.

Puberty is not a single event, or even a set of events, but a critical phase in a longer and complex maturational process (Boxer, Tobin-Richards, & Petersen, 1983).

Quality Physical Education Programs are both developmentally and instructionally suitable for the young adolescent student in middle school (MASSPEC, 1995).

Stress and Storm is the over exaggeration of the turbulent transition of all 10 to 14 year olds (Buchanan, Eccles, & Becker, 1992; Hall, 1904; Thornburg, 1983b).

Rounds are a series of highly structured questionnaires to determine the level of consensus by experts. Each round is designed sequentially based on the information from previous rounds.

Young Adolescence is the "movement from childhood to adolescence, marked by the on-set of puberty" (Thornburg, 1983b, p. 79) and usually referring to those 10-14 years of age.

### Summary

This chapter provided a synopsis of the special needs of the young adolescent, an account of the middle school movement, and the current dilemma of secondary physical education particularly at the middle level. Further, the critical need for a clear focus and a rethinking of secondary physical education was discussed. In addition, the limited research on physical education at the middle level has been clearly illustrated. Thus, the purpose of this study

was to identify the components of an exemplary middle level physical education program and the issues facing the implementation of such a program.

The following chapter is a review of current literature. It summarized the research on young adolescent development, the history of the middle school, middle level physical education, and the Delphi technique.

## CHAPTER 2

### Review of Literature

This four part review of literature provided the background knowledge for designing and conducting this study to identify the components of an exemplary middle level physical education program and the issues facing the implementation of these programs. The first section reviews the literature on the transitional developmental period of young adolescence including the physical, cognitive, social, and emotional domains. Section two provides a brief summary of the middle level concept and the literature on exemplary middle schools. The third section surveys the minimal amount of research specific to middle level physical education found in the leading physical education journals. The final section focuses on the Delphi technique with examples from middle level and physical education research.

It should be noted that no study, to date, was found seeking a consensus from experts on the components or issues of an exemplary middle level physical education program. In fact, little research was found on any essential element unique to an exemplary middle level physical education program.

#### Development During Young Adolescence

While physical growth and sexual maturity begin at conception and continue until death (Peterson & Taylor, 1980), the inception of greatest growth in terms of quantity and velocity is young adolescence (Malina, 1990; Newton, 1995). Young adolescence is the

"movement from childhood to adolescence, marked by the on-set of puberty" (Thornburg, 1983b, p. 79). The culmination of this dramatic process is not merely the transformation of a child's body into that of an adult physique, but more the summative change experienced in the physical, cognitive, social and emotional domains.

Freud (1949), Erikson (1968), and Piaget (1972) each designed a developmental theory based on the movement from one stage to another resulting in major shifts in the capacity for behavior. However, little attention has been paid to the periods of transition between stages. Thornburg (1982) suggested three transitional periods across the life span. The first transition is preadolescence, the period between childhood and adolescence; second is youth, the time between adolescence and adulthood; and the last period is known as transitional adulthood or the time preceding retirement. Levinson (1977) described a transitional period in terms of leaving a stable life structure in order to move to a new or different type of structure. As each person exits the stability of a known stage of development they move into a transitional reconstruction period. The product of each of these transient periods is the emergence of a new life structure.

Thornburg (1982) reminds us that while young adolescents do undergo tremendous change, diversity is also an important factor in the maturation process. Individual development varies according to one's "genetics, culture, gender, and socioeconomic status" (Manning, 1993, p. 13). Although the remainder of this section reviews the

literature of physical, cognitive, social, and emotional development separately, the researcher is mindful of and will attempt to indicate the interconnectedness of domains. Lastly, while diversity and individual growth differences are important, the continuation of development throughout the life span must also be considered; young adolescence is hardly the pinnacle of development.

Erikson's work (e.g., 1963, 1965, & 1968), though criticized for being biased and unclear, has provided much impetus for extended research on the psychosocial aspects of adolescent development. As one of the primary theories on the identity formation in adolescence, Erikson's work laid the bedrock in this area.

Erikson's eight stages of development (1963) are sequential and hierarchical. Young adolescents are most affected by their journey from Stage Four to Stage Five. Stage Four, known as the Industry vs. Inferiority stage, usually occurs between the ages of six and twelve. By completing important tasks young adolescents have an opportunity to develop a sense of achievement and competence, thus leading to positive self-esteem. However, failure at such tasks may leave pre-adolescents feeling as though they are "doomed to mediocrity" (Erikson, p. 260). Therefore, the self-identity as either industrious or inferior is based on the successful or unsuccessful completion of tasks.

Most young adolescents begin to enter stage five, known as Crisis of Identity vs. Role Confusion, between the ages of twelve to eighteen. Ironically, young adolescents strive for personal

independence while the necessity for peer acceptance increases (Erikson, 1963). As the search for heroes and role models arise, the unique opportunity to integrate the ideals into personal value systems provides a sense of identity.

If, however, there is an unsuccessful passage from one stage to the next, a negative effect on the development of the ego is probable. Erikson (1968) suggests that the "central disturbance in severely conflicted young people . . . is due to a war within themselves" (p. 17). Erikson clarifies this sense of identity confusion as a passing crisis further explaining that "the word crisis no longer connotes impending catastrophe. . . . but is now being accepted as designating a necessary turning point, a crucial moment, when development must move one way or another. . ." (p. 17).

Erikson's stages of development do offer an explanation of this somewhat confusing time of life. The importance of identity and how it is created is vital information in gaining a more complete understanding of the early adolescent period. Likewise, knowledge about each of the domains of development are important. The following sections summarize the current research to further build upon the work of Erikson to provide an overview of the development of young adolescents.

### The Physical Domain

The process of developing a relatively new body is initiated by the hypothalamus, which is located in the brain. It signals the endocrine system to commence a tremendous "growth spurt"

(Newton, 1995, p. 45), resulting in a sudden surge of hormones flooding the body. A dynamic and unpredictable environment is created thrusting the young adolescent into an erratic stage of development known as puberty. Boxer, Tobin-Richards, and Petersen (1983) regard puberty "not as a single event, or set of events, but as a critical phase in a longer and complex maturational process" (p. 85). By age fourteen, 88% of the girls and 83% of the boys have reached puberty (Curtis & Bidwell, 1977). However, the exact on-set of puberty is difficult to assess (Tanner, 1968). George and Alexander (1993) suggest that changes in the size and symmetry of the body along with the primary and secondary sex characteristics serve as a mark for this transitional period.

The pituitary gland also secretes the human growth hormone responsible for the sudden growth spurt. Physical growth is the most obvious change young adolescents undergo (Schickedanz, Schickedanz, Hansen, & Forsyth, 1993) and is commonly used as an indicator of somatic growth (Malina, 1990). Dramatic variation in height, weight, and secondary sex characteristics are the norm during this period of development (Boxer, et al., 1983; Newton, 1995).

Tanner (1962, 1968, 1973, 1977, & 1978) has provided much of the research on the physical development of young adolescents. Topics such as individual variations, on-set of puberty, and the rate and sequence of growth has been well documented by Tanner's work. Lipsitz (1977 & 1979) has also contributed to the research on

physical development, especially by examining many of the myths associated with young adolescence.

Tanner (1978) found that the height of girls increases an average six to seven inches over a two to three year period, usually beginning at age nine or ten. Boys lag slightly behind in the start of their growth spurt usually beginning between the ages of 11 and 12 (Tanner, 1973) and tend to grow eight to nine inches with the greatest rate of growth around age 14 (Craig, 1976). After this initial growth spurt, most boys continue to grow at a much slower rate reaching final adult height by the time the two to three year period of pubescence ends (Schickedanz, et al., 1993).

Young adolescents temporarily acquire a gangly appearance (Katchadourian, 1977; Newton, 1995). The nose, hands, and feet are the first to experience growth and are seemingly left to dangle infinitely. As the face elongates, features become more pronounced until the increase of fat and muscle produce a more rounded, proportionate appearance (Katchadourian, 1977). Finally, arms and legs rapidly lengthen into proportion, increasing the vulnerability to injury, particularly in the joints.

Lethargic behavior, after physical activity or eating, is a common occurrence primarily due to the slower growth of the heart during young adolescence (Newton, 1995). Even though the demands are greater, the heart still remains relatively small. It is not until adolescence that the heart doubles in size, thereby becoming more accommodating to the stress demands (Malina, 1990). In contrast,

there are restless periods of what seems to be constant motion (e.g., stretching and moving) in an attempt to relieve the discomfort of rapid growth in the joint area. These physiological changes help explain young adolescent bouts of laziness interspersed with bursts of high energy.

Osgood-Schlatter's condition is often associated with active pre-adolescent boys most frequently occurring around age 13 and less often in girls usually around 11 years of age (Mital & Matza, 1977). One of the primary factors associated with this condition is rapid growth spurts (Brashear & Raney, 1978) which young adolescents experience in varying degrees. Surburg (1985) suggests physical educators have a general lack of understanding about the Osgood-Schlatter's condition as well as how to adapt activities for those who suffer from this problem. It is important that physical educators at the middle level learn more about this common condition and begin to seek ways to include those who suffer from this instead of making a decision to preclude all physical activity during physical education class without proper information.

While it is true that most young adolescents experience a tremendous growth spurt, rarely is it completed by age 14. This physical development is only one part of the transitional period young adolescents move through. Likewise, Inhelder & Piaget (1958) dubbed the cognitive development of those 11 to 13 years of age as a period of transitional thought.

## Cognitive Development

Hall (1904) expressed concern about the lack of research on cognitive development during adolescence. Over seventy years later Elkind (1975) echoed the same concern after comparing the total number of mental growth studies to those specific to adolescent development. One of the major reasons for this lack of research on the diverse and complex thinking of adolescents is that it would require equally diverse and complex methods of investigation (Elkind, 1975).

Piaget's Cognitive-Stage Theory may provide a framework for understanding the cognitive transition of young adolescents. Piaget (1972) suggested that each of us passes through four stages of development over a life span in a constant, invariant sequence: sensory-motor (birth to age two), preoperational (ages two to seven), concrete operational (ages 7 to 12), and formal operational (12 and beyond).

Concrete thinking is based on observation, thus providing ideas, theories or rules to explain events as the capabilities of the brain increase (Miller, 1989; Newton, 1995). The ability to recognize relationships, think inductively, and initiate logical thinking processes are all a part of concrete operational thinking. The survival in any society is dependent upon the ability to think concretely. Abstractions and generalizations are still difficult to consistently and effectively process at this time (Miller, 1989).

The Formal Operational stage is noted for the ability to solve a problem by conceptualizing abstract relationships and applying inductive thinking. This stage is not an automatic development nor does everyone reach or consistently use formal operations. However, as a society becomes more technologically based, the need for abstract thinking increases.

Piaget (1988) identified the transition from concrete to formal thinking as beginning in young adolescence. Ginsburg & Opper (1988) found that young adolescents function somewhere between the concrete and formal operational stages. Newton (1995) suggests young adolescents first demonstrate the ability to "construct single abstractions about self, feelings, events, thinking, other people, and institutions" (p. 41). This is followed by the ability to map or connect one abstraction with another. At this point, conflict may arise due to contradictions in roles or traits between abstractions. It is not until late adolescence that the ability to organize systems of abstractions is developed. This creates difficulty for the pre-teen who realizes conflict but is unable to rationalize it. This new ability to think differently about possibilities sometimes creates conflict when the 'what is' and 'what could be' is compared. Disillusionment with major institutions such as family, church, and schools are not uncommon (Pikulski, 1991).

Abstract thinking adults often minimize the true thought capacity of pre-teens by discounting ideas that differ and tend to be distorted, sensationalized, or overstated from their own way of

thinking. Conflict is quite common between adults and young adolescents due to the difference in this thinking ability. However, as abstract thinking develops, the ability to generalize and draw conclusions improves (Piaget, 1988).

Ironically, as the cognitive abilities continue to expand, there appears to be a decline for some in school motivation (Eccles, Midgley, & Adler, 1984), interest in school (Epstein & MacIver, 1990), and intrinsic academic motivation (Harter, 1981). The decline in school motivation parallels a drop in young adolescents' self-concept and esteem (Harter, 1982; Simmons, Rosenberg, & Rosenberg, 1973). Research indicates that intrinsic motivation and confidence in academic abilities, especially after failure, decreases as well (Eccles & Midgley, 1990; Harter, 1982).

It seems that for some young adolescents, the positive orientation toward school gradually fades away with the onset of puberty. Blos (1962) explained it as an 'intrapsychic upheaval' that leads to problems in both motivation and behavior during young adolescent development. Blyth, Simmons, and Carlton-Ford (1983) concluded that the coincidence of timing in the transition of pubertal development and the advancement to junior high may be responsible. Simmons and Blyth (1987) explained the drop in motivation as the result of cumulative stress or multiple stressors, stemming from physical development and major school transition which can become overwhelming.

## The Social Domain

DeVries and Kohlberg (1987) assert that knowing oneself often accompanies the awareness of others, and for many pre-teens, the ultimate dream is to be recognized as an adult. Rejection usually results, however, when adults exclude young adolescents from social circles. In addition, young adolescents who are eager to enter the world of adulthood often discard old childhood attitudes, thus being left out by both groups. This 'middle space' places young adolescents in an undefined, often ignored, and certainly misunderstood state of limbo. Thus, the search to answer the important question of how they fit into the world continues.

Peer acceptance is paramount during young adolescence because it signifies a break from family and an increase in independence (Thornburg, 1983). However, there is a basic need to belong and to be accepted. Young adolescents group together and are bonded by interests whether they be positive or negative (Elkind, 1981). Dress, hairstyles, language, and behaviors can provide a foundation for the group (Manning, 1993). It is not unusual for conflict to occur within a group due to the strong need for acceptance. These conflicts can occur between the adolescent and (a) group members during disagreements, (b) parents that may not understand or appreciate the groups ethics, and/or (c) self if the values learned in childhood differ dramatically from the group's. Membership into a group provides acceptance and belonging through the support of its members.

The bond formed between peers is transitional when moving primarily from childhood to young adolescence. However, ties become more complex and adult like during this period. Brendt and Perry (1990) found that "friendships have an influence on the changes in self-perceptions, attitudes and behavior that accompany the transition from childhood to adulthood" (p. 281). It could be concluded that friendships play an important role in development, yet there has been little research done on the effects on behavior due to friendships. Qualitative or ethnographic studies would certainly compliment the large amount of questionnaire data already gathered to further examine the influence of friendships.

The young adolescent period is accompanied by an increasing interest in the opposite sex, dating, and relationships. Boy and girl friendships are second only to general acceptance and are often the driving force in their lives. Much time and energy is spent preparing for and in search of a 'love' relationship. Grooming may become an obsession for some by a growing concern with hair, make-up, and clothing (Gullota, 1983).

### The Emotional Domain

Barr (1982) summarized the adolescent turning point of development by stating, "It confuses the sprouting adolescent to wake up every morning in a new body. It confuses the mother and father to find a new child everyday in a familiar body". The sudden and tremendous physical development temporarily leaves young adolescents awkward, clumsy, and often feeling frustrated and

embarrassed (Bailey & Burton, 1982). Self-esteem tends to shrink in boys and, even more so, in girls due to this physically awkward stage (Gilligan, 1993; Gilligan, Lyons & Hanmer, 1990).

Adolescence is a "critical time in the life course when issues of identity become central and a sense of self-worth must be established" (Demo & Savin-Williams, 1992, p. 117). For some, the continual development of autonomy may conflict directly with the pressure to conform to social expectations of parents and friends. Additionally, young adolescents experience an increase in hormonal production, physical changes of the body, and alterations in attitudes and sexual interest (Demo & Savin-Williams). It is clear that the pre-adolescent is in a transitional period based on these major influences.

Experimentation in life is part of learning about oneself. Questions such as "Why is this wrong?" need to be answered to their satisfaction. It is not unusual for a pre-teen to try new, often odd, or even 'bad' behaviors while seeking to answer these difficult questions even though the behavior may be dangerous. This may account for the vast amount of experimentation with smoking, drinking, drugs, and sex (Newton, 1995).

Young adolescence is a teachable period for moral development according to Nesbitt (1993). Tending to be idealistic, pre-teens struggle with issues that once appeared clear but are now blurred by shades of uncertainty such as homelessness, poverty, and war (Brown, 1986). What once appeared to be obviously right or wrong is

now challenged on many levels and is frequently a source of internal conflict and controversy (Nesbitt).

For some, the middle level is far more radical in comparison to either elementary or high school. Both biological and psychological factors play a major role in the transitional period. However, the popular 'storm and stress' characterization of all 10 to 14 year olds has been overly exaggerated (Buchanan, Eccles, & Becker, 1992; Thornburg, 1983). In light of this period of transition:

These children need an educational program specifically fitted to them as they move through puberty to adolescence. This school must follow neither the elementary model for young children nor the high school one for full-blown adolescents. This is the program middle level schools are trying to offer. Its success rests ultimately on a widely shared understanding of the period of early adolescence and why it calls for a distinctive middle level. (Johnson, 1988, p. 27)

The following section pertaining to the development of the middle school model and the reasons for its success will center around the historical perspective and the middle school concept. Special attention will be focused on what makes middle level programs exemplary and how the special needs of young adolescents are met within this school setting.

## Middle Level Literature

### Historical Perspective

Middle level education has experienced phenomenal growth within the past few decades. The emergence of the first 20 middle grade schools in 1960 to over 7,000 in the 90's may be indicative of its success (Johnson, 1988). This section explains the thinking and rethinking that eventually lead to the creation of the middle level that is currently flourishing.

The first attempt to address the needs of young adolescents came as a result of national educational commissions and child psychologists who strongly encouraged the structural rethinking of schools. The result was a strong junior high school movement which urged the implementation of the six year elementary, three year junior high, and three year high school format.

The movement [italics added] called for a separate school division based on the unique needs and characteristics of pre-teens (Holyoak & Weinberg, 1988). The junior high school program was originally designed to bridge the childhood or elementary experience to adolescence or the high school years. However, during the 1950's, a separation between the theory of the junior high school and the actual practice of teaching including the curriculum, instruction, programs, and goals began to widen. No longer did the goals of this movement reflect its original intent or direct student learning. Instead, the junior high program merely became a watered down version of the senior high program.

The junior high model was more often used to facilitate efficient use of the school buildings for accommodating the growing number of students at all levels including the addition of the kindergarten into the elementary school (Alexander & McEwin, 1989). Teacher preparation programs further increased the gap by avoiding the middle school altogether or failing to differentiate between the instructional methods of the junior and senior high content.

Since the early 1960's, the middle school concept has been shaped. Educational leaders began studying, writing, and presenting on the merits of the middle level. One leader in particular, William Alexander, dedicated his career to the betterment of educating young adolescents. While preparing a presentation for a Junior High Conference in 1963, Alexander realized the shortcomings of the Junior High model and envisioned a school based on the needs of the young adolescents often overlooked in the junior high schools (George & Alexander, 1993). Alexander (1964) presented his vision at the conference at Cornell University where he outlined a middle school that centered around (a) a well articulated fifth through eighth grade arrangement, (b) transitional preparation for students, (c) general education, (d) exploratory opportunities to spark student interest, (e) flexible curriculum, and (f) education of values.

By the late 1960's, a new middle school movement was underway. The primary goal was to reorganize the school structure once again by placing sixth graders with seventh and eighth grade

students (Alexander & McEwin, 1989; Holyoak & Weinberg, 1988). The logic was to place students together who share approximately the same maturation level. This allowed the middle grade program to direct energies toward activities that address the special needs of pre-adolescence, effectively link the elementary to the high school, motivate students by providing special interest programs, encourage the increase in student independence, and prepare students for high school studies (Alexander & McEwin, 1989; Eichhorn, 1987).

Recent literature supports the middle level model. For example, the Association for Supervision and Curriculum Development [ASCD] (1989) reported that the middle school model was more likely to use the recommendations and practices established for pre-adolescent education compared to other organizational patterns. Epstein and MacIver (1990) found student needs were successfully met at a significantly higher rate in a middle level environment than in a more traditional junior high model. This may be one reason for the rapid and continual growth of the middle level movement.

As stated so eloquently by Lipsitz (1984), we can gain a better understanding of the purpose of middle level education and its concept:

The components of successful schools are inextricably inter-related. . . . Schools cannot establish this complex pattern of positive inter-relationships without making a serious commitment to developmental responsiveness. The attainment

or each characteristic of successful schools is dependent on recognizing and working with pressing aspects of growth and development during early adolescence. (as cited in Maryland Task Force on the Middle Learning Years, 1989, p. 56)

According to the Carnegie Council on Adolescent Development (1989), Doda, George, and McEwin (1987), McEwin (1992), and NMSA (1995), the following are some of the major features of the middle school movement:

1. Creating small communities within the school.
2. Advisory programs.
3. Nurturing atmosphere similar to elementary school.
4. Integration of curriculum.
5. Teaming of faculty.
6. Full exploratory programs.
7. Cooperative learning.
8. Attention to multiple intelligence's and learning styles of students.

#### The Middle School Concept

The realization that a 10 to 14 year old needs guidance and time for a successful transition, especially at school, is the basis for the middle school concept (Eichhorn, 1987; Stevenson, 1992). For instance, sixth graders need to begin to shift from the one-to-one relationship developed by many elementary teachers who foster an extended parental type of relationship with each student to that of the often impersonal and isolated departmentalization of high

school. This transition, along with the tremendous physical change and development in the cognitive, social, and emotional domains, create many special needs during this time. The combination of changes often create a sense of uncertainty. In turn, the middle school concept attempts to make this transition into adolescence smooth and positive.

The Task Force on Education of Young Adolescents, a subdivision of The Carnegie Corporation's Council of Adolescent Development, released a report on "the extraordinary opportunities and challenges presented by early adolescence" (Jackson, 1990, p. 1). The major outcome of this two year report, known as Turning points: Preparing American youth for the 21st century (CCAD, 1989), suggests an eight point reform focusing on the middle school. The following represent the major components of the middle grade concept designed to "vastly improve the educational experiences of all middle level students, but will most benefit those at risk of being left behind" (CCAD, p. 9):

1. Create small communities for learning, where stable, close, and mutually respectful relationships with adults and peers are considered fundamental for intellectual development and personal growth.
2. Teach a core academic program that results in students who are literate in the humanities, social, and physical sciences, and who know how to think critically, lead a healthy life, behave ethically,

and assume the responsibilities of citizenship in a pluralistic society.

3. Ensure success for all students through elimination of tracking by achievement level and promotion of cooperative learning, flexibility in arranging instructional time, and adequate resources for teachers.
4. Empower teachers and administrators to make decisions about the experiences of middle grade students through creative control by school staff over the instructional program linked to greater responsibility for each student's performance.
5. Staff middle grade schools with teachers who are expert at teaching young adolescents and who have been specially prepared for assignment to the middle grades.
6. Improve academic performance through fostering the health and fitness of young adolescents by providing a health coordinator in every middle grade school, access to health care and counseling services, and a health-promoting school environment.
7. Re-engage families in the education of young adolescents by giving families meaningful roles in school governance, communicating with families effectively, and offering families opportunities to support the learning process at home.
8. Connect schools with communities by identifying opportunities for youth service in the community, establishing partnerships and collaborations to ensure students access to health and social services, and using community resources to enrich the instructional program.

These eight recommendations are based on the needs of young adolescents and suggest that schools become pre-pubescent friendly to assist in the transition from elementary to senior high school. Exemplary middle schools take an active role not only in the education of middle level students, but in the delivery of a successful transition (George & Alexander, 1993). Exemplary middle schools use a majority of these suggestions as the foundation for their programs (Doda, George, & McEwin, 1987; Epstein & MacIver, 1990).

In addition, the National Middle School Association recently revised the original position paper referred to as This We Believe (NMSA, 1995) calling "attention to essentials of both philosophy and practice" (p. 2). In an attempt to create a developmentally responsive middle school, the NMSA reconceptualized a developmentally responsive middle level education which includes the following six characteristics (p. 11):

1. Educators committed to young adolescents.
2. A shared vision.
3. High expectations for all.
4. An adult advocate for every student.
5. Family and community partnerships.
6. A positive school climate.

Therefore, a developmentally responsive middle school would provide the following (NMSA, 1995, p. 11):

1. Curriculum that is challenging, integrative, and exploratory.

2. Varied teaching and learning approaches.
3. Assessment and evaluation that promote learning.
4. Flexible organizational structures.
5. Programs and policies that foster health, wellness, and safety.
6. Comprehensive guidance and support services.

However, the need for developmentally and instructionally appropriate programs does not stop at the middle level classroom door but should extend deep into the gymnasium as well. The next section will review recent documents on quality physical education and appropriate practices for middle level physical education.

#### Physical Education Literature

The National Association for Sport and Physical Education [NASPE] assembled a committee to develop a "platform on which to base judgments of quality about physical education programs" (1992, p. 1). The product, Outcomes of Quality Physical Education Programs (NASPE, 1992), is a document to be used as a "resource to guide the development of sound instructional practices in physical education" (p. 1). The goal of a quality physical education program is that each student become a physically educated person (NASPE, p. 5):

1. Has learned skills necessary to perform a variety of physical activities.
2. Is physically fit.
3. Does participate regularly in physical activity.
4. Knows the implications of and the benefits from involvement in physical activities.

5. Values physical activity and its contributions to a healthful lifestyle.

The National Association for Sport and Physical Education (1990) maintains that quality physical education programs:

1. Be designed and taught by competent and certified physical education specialists.
2. Identify objectives which will develop fitness and motor skills, knowledge and understanding, appropriate social awareness and behavior, and value of a healthy lifestyle.
3. Develop learning activities that are sequenced by objectives, instructional strategies and standards of achievement in and throughout the grade levels K-12.
4. Engage middle level students daily in physical education for at least 50 minutes with at least 25 minutes of physical activity.
5. Provide evidence of program effectiveness through the assessment of specified outcomes through the use of appropriate, valid, and reliable measurements.

In addition, exemplary benchmarks (NASPE, 1992) were developed to "mark assessment targets and assessment times or occasions" (p. 6). These serve only as examples for assisting teachers in planning and assessing physical education programs. The benchmarks include examples of reasonable expectations for sixth and eighth graders to achieve in a daily, quality program.

The combination of the definition of a physically educated person, the outcomes of a physical education program, and the

benchmarks serve as a "nationally endorsed guide" (NASPE, 1992, p. 1) that defines quality in physical education programs. These documents are not age specific but rather inclusive of K-12 physical education programs.

Since Placek's (1992) observation that middle level physical education literature is void of curriculum issues, there has been a recent advancement. The Middle and Secondary School Physical Education Council [MASSPEC] (1995) produced a middle level document on developmentally appropriate practices for middle level physical education. Similar to the popular Developmentally appropriate physical education practices for children (Council on Physical Education for Children [COPEC], 1992), the middle level document provides examples of 'Appropriate' and 'Inappropriate' practices. Topics such as curriculum, instruction, assessment, and support are reviewed according to the developmental and instructional appropriateness of common practices used at the middle level. Examples of 'good' practices are set in contrast to the 'bad' practices for readers to understand the best way to address and teach young adolescents. The document Appropriate practices for middle school physical education (MASSPEC, 1995) could provide direction in developing a quality physical education program by addressing the needs of the students as suggested by Strand and Scantling (1994). Although each important document discussed earlier demonstrates recent interest in middle level physical education, it is overshadowed by the lack of research historically.

### Research on Middle Level Physical Education

The researcher completed an exhaustive search through four leading research journals in physical education. The past 15 years of literature specific to middle level physical education yielded zero studies on identifying the unique components of a quality middle level physical education program. It is disheartening that a small number of the studies focused on the crisis situation at hand (Locke, 1992; Mitchell & Earls, 1987; Tinning & Fitzclarence, 1992). A monograph of student voices (Graham, Ed., 1995) clearly illustrates that middle level physical education is failing some students: alienated students (Carlson, 1995); a learning disabled student and a gifted student (Nugent & Faucette, 1995); low-skilled students (Portman, 1995); a learned helpless student (Walling & Martinek, 1995).

The literature on middle level education clearly defines the purpose of the middle school program as meeting the needs of the young adolescent student as a top priority. Although the Carnegie Council (1989) recommendation to improve academic performance through encouraging health and fitness of students suggests the knowledge of the importance of a physically active lifestyle, it stops short of suggesting methods for achieving such as goal. In addition, physical educators have done little to mobilize a concerted effort to improve the marginal status, poor condition, and lack of identity in middle level physical education.

The Delphi technique is one research tool that has been quite effective in facilitating the systematic collection and analysis of judgments by experts on key issues. Given the utility of this process for assisting experts in reaching consensus on important topics, it has been selected as the method of research in this study. It will be used to identify the components and issues in middle level physical education. The next section will review the literature on the Delphi technique as it relates to this study.

### The Delphi Technique

As a qualitative process, the Delphi technique provides identified experts the anonymity to communicate subjective estimations on complex topics that lack in the amount or availability of information (Jones & Twiss, 1978; Moskowitz & Wright, 1979). Through controlled feedback, experts are permitted to revise individual responses in accordance to the overall group opinion in order to move to consensus after each round. All responses are collected, analyzed, and reduced to quantitative data (i.e., means, percentages, and standard deviations).

Race and Planek (1992) found the Delphi technique to be particularly useful when the problem benefited from subjective opinions of a group consensus, diverse experience and expertise of experts, and when money and time are negative factors for face-to-face meetings. Although Morrison, Renfro, and Boucher (1984) explain that the Delphi design, execution, analysis, and reporting lack established conventions, they insist that there are still

advantages to this research method. These advantages include flexibility to adapt to a variety of difficult problems, anonymity of expert responses that create a non-threatening atmosphere to encourage honest opinion, and an increased probability of wide ranging responses since individuals or groups are unable to dominate discussion. Other noted advantages of a Delphi design are the repetitive nature that permits the results of each round as input into the next, the lessened time constraints when compared to other survey methods, and the use of a larger sample size without substantially increasing the cost (Frazer, Kush, & Richardson, 1983).

The Delphi technique is not, however, without disadvantages. Race and Planek (1992) found that "the most troublesome is that a consensus may not always be reached" (p. 173). If the initial responses are extremely divergent, or several extra rounds lead to attrition problems, then the chance of consensus is lessened. Another disadvantage is that the number of issues or concerns raised by respondents cannot be predicted in advance. Since there is no way to judge how many issues will be deemed important, it is difficult to determine the cutoff point between essential and trivial.

Since its original employment by the RAND Corporation, the Delphi technique has successfully expanded into many disciplines including education. The diversity of educational topics explored through the Delphi technique include: the essential topics for a college preparatory statistic course (Jackson, 1991); research trends, topics, results, approaches and funding in continuing higher

education (Long, 1990); issues related to the education of gifted children (Cramer, 1990); identifying the major goals of the social studies curriculum (Martorella, 1991); the competencies and personal characteristics of future community college presidents (Hammons & Keller, 1990); and the evaluation and assigned priorities of the American College Personnel Association (Venema & Moore, 1987).

The National Middle School Association used the Delphi technique to determine the immediate future of middle level education and help plan the direction for the association. The result was:

. . . a consensus-based list of the 16 most important events to shape the future of middle level education, a consensus as to when they most likely would occur, an analysis of what events would influence each other, and a validation of the entire data set. (Jenkins & Jenkins, 1991a, p. 26)

Physical education curriculum researchers have also used the Delphi technique. The Delphi procedure was used by LaPlante (1973) to "validate the purposes of the Purpose Process Curriculum Framework with regard to their content as desired student outcomes for the present and for the future" (p. 252). LaPlante and Jewett (1987) employed the Delphi technique to assess the content validity of the purposes for physical education as outlined in the Purpose Process Curriculum Framework. In another study, Pasternak (1981) used the Delphi technique to identify the ten most important

purposes for moving in the years 1980-2000. Finally, Speakman (1985) administered the Delphi technique in a cross-cultural comparison study of the purposes of movement in three countries. Although none of these studies are related to the content of the current study, reviewing the various uses of the Delphi technique was helpful in designing this study.

### Summary

The purpose of this study was to identify the components of an exemplary middle level physical education program and the issues facing the implementation of such a program. The review of literature provided background knowledge for designing and conducting this Delphi study. The first section reviewed the literature on the transitional developmental period of young adolescence including the physical, cognitive, social, and emotional domains. Section two provided a brief summary of the middle level concept and the literature on exemplary middle schools. The third section summarized the physical education documents defining quality programs and surveyed the minuscule amount of research specific to middle level physical education found in the leading physical education journals. The final section focused on the Delphi technique and provided examples from middle level and physical education research.

The following chapter on methodology describes the Delphi technique as it applies to this study. The first section explains the development of the questionnaires and the selection of experts. The

second section outlines the method of data collection. The third section describes the statistical analysis that was used in each of the three rounds.

## Questionnaire Design

### First pilot study.

The first pilot study (Appendix A) was designed to identify the important components unique to middle level physical education as well as the important issues facing the implementation of an exemplary physical education program. It was an open-ended questionnaire that elicited the opinions of physical educators who have or are working toward an advanced degree in curriculum and instruction of physical education.

Ten physical educators responded by identifying five components and five issues perceived to be important as well as unique to middle level physical education. The general nature of the responses were geared more to effective teaching at the elementary, middle, and high school level (i.e., student feed back, maximum participation, and use of a variety of teaching strategies). Therefore, a revision of the questionnaire was necessary to extract the unique components and issues of the middle level. The combined lists of responses from each participant were filtered by the researcher to eliminate unacceptable or redundant responses, combine similar ideas together into new items, and rewrite negative responses into positive items.

### Second pilot study.

Six physical educators participated in the second pilot study (Appendix B), consisting of two rounds, for the purpose of reviewing and revising the questionnaire. The final revisions, helped to ensure

the clarity of each item, increase the ease of responding, and increase the breadth of data collected in Round One of the Delphi study. Validity of the questionnaire was submitted for review during the first pilot study and verified during a second pilot study (LaPlante & Jewett, 1987).

Once Round One responses were filtered, the questionnaire for the second round asked participants to use a five point Likert scale to determine the level of consensus on the perceived importance of each filtered response from Round One. In addition, the six participants from Round One had the opportunity to add components or issues that they felt were overlooked during Round One.

#### Focus group.

A focus group, consisting of a middle level physical educator, a university middle level educator, and a middle level teacher and administrator, was mailed the list of components and issues developed during the pilot study process and asked to individually code each item as 'Accept' or 'Reject'. Each item was scrutinized based on its uniqueness to the middle level.

All items receiving a unanimous vote of 'Reject' by the focus group were eliminated. As Jenkins and Jenkins suggested (1991a), items receiving a 'Unanimous' vote of 'Accept' were filtered again to eliminate duplicate responses; combine similar opinions into broader conceptual statements; or rewrite items into positive terms. A few items were also added to represent more traditional practices as well. Those items receiving a mixed vote of 'Accept' and

'Reject' were discussed until resolution between focus group members was obtained. The filtering process created a questionnaire used in Round One of the Delphi study that was more manageable and organized.

### Expert Selection

The success of any Delphi study is dependent upon the selection of its experts (Jones & Twiss, 1978). A range of expertise is preferable in that the forecast is less likely to reflect a narrow view. Dalkey (1968) found that results have a stronger impact when experts represent those (a) who would be affected by the solutions to the problem, (b) whose cooperation would be needed to make the solution possible, and (c) who are knowledgeable about the problem. Therefore, the researcher solicited opinions from experts in four sub-groups: (a) middle level physical education teachers (PET) who would be affected by suggested change; (b) middle level administrators (ADM) such as principals and supervisors, whose cooperation would be essential in initiating change; (c) university faculty in physical education (UPE) who understand the current dilemma in middle level physical education; and (d) university middle level educators (UML) who understand the middle level philosophy.

### Expert Criteria

Scheele (1975) defined experts as "those who have an applicable specialty or relevant experience" (p. 68). Based on Scheele's broad definition, the researcher identified experts by

using criteria that reflect a specialty and relevant experience in either middle level or physical education. For this study, experts were distinguished as those possessing at least two of the following six criteria:

1. Five or more years of teaching experience (Housner & Griffey, 1985).
2. Three or more years experience supervising student teachers or mentoring beginning teachers at the middle level (Cramer, 1990; Graham, Hopple, Manross, & Sitzman, 1993).
3. Invited speaker to a conference on the topic of middle level education or young adolescence (Graham et al., 1993).
4. College faculty or adjunct position in physical education or middle level education (Cramer, 1990; Graham et al., 1993).
5. Administrative position in physical education or middle level education (Cramer, 1990).
6. Co/Author of an article, book, or national document focusing on the middle level (Cramer, 1990).

A list of potential experts was gathered by the researcher over a two year period. A review of both middle level and physical education books, articles, and convention programs, along with the recommendations from professional colleagues, produced the names of 125 professionals representing middle level physical education teachers, administrators with physical education backgrounds, and university faculty in physical education and middle level education. Each was recommended on the basis of relevant experience or known

specialty in middle level education. (See Table 2 for Relevant Experience and Specialty of Experts).

**Table 2**  
**Relevant Experience and Specialty of Experts**

Criteria	Experts identified by no.
5+ yrs teaching experience	1-15, 17-28, 30-32, 34, 36, 41-43, 45, 46, 48-52, 54, 55, 57.
3+ yrs mentor or student teacher supervisor	1-8, 10-15, 17-20, 25-27, 29-43, 45, 46, 48-60.
Invited speaker	1-6, 9, 10, 12-14, 19, 21, 23-25, 27, 29, 32-38, 42, 43, 45-52, 54-57, 59.
University faculty or adjunct	4, 8, 12, 14, 22, 29-42, 61-63, 44, 46, 48-52, 54-60.
Administrator	3, 7, 10, 12, 15, 16, 21, 27, 28, 34, 36, 41, 43-55.
Author	3, 9, 12, 14, 15, 16, 25, 27, 30, 34-36, 38-42, 48, 51, 52, 54-57, 59.

**Note.** Yrs = Years. Each expert was assigned an identification number to ensure confidentiality and guarantee anonymity.

### Procedures

#### Respondents

As Cramer (1990), Jenkins and Jenkins (1991b), and Turoff (1975) recommended, the prospective expert list was diverse including (a) gender (36 females and 24 males); (b) regional location (25 states); and (c) educational background (22 Ph.D., 31 Master, and 7 Bachelor degrees).

Ideally, 10 to 50 experts should participate in a Delphi Study. Jones and Twiss (1978) found that less than 10 experts tends to limit the analysis of responses, thus decreasing confidence as a consensus, while more than 50 increases the studies complexity without providing additional strength. Of the 125 potential experts 52 initially qualified with 'expert' status during Round One. Four questionnaires were returned due to incorrect addresses and eight experts returned the information late. Although the late respondents were not tabulated in the first round, these experts were included in the second round mailing due to their interest in participating. Eventually 60 experts participated in at least one round of this study.

As each set of data was returned, it was reviewed by the researcher. Potential experts agreeing to participate, who met two or more expert criteria and returned the completed Questionnaire and the Consent form, qualified as an expert for this study. The experts were then divided into four sub-groups according to their present position (PET, ADM, UPE, or UML).

#### Data Collection

Data was collected over a three month period. All questionnaires and other information was mailed via U. S. Postal Service. Most experts returned data using a self-addressed, stamped envelope while some choose to fax and one e-mailed information to the researcher. Experts were asked to respond to three rounds of

questionnaires in an attempt to gain consensus. Refer to Table 3 for the specific purposes of each round.

Table 3  
Purpose of Individual Rounds

Round	Form of round	Purpose
1	Likert Rating Scale Expert Check Sheet Consent Form	Rate components & issues. Add or modify items. Verify expert status. Verify participation.
2	Likert Rating Scale	Rate components & issues. Describe the purpose of PE.
3	Rank Order	Order components and issues gaining consensus during Round One and Two.

#### Round one.

The purpose of Round One was to identify experts who were willing to participate and to rate each component and issue using a five point Likert scale to identify perceived level of importance experts placed on each item. A cover letter explaining the purpose of the study (Appendix C), the Expert Criteria Sheet (Appendix D) to verify expert status, a Consent Form (Appendix E), the questionnaire for Round One (Appendix F), and a pre-addressed stamped envelope were mailed to 125 potential experts on March 31, 1997.

Each expert who was willing to participate returned the first Questionnaire, the Consent Form, and the Expert Check Sheet by the April 16, 1997 deadline. Jackson's (1991) suggestion of guaranteeing

anonymity and appealing to past educational involvement were included as part of the cover letter as a method of reducing the number of non-responses. Since 52 experts returned all of the necessary forms by the April 16, 1997 deadline, the researcher saw no value in contacting potential experts who had not responded two days after the deadline as originally proposed. However, the eight experts who sent their information in late were included in the second round mailing.

Experts rated each component and issue according to its perceived level of importance using the following five point Likert scale (Jackson, 1991; Jenkins & Jenkins, 1991b; Vining, 1988): (1) Unimportant, (2) Of Little Importance, (3) Somewhat Important, (4) Important, and (5) Very Important.

#### Round two.

The purpose of Round Two was two-fold. First, experts rated new components and issues suggested by the experts during the first round using the same five point Likert scale. Secondly, experts had the opportunity to rate again the items from Round One that reached consensus in one, two or three of the sub-groups in order to move closer to a full consensus. The second round directions (Appendix G) and questionnaire (Appendix H) were mailed on April 30, 1997 with a deadline of May 16, 1997 to the 60 experts who eventually responded to Round One.

The same five point Likert scale was used to indicate the perceived level of importance of each new component and critical

issue suggested by experts during Round One and any item that received a mean of 4 or greater from one or more sub-groups. Items receiving a mean of 4 or more by all four sub-groups were marked "CONSENSUS" and a second rating was not required. Items were eliminated from the second round if a mean of 3.9 or less was achieved by all four sub-groups.

The second round questionnaire was similar to that used in the first round except that items obtaining consensus were identified on the questionnaire as "CONSENSUS". The first task was to apply the same five point Likert scale to a revised questionnaire made up of the items that did not reach a degree of consensus from all four sub-groups and new items suggested by the experts during Round One.

#### Round three.

During Round Three, the final round, experts ranked the top three components and top three issues (1 indicated the top score; 2 indicated the second; and 3 the third) according to their perceived priority of importance in developing an exemplary middle level physical education program. Since this was the final round, experts were not asked to suggest additional components or issues.

The directions (Appendix I) for ranking the items which obtained consensus during the second round, the questionnaire (Appendix J), and a pre-addressed stamped envelope was mailed on June 9, 1997 with a deadline by June 25, 1997 to each of the experts who responded to Round One or Two. According to Jones and Twiss (1978), "It has been found that the shift in the forecasts occurring

after the fourth round is usually not significant and frequently three rounds are adequate" (p. 231).

### Statistical Analysis

A descriptive statistical analysis was used to analyze the results from all three rounds of this Delphi study. It included the frequency and percentages, mean scores and percentages, and finally weighted scores. Responses were separated by sub-group. Frequency charts were constructed for Rounds One and Two.

#### Round One

For each sub-group the frequency of responses were tabulated and the mean calculated. A mean of 4 or greater reflected a level of consensus. Consensus was defined as "the combined mean responses" (Jackson, 1991, p. 45) by the four sub-groups in the "Important" (4) and "Very Important" (5) categories.

#### Round Two

Data collected from Round Two was analyzed for frequency of response and mean according to each of the four sub-groups. Each item was then analyzed to determine if consensus was achieved in the 'Important' and 'Very Important' categories (Cramer, 1990). Each item is displayed in a frequency chart for Round Two (Appendix K).

#### Round Three

The data for Round Three was tabulated then ranked from highest to lowest weighted score. The weighted score was calculated by giving each first priority rank a score of five, the second rank a score of three, and the third rank a score of one. These

scores were then summed for each item (Appendix L). Components and issues were ranked separately from highest to lowest according to the weighted score (Crammer, 1990). The weighted scores were based on the experts' perceived priority level of importance in creating an exemplary program. The results from Round Three yielded a consensus-based list ranked in order of importance of the components of an exemplary middle level physical education program and the issues facing the implementation of such a program.

### Summary

The purpose of this Delphi study was to obtain consensus from the informed judgment of experts representing middle level physical education teachers, administrators, university physical educators and middle level educators. Opinions were obtained through a series of three carefully designed questionnaires based on sequential rounds. The final analysis of data resulted in a consensus-based list of the components of an exemplary physical education program at the middle level and the issues facing the implementation of such a program ranked in order of importance.

## CHAPTER 4

### Presentation of Data

The consensus on the components and issues of an exemplary middle level physical education program was achieved through a Delphi technique. A panel of 60 experts representing middle level physical educators (PET), administrators (ADM), university physical educators (UPE), and university middle level educators (UML) completed a three round series of questionnaires. The data collected and analyzed during the three rounds is presented in this chapter.

#### Round One

The first round of information was mailed to 125 potential experts on March 31, 1997. Four mailings were returned due to incorrect addresses. Therefore, a total of 121 potential experts were initially contacted to participate in this Delphi study. Fifty-two participants returned data and qualified as an expert by the April 16, 1997 deadline. Thus, the response rate for Round One was 43%. Eight additional respondents who were late in returning the data but qualified as experts, thereby increasing the total number to 60 experts or a 50% response rate. The researcher did not tabulate the late responses into Round One, but decided to include the late experts in the second round mailing in case any of the original participants failed to respond to Round Two. The researcher had hoped for 30 to 40 responses and was more than satisfied with 60 experts who participated. See Table 4 for a summary of the number and percentage of responses from experts according to sub-groups.

Table 4  
Summary of Returns for Round One

Sub-Group	No. in Sample	No. of Experts	Percentage
PET	58	27	47%
UPE	25	12	48%
ADM	26	10	38%
UML	12	3	25%
Totals	121	52	43%

Note. PET = Physical Education Teachers. UPE = University Physical Education faculty. ADM = Administrators. UML = University Middle Level faculty.

#### Analysis of Round One

Each component and issue was rated according to the level of perceived importance experts reported as contributing to an exemplary middle level physical education program. All items were rated on a five point Likert scale: (1) Unimportant, (2) Of Little Importance, (3) Somewhat Important, (4) Important, and (5) Very Important. As the questionnaires were returned, the data was separated by sub-group and responses were tallied. The mean of each item was calculated according to the four sub-groups for Round One.

For the purpose of data analysis, consensus was defined as a combined mean of four or greater by the four sub-groups (Jackson, 1991). Using this definition, consensus was obtained on 12 components and 15 issues. Table 5 identifies those items, both components and issues, achieving consensus in the initial round.

Table 5  
Items Achieving Consensus during Round One

<u>M</u>	<u>Components</u>
4.66	PE teachers have a clear understanding of the middle level concept & the unique contribution made to middle level education by the PE program.
4.16	Students are connected with community agencies, experiences, & services that encourage active lifestyles.
4.81	The PE faculty works cooperatively to solve problems, establish policies, & make decisions that guide the program.
4.76	The developmental characteristics, needs, & interests of the young adolescent are the basis of instructional decisions.
4.45	There is a written mission statement representative of a shared vision among PE faculty of the goals, objectives, & outcome of the program.
4.37	A safe, active, varied, and innovative warm-up period is provided at the beginning of each class.
4.75	Middle level PE content is taught using developmentally appropriate practices that focus on the unique needs of young adolescents.
4.41	Students have an opportunity to choose from a variety of options in an extracurricular physical education program.
4.22	Individual learning styles and multiple intelligence's of students are used for instructional decisions.
4.48	PE teachers communicate regularly with parents using methods such as phone calls, newsletters, and conferences.
4.75	PE teachers provide positive role models by practicing good health & fitness habits.
4.43	PE faculty are aware of and use appropriate referral services & procedures when recommending students for specialized services.

M	Issues
4.26	PE is taught daily at the middle level.
4.46	Research on effective middle level PE is needed.
4.70	PE teachers are hired for teaching ability more than coaching ability.
4.80	Teacher preparation programs in PE include specific coursework & field experiences at the middle level.
4.61	Administrators use a systematic process with a clearly defined set of criteria when evaluating PE teachers.
4.66	The curriculum provides a broad range of physical activities for students to discover personal interests & possible lifetime activities.
4.59	Facilities are designed primarily for PE instruction purposes.
4.17	A systematic process using a clearly defined set of criteria for evaluating the total PE program is used.
4.49	The philosophy of the PE program emphasizes the importance of class instruction more than coaching athletic teams.
4.34	Intramurals takes precedence over varsity athletics within the PE program.
4.71	There is an adequate amount of equipment for effective instruction.
4.09	There is a common planning period for the PE faculty scheduled during the school day.
4.82	Teachers assigned to middle level PE without prior middle level preparation and experience will receive in-service staff development on the middle level concept & the characteristics of young adolescents.
4.74	There is a clearly defined curriculum focused on developing a physically educated person.
4.63	The PE curriculum continues to build upon the basic skills taught during elementary school to help students understand their developing bodies.

Note. PE = Physical Education.

In addition to those that reached consensus, 12 components and 10 issues achieved consensus within a particular sub-group, but failed to reach a combined level of consensus from the complete panel of experts. The Delphi technique used in this study was modified by the researcher to include items that received a mean of four or more from any one sub-group for reconsideration during Round Two. This provided another opportunity for these items to gain consensus. It is the opinion of the researcher that experts within sub-groups have particular insights and are more capable of making enlightened judgments specific to their areas of expertise. This modification allowed a second opportunity for experts to consider the unique ideas without immediate penalty of elimination. Table 6 lists the components and issues that remained in the study that scored a mean of four or greater within one, two or three sub-groups.

There were seven components and six issues that did not receive a mean of four or greater from the panel of experts or a sub-group. These items were not included during Round Two. Table 7 lists items and means eliminated after Round One. The mean represents the combined score of all sub-groups.

During Round One experts were encouraged to suggest items, both components and issues, that are included in exemplary middle level physical education programs. There were 12 components and 8 issues suggested. Table 8 lists those items suggested by experts.

Table 6  
Items Achieving Consensus by Sub-group/s

Group	M	Components
UML	4.00	The middle level Physical Education faculty provide an orientation program for incoming students from local elementary schools.
UPE	4.17	The middle level PE program engages families in the educational process by emphasizing active lifestyles through special programs such as family activity nights, wellness exhibits & fitness fairs.
UML	4.33	
PET	4.37	Students are held accountable for learning based on performance assessments that focus on the technique or process.
UML	4.33	
ADM	4.20	
PET	4.41	Cooperative learning is a method used in the instruction of middle level Physical Education.
ADM	4.30	
UPE	4.00	Interdisciplinary themes are used within the Physical Education curriculum.
ADM	4.30	
UPE	4.17	The PE faculty provides resources on PE concepts, content, & examples that contribute to the interdisciplinary teams.
ADM	4.30	
UML	4.33	
UML	4.67	Students have input in the creation of assessment rubrics.
PET	4.04	Grades are based on student learning as demonstrated on various assessments of content.
UPE	4.67	
ADM	4.50	
UML	4.00	Students have the responsibility to choose from an array of activity course options each marking period.
PET	4.27	Lead-up and/or small group games are primarily used during instruction.
UPE	4.08	
UML	4.00	
UML	4.67	Students are gender grouped according to the instructional situation (co-ed & separate).
PET	4.65	Qualified community members provide special expertise & assistance for the instructional program.
ADM	4.20	
UML	4.00	

Group	M	Issues
UPE	4.00	Students are gender mixed (co-ed) for every PE class.
ADM	4.20	
PET	4.68	Class size for PE is equal to that found in core classrooms.
UPE	4.92	
ADM	4.60	
PET	4.36	PE teachers are included in the common planning period for core teams.
UPE	4.50	
ADM	4.10	
PET	4.44	Interdisciplinary teams include a PE representative.
UPE	4.42	
ADM	4.40	
PET	4.64	Facilities provide adequate learning space to accommodate all PE classes without combining.
UPE	4.67	
ADM	4.30	
PET	4.04	Physical Education teachers participate in the teacher based advisory program.
UPE	4.33	
PET	4.24	Physical Education teachers use a systematic process with a clearly defined set of criteria when evaluating peers.
UPE	4.42	
PET	4.28	Flexible class scheduling is available to the PE teacher to accommodate instructional needs.
UPE	4.00	
PET	4.62	Lifelong activities are emphasized within the curriculum offerings.
ADM	4.40	
UML	5.00	
PET	4.12	The PE curriculum centers on the development of personal fitness.
ADM	4.00	
UML	5.00	

Table 7

Items Eliminated after Round One

<u>M</u>	<u>Components</u>
2.20	Grades are based primarily on participation & dressing out in class.
2.23	Official sport games are primarily used during instruction.
3.17	Students are able to choose from a variety of uniforms.
2.00	The instruction is concentrated on pe content offering little to no integration of other subject matter.
3.51	Technology is used in the pe program.
3.00	Students are held accountable for learning based on skill tests that focus on product.
3.42	A recognition program exists to award every student before peers for outstanding qualities & achievements.

<u>M</u>	<u>Issues</u>
2.14	The political influence from school boards & parents are the basis of program decisions.
2.56	The PE department is separate from other departments or teams.
2.34	Students are gender separate (boys/girls) for PE.
1.85	Facilities are designed primarily for athletic program uses.
1.31	Varsity athletics takes precedence over intramurals within the PE program.
1.62	The curriculum centers on the preferences & special interests of the PE teacher.

Note. PE = Physical Education.

Table 8

Additional Items Suggested by ExpertsComponents

1. PE teachers must belong to at least one professional organization for the purpose of professional development.
2. Modified sport games, as opposed to official sports, are used during instruction.
3. Yearly course scheduling and requirements ensure a balanced program of options for each student.
4. Grades are based on student learning as demonstrated on various assessments of content and course objectives.
5. Students have the responsibility to choose from an array of activity course options at least once a year.
6. Grades are based primarily on participation.
7. The physical education program emphasizes life-time physical activities, fitness, & health practices for total physical, mental, social, & emotional well being.
8. PE should not be graded but encouraged within the overall middle level program.
9. The wellness concept is an essential part of the PE curriculum.
10. Physical Education teachers help young adolescents understand their particular maturation process.
11. Student progress is reported in various ways and reflects the goals of PE.
12. Students are held accountable for learning derived from all three curriculum sources: student interests, needs, & concerns; societal expectations & standards; research & scholarship in physical education and its supporting disciplines.

---

Issues

---

1. Varsity athletics are not offered at the middle level.
  2. Intramurals and varsity athletics are a part of the overall middle school program but are separate from the Physical Education program.
  3. Curriculum is based on the National Standards for PE.
  4. Administrators use the same systematic process with a clearly defined set of criteria to evaluate physical education teachers as they do when evaluating other teachers.
  5. Students choose mode of participation as either co-ed or separate.
  6. The instructional segment of the physical education class is co-ed while students are divided by gender to compete separately.
  7. Class size for physical education should be between 25-30 regardless of core class sizes.
  8. Arrangements are made so that PE teachers can, on occasion, meet with the core teachers for planning.
- 

Of the 62 items in Round One, 27 items achieved consensus, 22 items were repeated in Round Two for an additional opportunity to gain consensus; 20 items were added as suggested by at least one expert; and 12 items were eliminated. Therefore, the second round questionnaire consisted of 24 components and 18 issues to be rated.

### Round Two

The directions and questionnaire for Round Two were mailed on April 30, 1997 to the 60 experts responding to Round One. One mailing was returned due to an insufficient address. Therefore, a total of 59 experts were contacted to participate in the second round. Forty-seven experts returned the data by the May 16, 1997 deadline. Thus, the response rate for Round Two was 80%. Three respondents returned their data after the researcher had analyzed Round Two. See Table 9 for a summary of the number and percentage of responses by sub-group.

Table 9  
Summary of Returns for Round Two

Sub-Group	Sample No.	Responses	Percentage
PET	27	19	70%
UPE	17	15	88%
ADM	12	11	92%
UML	3	2	67%
Totals	59	47	80%

Note. PET = Physical Education Teachers. UPE = University Physical Education faculty. ADM = Administrators. UML = University Middle Level faculty.

### Analysis of Round Two

As in Round One, items were rated according to the level of perceived importance experts believe contribute to an exemplary middle level physical education program. The same five point Likert scale ranging from Unimportant (1) to Very Important (5) was used. As questionnaires were returned, the data was tallied according to

individual responses on the Likert scale. The mean of each item was calculated for the entire panel of experts. The Frequency Chart in Appendix K illustrates the responses and mean scores for each of the 23 components and 18 issues rated during the second round. The data was not separated or analyzed by sub-group since the purpose of this study was to determine consensus of a panel of experts.

The experts achieved consensus on 12 of the 24 or 50% of components that were presented in Round Two. Consensus was also obtained on 11 of the 18 or 61% of the issues. Four of the 12 components and 8 of the 10 issues achieved consensus from those items that were re-evaluated, thus indicating a 55% shift. It should also be noted that of the suggestions made in Round One by experts, 8 of the 12 components and 3 of the 8 issues achieved consensus.

### Round Three

The sixty experts who replied to earlier rounds were mailed the directions and final questionnaire for Round Three. A total of 45 experts replied, a response rate of 75% for Round Three. However, three replies were too late for analysis and four responses were not completed according to the directions leaving 38 to be analyzed. As in Round Two there was no reason to separate the data according to sub-group since the purpose of this study was to find consensus among the panel of experts, not to reveal division.

### Analysis of Round Three

Experts were asked to rank the top three components (within a teachers control) that, in their judgment, are the most needed for

an exemplary middle level physical education program. Likewise, experts ranked the top three issues (outside the control of teachers) that, in their judgment, must exist for an exemplary middle level physical education program to occur. The following ranking was used in both instances:

1 = Most Important Component

2 = Next Important Component

3 = Third Important Component

The data for Round Three was tabulated (Appendix L) then placed in rank order by weighted score. This score was calculated by giving each first priority rank a score of five, the second rank a score of three, and the third rank a score of one. The scores were then summed for each item. The results from Round Three yielded a consensus-based list ranked in order of importance of the components of an exemplary middle level physical education program and the issues facing the implementation of such a program (Crammer, 1990). See Table 10 for the final rankings of the top ten components and Table 11 for the top ten issues.

The researcher chose to limit the final lists to the top 10 components and issues. This eliminated 14 components, all with a weighted score of less than 6 and 16 issues were eliminated all with a weighted score of 12 or less. Delimiting the lists to the top components and issues provided the opportunity for a richer discussion on the most important factors of an exemplary middle level physical education program as perceived by the experts.

Table 10

Ranked Order of Components of an Exemplary Middle Level Physical Education Program

- 1 Middle level physical education content is taught using developmentally appropriate practices that focus on the unique needs of young adolescents.
- 2 The physical education program emphasizes life-time physical activities, fitness, and health practices for total physical, mental, social, and emotional well being.
- 3 Physical Education teachers have a clear understanding of the middle level concept and the unique contribution made to middle level education by physical education.
- 4 The developmental characteristics, needs, and interests of the young adolescent are the basis of instructional decisions.
- 5 Students are held accountable for learnings derived from all three curriculum sources: (a) student interests, needs, and concerns; (b) societal expectations and standards; (c) research and scholarship in physical education and its supporting disciplines.
- 6 There is a written mission statement representative of a shared vision among Physical Education faculty of the goals, objectives, and outcomes of the program.
- 7 The Physical Education faculty works cooperatively to solve problems, establish policies, and make decisions that guide the program.
- 8 The middle level Physical Education program engages families in the educational process by emphasizing active lifestyles through special programs such as family activity nights, wellness exhibits, and fitness fairs.
- 9 Modified sport games, as opposed to official sports, are used during instruction.
- 10 Grades are based on student learning as demonstrated by various assessments of content and course objectives.

Table 11

---

Ranked Order of Issues Facing the Implementation of Exemplary Middle Level Physical Education Programs

---

- 1 There is a clearly defined curriculum focused on developing a physically educated person.
  - 3 Physical Education is taught daily at the middle level.
  - 3 Physical Education teachers are hired for teaching ability more than coaching ability.
  - 3 The curriculum provides a broad range of physical activities for students to discover personal interests and possible lifetime activities.
  - 5 Teacher preparation programs in Physical Education include specific coursework and field experiences at the middle level.
  - 6 Class size for Physical Education is equal to that found in core classrooms.
  - 7 Curriculum is based on the National Standards for Physical Education.
  - 8 Facilities provide adequate learning space to accommodate all PE classes without combining classes together.
  - 9 Research on effective middle level physical education.
  - 10 A systematic process using a clearly defined set of criteria for evaluating the total physical education program is used.
- 

Note. There was a three way tie for the second issue. They are marked with a numeral 3.

Once the unique components and critical issues were identified by consensus, the following research questions were addressed: (a) Are the components and issues identified in agreement with the recommendations set forth by the Carnegie Council on Adolescent Development (1989)? and (b) Are the components and issues identified congruent with the Developmentally appropriate physical education practices for adolescents (MASSPEC, 1995)?

### Congruency of Components

Experts identified 24 components that were agreed upon as important in an exemplary middle level physical education program. However, this study was delimited to the ten highest ranked components. The two-fold focus of this section was to examine the components identified with (a) the congruency of the recommendations set forth by the Carnegie Council on Adolescent Development (1989) and (b) the Appropriate practices for middle school physical education (MASSPEC, 1995).

### Carnegie recommendations.

In 1989, the Carnegie Council on Adolescent Development published its findings and recommendations for middle level education. Basically, there are eight major areas for educators to concentrate efforts on to improve the educational experiences of young adolescents. These areas include (a) create small communities for learning, (b) teach a core academic program, (c) ensure success for all students, (d) empower teachers and administrators to make decisions about the experiences of students, (e) staff middle grade

schools with teachers who are expert at teaching young adolescents, (f) reengage families in the education of students, and (g) connect schools with communities. Table 12 identifies congruency between the top ten components identified through this Delphi study and the CCAD recommendations.

Table 12  
Congruency between Components and CCAD Recommendations

Components	CCAD
Middle level PE content is taught using developmentally appropriate practices that focus on the unique needs of young adolescents.	Creates small communities. Ensures success for all students.
The PE program emphasizes life-time physical activities, fitness, & health practices for total physical, mental, social, & emotional well being.	Teach core academic program. Improve academic performance through fostering health & fitness.
PE teachers have a clear understanding of the middle level concept & the unique contribution made to middle level education by physical education.	Staff schools with teachers who are expert at teaching young adolescents.
The developmental characteristics, needs, & interests of the young adolescent are the basis of instructional decisions.	Staff schools with teachers who are expert at teaching young adolescents.

Students are held accountable for learnings derived from all three curriculum sources: (a) student interests, needs & concerns; (b) societal expectations & standards; (c) research and scholarship in PE and its supporting disciplines.

Teach core academic program.

There is a written mission statement representative of a shared vision among PE faculty of the goals, objectives & outcomes of the program.

Empower staff to make decisions about experiences of students.

The PE faculty works cooperatively to solve problems, establish policies & make decisions that guide the program.

Empower staff to make decisions about experiences of students.

The middle level PE program engages families in the educational process by emphasizing active lifestyles through special programs such as family activity nights, wellness exhibits, & fitness fairs.

Reengage families in the education of students.

Connect schools with communities.

Modified sport games, as opposed to official sports, are used during instruction.

Ensure success for all students.

Grades are based on student learning as demonstrated by various assessments of content & course objectives.

Teach core academic program.

---

Note. CCAD = The recommendations for middle level education suggested by the Carnegie Council of Adolescent Development (1989) that were found to be congruent with the components identified in this study.

Based on the agreement between each component and at least one of the CCAD's recommendations as indicated in Table 12, it can be concluded that there is congruency between the components of an exemplary middle level physical education program and the recommendations of the CCAD.

Developmentally appropriate practices.

The Middle and Secondary School Physical Education Council [MASSPEC] (1995), a committee of National Association of Sport and Physical Education, developed the Appropriate practices for middle school physical education [APMSPE] document. The purpose of this position statement was to suggest guidelines for middle level physical education that "best meet the needs of the early adolescent" (MASSPEC, p. 7). The developmentally appropriate practices framework hinges on five areas: (1) Quality physical education, (2) Curriculum guidelines, (3) Instruction, (4) Assessment, and (5) Support. Table 13 identified those components that are congruent with the APMSPE (MASSPEC, 1995).

Six of the ten components appear congruent with the APMSPE recommendations. Two of these six components, marked with an asterisk (\*), are not directly addressed but congruency can be inferred based on the general theme of the recommendation. Four components were not addressed. No components were found to be opposed to the APMSPE document. Based on this analysis, the components were either congruent with the recommendations or not addressed by APMSPE.

Table 13

Congruency between Components and APMSPE

Components	APMSPE
Middle level PE content is taught using developmentally appropriate practices that focus on the unique needs of young adolescents.	Instruction.
The PE program emphasizes life-time physical activities, fitness, & health practices for total physical, mental, social, & emotional well being.	Curriculum.
PE teachers have a clear understanding of the middle level concept & the unique contribution made to middle level education by physical education.	- - - - -
The developmental characteristics, needs, and interests of the young adolescent are the basis of instructional decisions.	Instruction.
Students are held accountable for learnings derived from all three curriculum sources: (a) student interests, needs and concerns; (b) societal expectations & standards; (c) research & scholarship in PE & its supporting disciplines.	Assessment.

There is a written mission statement representative of a shared vision among PE faculty of the goals, objectives, and outcomes of the program.

- - - - -

The PE faculty works cooperatively to solve problems, establish policies, and make decisions that guide the program.

- - - - -

The middle level PE program engages families in the educational process by emphasizing active lifestyles through special programs such as family activity nights, wellness exhibits, & fitness fairs.

Support.

Modified sport games, as opposed to official sports, are used during instruction.

Instruction.

Grades are based on student learning as demonstrated on various assessments of content & course objectives.

Assessment.

Note. Dashes (-----) represent the lack of congruency with a specific recommendation.

### Congruency of Issues

There were 26 issues achieving consensus during this Delphi study. Once the issues were ranked in order by the weighted scores, the researcher chose to focus only on the top ten. This provided more in-depth analysis on what are perceived to be the most important issues defined as outside the of control of most teachers.

### Carnegie recommendations.

To determine if the ten major issues identified in this study are also issues of concern to the CCAD (1989) a table was designed to organize data similar to the one used to check congruency for the components. The researcher used the eight areas discussed by the CCAD to compare issues of concern. Table 14 illustrates the top ten issues facing the implementation of an exemplary middle level program identified in this study and any CCAD recommendation that is addressed by each component. Any issue not addressed was marked by dashes (----).

Of the ten issues identified during this study seven are addressed and comparable with the CCAD's concerns. Three issues are not addressed by the recommendations. Since there are no issues opposed to any recommendation it appears that the issues found in this study are either comparable or simply not addressed. Therefore, it appears that the issues addressed in this study are comparable.

### Appropriate practices document.

To determine if the ten issues identified in this study are addressed in the recommendations set forth by MASSPEC (1995) a table was designed to organize the data. The researcher used the five sections of the APMSPE to compare issues of concern. Table 15 illustrates the top ten issues facing the implementation of an exemplary middle level program and the developmentally appropriate practice that each issue addressed. Any issue not addressed was marked by dashes (----).

Of the ten issues examined six are addressed and comparable with MASSPEC's issues of concern. Four issues are not addressed in this document but were not viewed in opposition to the intent of the document. The issues found in this study are either comparable or simply not addressed. Therefore, many of the issues found in this study address the concerns outlined in the APMSPE .

One of the major findings of this Delphi study was that a consensus among experts on the components of exemplary middle level physical education and the issues facing the implementation of such a program could be achieved. It is, however, unlikely that the consensus gained here would reflect the exact opinions of all who are concerned with the current dilemma of middle level physical education. However, the identification of such components and issues may be the needed first step in creating a general direction for the development of exemplary middle level physical education programs for young adolescents. In addition, a unique identity may begin to emerge for middle level physical education. A more comprehensive discussion of this study and several suggested implications based on the findings are included in Chapter 5.

Table 14

Congruency between Issues and the CCAD Recommendations

Issues	CCAD
There is a clearly defined curriculum focused on developing a physically educated person.	Teach a core academic program. Empower staff to make decisions.
PE is taught daily at the middle level.	Ensure success for all students.
PE teachers are hired for teaching ability more than coaching ability.	Staff schools with experts at teaching young adolescents.
The curriculum provides a broad range of physical activities for students to discover personal interests and possible lifetime activities.	Improve academic performance through fostering health and fitness.
Teacher preparation programs in PE include specific coursework & field experiences at the middle level.	Staff schools with experts at teaching young adolescents.
Class size for PE is equal to that found in core classrooms.	Ensure success for all students.
Curriculum is based on the National Standards for Physical Education.	- - - - -

Facilities provide adequate learning space to accommodate all PE classes without combining classes.

Ensure success for students.

Research on effective middle level PE.

- - - - -

A systematic process using a clearly defined set of criteria for evaluating the total PE program is used.

- - - - -

---

Note. Dashes (---) represent a divergence between the issue identified in this study and those of the CCAD (1989).

Table 15  
 Congruency of Issues with the APMSPE

Issues	APMSPE
There is a clearly defined curriculum focused on developing a physically educated person.	Curriculum Guidelines. Quality PE.
Physical Education is taught daily at the middle level.	Quality PE.
PE teachers are hired for teaching ability more than coaching ability.	- - - - -
The curriculum provides a broad range of physical activities for students to discover personal interests & possible lifetime activities.	Curriculum.
Teacher preparation programs in PE include specific coursework & field experiences at the middle level.	- - - - -
Class size for PE is equal to that found in core classrooms.	Support.
Curriculum is based on the National Standards for PE.	- - - - -
Facilities provide adequate learning space to accommodate all PE classes without combining classes together.	Support.
Research on effective middle level PE.	- - - - -
A systematic process using a clearly defined set of criteria for evaluating the total PE program is used.	Assessment.

Note. Dashes (---) represent a divergence between the issue identified in this study and those of the CCAD (1989).

### Summary

The identification of components and issues of an exemplary middle level physical education program was achieved through a Delphi technique. A national panel of experts completed a three round series of questionnaires used to obtain consensus. Consensus was obtained on 24 components and 26 issues. Weighted scores were used to determine the order of the perceived importance experts place on both components and issues. The final lists of the top ten components and top ten issues were further analyzed. It was concluded that the findings of this study were congruent with the recommendations and concerns of the CCAD (1989) and MASSPEC (1995) documents.

## CHAPTER 5

### Discussion and Implications

Through a consensus seeking technique, this Delphi study provided a forum for experts to 'think differently' while hopefully remaining 'consistent with guidelines' of the middle level concept. The purpose of this investigation was to identify the components of an exemplary middle level physical education program and the issues facing the implementation of such a program. In addition, this study attempted to determine if the identified components and issues were congruent with the recommendations set-forth by the Carnegie Council on Adolescent Development [CCAD] (1989) and the Middle and Secondary School Physical Education Council [MASSPEC] (1995). The ensuing discussion is based on those findings and is divided into the following three sections: (a) A Voice for Consensus, (b) Components and Issues, and (c) Non-Consensus Items. The implications, based on the findings of this study, are then presented.

#### A Voice for Consensus

It has been well documented that secondary physical education is at a critical crossroads (Rink, Ed., 1993). Secondary programs suffer from marginality, poor conditions, and lack of identity. Additionally, middle level programs are further deterred by a lack of direction and a minimal amount of research (Placek, 1992). Thus, the state of middle level physical education may be described as stagnant at best and doomed at worse.

Following the recommendations of Dalkey (1968), this study gathered the opinions from four sub-groups of experts representing those who may be affected by the solutions, who can implement the solutions, and those who are knowledgeable about the problem. Thus, the opportunity to dream, invent, and create an exemplary middle level program was provided during this Delphi study. As a result of this study Placek's (1992) assertion that "no strong voice of consensus is present from the profession about appropriate middle school curriculum" (p. 333) is now less valid since the experts in this study achieved consensus on 50 different items that, according to their best judgment, would lead to an exemplary program at the middle school.

It was inspiring to find that approximately 50% of the potential experts contacted took the opportunity to identify what they perceive to be important in an exemplary middle level physical education program. Their participation in this study may refute the belief among many physical education professionals that finding a solution for secondary physical education is a "lost cause" (Rink, 1993, p. 2).

One the other hand, this study may have exposed more of the "lost cause" mindset. It could be surmised that the items that gained consensus reflect little desire for substantial change. Since the majority of components and issues identified are relatively low risk and rather conservative, perhaps the experts gave little thought to the dilemma and simply returned each questionnaire with little

thought. This, however, is rather improbable since the experts knew that this study would take a considerable amount of time over several months. It is highly unlikely that experts would elect to participate if there was not a true concern for the current dilemma and they felt that a solution would be possible.

Perhaps the lack of innovation reflected in the components and issues is not an indicator of a 'lost cause' mentality or the inability to 'think differently' about middle level physical education. Rather this more conservative approach may simply reveal a philosophy in support of national guidelines which the experts seemed to agree is an important foundation at this time. The components and issues identified seem to emphasize the importance of a program with developmentally appropriate teaching practices. For instance, the teaching force must understand young adolescents and have a genuine concern for and knowledge of meeting the needs of the student; a content that promotes and develops an active lifestyle; and teaching behaviors that are appropriate and effective for middle graders.

It is conceivable that the opinions expressed by the experts reflected a common belief that perhaps the most basic elements of student learning are missing within many of middle level programs. Therefore, focusing on the basics may prove to be more realistic and more effective than redesigning and implementing a new approach to middle level physical education. This sage advice may indicate the experts understanding of the marginality of physical education

(Graham, 1990; Rink, 1993; Siedentop, 1987 & 1992) and engaging in a major overhaul at this time would ultimately be unsupported and most unrealistic. More subtle changes based on a knowledgeable teaching force, developmentally appropriate teaching practices, student accountability, current research, and student needs are congruent with current trends in education and would probably find support more easily within the educational community.

### Components and Issues

The list of components and issues reveal an interesting array of ideas that, if implemented, could provide the first steps in improving the state of physical education at the middle level while providing a quality foundation for the future development of exemplary programs. Generally, the components and issues that reached expert consensus acknowledge pre-adolescence as a distinct period of development. The components, considered collectively, suggest that physical education teachers should strive to match student needs with appropriate teaching behaviors. It was suggested that student needs, characteristics, concerns, and interests be valued by considering the students when making educational decisions (i.e., developing a curriculum, creating a lesson, and assessing learning) in exemplary programs. Further, it was suggested that the content in middle level physical education should be centered around the students and their specific needs for this period of development.

Four of the components in this study referred to the content of the curriculum for middle level physical education. Interestingly, the experts did not endorse a specific curriculum model (i.e., fitness, skill theme, sport education, outdoor education) but did agree to address curriculum in a more general way. There was consensus that the curriculum should emphasize life-time activities and fitness/wellness to gain knowledge of total well-being. In light of the recent Report of the Surgeon General (U.S. Department of Health and Human Services, 1996) that prescribes an active lifestyle, this endorsement is quite timely. Experts promoted curriculum diversity allowing teachers to decide what is best for their students. This could be a positive step in curriculum development by suggesting autonomy of teachers to vary the content based on regional interests, opportunities, and student needs and interests. Furthermore, the experts proposed that the curriculum center more on life-time activities that emphasize a holistic approach to wellness as opposed to more traditional, multi-activity models.

Additionally, the experts suggested that teachers must have a clear understanding of students and the philosophy of the middle level and lessons should be based on student needs and interests. Young adolescence is a time of exploration and experimentation. Teachers could use this learning period to influence active lifestyles and developing healthy habits for a lifetime.

The experts also recognized that teachers must be empowered to direct their own programs. Two of the components focused on teacher empowerment. As Locke and Placek (1996) have recognized, quality programs should have a shared vision among the faculty. Ideally, teachers would not only support but help create the goals, objectives, and outcomes of their program. In addition, the faculty in exemplary programs would work together to solve problems, establish policies, and make decisions that guide their program.

Ninety-five percent of the experts in this study represented physical education in some manner (teachers, administrators, or university faculty). Clearly these experts were aware, sensitive, and concerned about the needs of middle level students. This was a refreshing revelation since many physical education teacher education programs attempt to squeeze middle level with either elementary or high school teaching methods. It appears that the top ten components and issues identified in this study are directed at the needs of the middle level student whether short-term (i.e., instruction) or long-term (i.e., lifetime activities).

#### Non-Consensus Items

As the aforementioned components and issues gained consensus in this study, there were several items the experts did not agree on. They warrant further discussion. Many of them seem to center on middle level concepts such as integration of curriculum, advisory groups, and teaming. Experts may have felt that these areas are important features of a total middle school program, but not

integral in the creation of an exemplary physical education program.

There was division as to the importance of athletics and intramurals at the middle level. Many experts voiced concern that athletic programs do not belong in middle schools and that an intramural program is more appropriate. Others stated that both athletics and intramural could co-exist. Few experts were willing to place athletic programs as a priority over intramurals. However, there was not a consensus by the experts to discredit athletics. Although, it was clear that the hiring of teachers at the middle level should be based on the teachers ability to teach young adolescents physical education and not coaching ability. Just this one issue could make a tremendous impact on middle level physical education. The researcher does not mean to insinuate that coaches are not effective teachers, but realizes that the time demands and often the expectations for winning make it difficult, if not impossible, for the teacher/coach to devote ample attention to teaching.

Another area that the experts could not reach agreement on was the issue of gender in the gymnasium. Many experts commented that there was nothing that could be done in this area due to Title IX. Others refused to take a strong stand in one direction or another. It is interesting to note however that there are plenty of schools that 'mix' their class rosters, yet separate by gender for instruction. This researcher believes that this issue needs more discussion, debate, and research instead of physical education leaders and administrators turning their backs to the controversy. Based on the

developmental characteristics and needs of young adolescents, the law may need to be changed. Experts in physical education need to take a proactive, political stand on this issue. If gender mixed classes are most appropriate, then the law should be enforced in all programs. If it is decided that the gender mix of the class is more appropriate based on instructional needs, then that needs to be clear as well. The non-consensus of experts on this issue may illustrate a deep division in beliefs within the profession.

For many of the items, a non-consensus may reveal a lack of information on the subject or a split in philosophy. Future research and open debate on a national level would indeed create an atmosphere of scholarly inquiry into important aspects of middle level physical education. The following section provides implications based on the findings of this study. These implications are directed to state and national organizations, administrators, and physical education teacher education programs at universities.

### Implications

The components and issues identified in this study offer a plethora of implications for educators creating an exemplary middle level physical education program. Rink (1993) summarized the many arguments professionals in the field of physical education believe contribute to the marginal position and current dilemma of secondary schools. Two of these arguments are (a) failure of teacher education programs to prepare teachers for the real world and (b) conditions beyond the control of the profession. Many of the

components and issues identified by experts in this study seem to parallel those particular arguments. Therefore, the researcher has used the arguments as an outline for the following section on implications. In addition, many of the implications are directed at specific groups who have the authority to make change (state and national physical education associations, administrators, and teacher education programs).

Many in physical education have viewed the failure of physical education teacher education (PETE) programs to prepare teachers for the actual school setting as another cause of the current dilemma in middle level physical education (Rink, 1993). There are several implications for PETE based on the findings in this study which may support the belief that PETE has somehow failed preparing teachers for this specific level.

#### Teacher Education Programs

The first implication is that pre-service teachers take courses that focus specifically on the developmental characteristics of young adolescents and the middle level concept. McEwin and Dickinson (1995) state the following about general middle level education programs:

Using a variety of program, course, and field experience configurations, middle school teacher educators lead their students through the intricacies and nuances of young adolescent development, the expanding field of middle school curriculum, instructional strategies that accommodate and

further young adolescent development, the organizational structures of middle schools, and the intersect of subject matter knowledge with curriculum, instruction and development. (p. 133)

Classes should also include effective teaching skills modified to specifically address middle level students (i.e., discipline). In addition, the researcher believes that examples within teaching skill classes need to specifically address middle level students as well. For instance, AMTP (Graham, 1992) should include middle level videotape examples for pre-service teachers to observe expert teachers addressing young adolescents.

Field work for pre-service teachers to gain experience at middle schools is also important according to the consensus of experts found in this study. This component is supported by McEwin and Dickinson (1995) who state that "Field work, the crucible of education in the 1990's, is accomplished through observations, shadow studies, tutorials, internships, and site-based course delivery" (p. 133). The findings in this study support field-based experiences that acquaint pre-service teachers with young adolescents and provide ample opportunity to discover pre-teen characteristics, needs, concerns and interests (McEwin & Dickinson, 1995; McEwin, Dickinson, Erb & Scales, 1995). Furthermore, there should be options for pre-service teachers who are interested in and desire to teach at the middle level to student teach at exemplary schools.

Middle level physical education courses should center on the important documents relating to middle level physical education. Instruction on the middle level concept would provide the background on the middle level philosophy such as the CCAD (1989) recommendations for middle level education. In addition, pre-service teachers should understand how young adolescents can benefit from the Physically Education Person (NASPE, 1990) philosophy throughout the middle level. Instruction should be based on the appropriate practices document (MASSPEC, 1995) and become a familiar resource to pre-service teachers. The components found in this study also support the National standards for physical education (NASPE, 1995) and educating pre-service teachers on a variety of assessment techniques. There was consensus by experts that grading should not be based on participation and dressing out. Thus, grading philosophy based on content and meeting objectives need to be addressed in the undergraduate physical education curriculum. This component addresses what Rink (1993) described as the failure of physical education teachers and programs to be accountable to any expectations or standards.

The experts also determined that physical education faculty need to work cooperatively to solve problems and build a shared vision for their department. Pre-service teachers need opportunities to develop such cooperative problem solving skills by working together in small groups to learn to work in teams or departments. A shared vision among faculty is an important component to the

development of an exemplary middle level program. This idea is in agreement with Locke and Placek (1996) who are using this as a criteria in their research on quality secondary physical education programs. Although administrators cannot ultimately force teachers to share a vision, their leadership can direct this project and their support can provide the time necessary to develop such a vision while holding teachers accountable.

Finally, PETE activity classes need to be broaden for the physical education majors so they can experience a variety of lifetime activities instead of focusing only on the more traditional sports for which many majors probably have the basic skills (i.e., volleyball, basketball, and softball). The components and issues in this study are supported by the recent Report of the Surgeon General (U.S. Department of Health & Human Services, 1996) which emphasizes the need for developing a physically active lifestyle. Since the middle level is a prime learning ground for discovering interests, exploring new and varied activities, meeting challenges, and refining basic skills physical education programs could certainly assistance pre-teens in developing an active lifestyle for a lifetime.

Conditions Beyond the Control of the Profession

The last argument related to marginality are conditions beyond the control of the profession. Many of the issues identified in this study support Rink's list of items such as class size, lack of equipment, and overcrowded facilities. These problems are often beyond the control of teachers. Therefore, the need for local, state

and national organizations to represent physical education and its teachers are imperative. The implications for this issue primarily revolve around the role of advocacy. Many already take active roles in lobbying congress and state legislatures thus promoting physical education on state and national levels.

The findings from this inquiry may be useful to state and national groups by providing evidence to support daily physical education for the middle level. Physical educators could also lobby for adequate facilities for instruction which provides ample space to ensure safety and learning for students. Another important advocacy issue is ensuring that physical education class sizes are equal to the size of the core classes at a middle school.

One of the top ten issues from this study implies the need to review hiring practices at the middle level. There is concern among many in middle level physical education that teachers are selected on expertise in coaching rather than teaching. According to the findings in this study, experts believe newly hired faculty qualify as good instructors and have experience and knowledge about young adolescence and the middle level concept. The CCAD (1989) supports this finding by recommending "teachers in middle grades schools should be selected and specially educated to teach young adolescents" (p. 58). Teachers who demonstrate quality teaching skills at a different level and lack experience with young adolescents should not be left to accumulate this information on

their own over the years but rather required to attend relevant workshops and assigned mentors to help them succeed.

On a national level, MASSPEC should consider reviewing the NASPE'S document (1995). Since there is now consensus by experts on many of the components and issues for exemplary middle level physical education programs it would be timely to integrate these findings into this document. Clearly, this document is too specific in its examples, thereby omitting many important components and issues. This researcher suggests the document be broadened to encompass the many components necessary for exemplary programs and reflect the concerns at this level. Specifically, the addition of another section dealing with teachers' knowledge of the middle level philosophy, teacher empowerment, and promoting a shared vision within physical education departments is recommended. It is further suggested that the specific needs of young adolescents and how teachers can best address each appropriately be the focal point of this document.

### Summary

In summary, this chapter presented a discussion on three of the motivating agents for this study. To begin with, Siedentop (1992) challenged educators to think differently to save secondary physical education. This study offered a forum of experts to think differently and achieve consensus.

Secondly, Placek (1992) found that the middle level was devoid of direction or strong consensus in physical education. This study

not only found consensus among the experts, but narrowed components and issues to the ten most highly ranked to provide a focus on the most important factors in an exemplary program.

Finally, the 'lost cause' mentality reported by Rink (1993) may not be as wide-spread as previously thought. If there were little hope of improving middle level physical education, the experts would not have participated so willingly over such a long period of time nor gained consensus on components and issues. This may suggest that there may be model middle level physical education programs scattered throughout the country that experts used as examples when imagining an exemplary middle level physical education program.

If a clear direction is voiced and identity given to middle level physical education within the profession then there is a chance to improve programs at this level and eventually develop a number of exemplary programs across the country. If action is not taken, the current state of marginality and lack of identity will remain and secondary physical education will eventually fade away.

## CHAPTER 6

### Summary, Conclusions, and Recommendations for Future Research

The following chapter summarizes this study by including the purpose of inquiry, four guiding questions, Delphi technique to gain consensus, and data analysis. Conclusions were generated based on the findings and presented. Finally, future research investigations are suggested.

#### Summary of the Study

It is unfortunate that time is not often taken to dream the unimaginable; to invent the impossible; to create the unique. It is probably less often that a group of experts have the opportunity to share that dream, let alone find consensus among colleagues. This study was designed to provide such an occasion.

Siedentop's (1992) challenge "to think differently about physical education for youth," (p. 70) inspired this research. Through the use of the Delphi technique, it was envisioned that a forum of experts would suggest innovative ideas for the creation of a 'different' but exemplary middle level physical education program while remaining "consistent with guidelines which are directing emerging trends in middle and high school restructuring" (Siedentop, p. 71). Such an opportunity for experts to envision and then agree on a different type of program would certainly be a major step in developing an exemplary middle level physical education program.

Through the consensus seeking process of this Delphi study, experts in the fields of physical education, middle level education, and middle level physical education joined together to think such thoughts and dream such dreams. It was hoped that a definition and direction for change to help improve the lack of identity, poor condition, and marginality of physical education at the middle level would be the result of this study.

The specific purpose of this inquiry was to identify the components of an exemplary middle level physical education program and the issues facing the implementation of such a program. The following research questions guided the three rounds of this Delphi study:

1. What are the unique components of an exemplary middle level physical education program as identified by a panel of experts?
2. What are the critical issues facing the implementation of these components into programs?
3. Are the components and issues identified in agreement with the middle school recommendations set forth by the Carnegie Council on Adolescent Development ([CCAD],1989)?
4. Are the components and issues identified congruent with the Middle and Secondary School Physical Education Council (1995) recommendations for appropriate practices in physical education?

A series of highly structured questionnaires was used to obtain consensus from a national panel of experts on the components of an exemplary middle level physical education program and the

issues facing the implementation of these programs. The final analysis of data resulted in a consensus-based list of important components of an exemplary middle level physical education program and the critical issues facing the implementation of this type of program. Those items which obtained consensus were then ranked in order of perceived importance by the experts.

### Conclusions

From the results of this study, it can be first concluded that the Delphi technique is a useful research tool when attempting to obtain consensus from a diverse group of experts. This physical education study provided the opportunity to gather data from experts across the country through a relatively simple process. The findings derived gave middle level physical education teachers, public school administrators, and university faculty members equal voice.

Secondly, in a time when a 'strong voice of consensus' has been silent, this study gathered opinions and analyzed data to determine consensus on components and issues. The present findings warrant the conclusion that there is much consensus from experts on the components of an exemplary middle level physical education program and the issues that face the implementation of such a program.

Furthermore, based on the findings of this study, the experts found much to agree upon. They identified 24 components and 26 issues. All components and issues were congruent with current trends and guidelines in the middle level literature and supported by the limited physical education guidelines for middle level.

Although there were no earth shattering components or issues suggested during this study, it could also be concluded that a clearly defined program based on young adolescent characteristics and needs, may in fact, be radical enough to begin a positive evolution within middle level physical education by developing a foundation for exemplary programs.

The conclusions drawn from the present study offer a limited insight into what the experts believe make middle level physical education exemplary. A few implications have been suggested based on these findings but none are unequivocal. The search for what creates and maintains an exemplary physical education program at the middle level must continue to be researched.

#### Recommendations for Future Research

This study has contributed to the limited research on middle level physical education by attempting to define what an exemplary program in middle level physical education is by identifying the components and issues facing the implementation of such programs. Ironically, the experts who participated in this study identified the need for research specific to middle level physical education as an important issue that faces the implementation of exemplary middle level programs into schools.

Although the experts were not specific in addressing the research needs, there was consensus that research is a necessary part in developing exemplary physical education programs. Since there has been a lack of research on middle level physical education

(Placek, 1992), teachers and researchers alike could devote more of their attention to this line of inquiry.

A natural place to begin would be to further examine the components and issues identified in this study. The examination of each component and issue that gained consensus would provide researchers with a wide variety of topics on which to focus. Research studies of this type would eventually verify or refute the findings within this baseline study and therefore, refine the definition of exemplary physical education at the middle level.

Middle level education leaders, Alexander and McEwin (1989), completed a national research study on the many aspects of the middle level movement. This report has provided those in middle level education with a plethora of information about the current trends and practices within middle schools. This report has provided the opportunity to track the progress of middle schools in the United States over the years since it has been repeated and compared. A replication of this study directed toward physical education at middle level schools around the country may reveal information on many of the components and issues identified in this study. For instance, hiring practices, teacher knowledge and experience prior to taking a job at the middle school, teaching practices and policies, intramural programs and varsity sports programs, co-educational or separate gender classes, and curriculum models are some of the components and issues that could warrant future investigations.

Another line of research, based on this study, would be to

explore the current trends in physical education teacher education programs. Such a study would be beneficial by examining the nature of teacher education programs in physical education. These studies could focus on the components of teacher education programs such as (a) meeting the needs of young adolescents, (b) curriculum development, and (c) coursework, field experiences, and student teaching opportunities (McEwin, Dickinson, Erb, & Scales, 1995).

Studies, such as Griffin's participation styles (1984;1985 a & b), that observe young adolescent behavior within the physical education environment are enlightening. This type of study can offer an important perspective on what is actually occurring in the gymnasium. Since many of the components identified in this study focus on developing active lifestyles, future research might investigate what motivates pre-teens to become or remain active. In addition, this study directs attention to understanding the needs, concerns, and interests of middle level students within physical education. Thus, inquiries focusing on such concerns would be helpful, especially when developing curriculums and refining instruction. Appropriate practices for middle school physical education outlined by MASSPEC (1995) and supported by this study could be investigated to find out if the suggested practices make physical education a safe learning environment for students.

In addition, studies comparing the influence that the mix of gender (i.e., separate gender or mixed gender classes) may have on students would be useful. Since there was no consensus on this topic

found in this study, some experts may have felt unable to make an informed judgment on this subject while other experts may have based opinions on misinformation about the characteristics of young adolescents or their educational needs. Further discussion and research within physical education may bring clarification to this topic.

A final recommendation for research on middle level physical education would be an in-depth examination of successful programs. A study of this type could provide much insight on what seems to create and maintain exemplary programs. Locke and Placek (1996) are currently undertaking this type of study and, not surprisingly, have been hampered by the process of identifying exemplary programs that meet their criteria.

In conclusion, research in middle level physical education is needed. It is important to question, observe, and analyze, but equally important to disseminate findings in a manner that can be used to support or change the current situation. It is also hoped that this attempt in a continuing line of inquiry will be useful in providing direction to those interested in middle level physical education. Further, it is hoped that physical education at the middle level will improve for the sake of the developing young adolescent students.

## References

- Alexander, W. (1964). The junior high school: A changing view. NASSP Bulletin, 48, 22.
- Alexander, W. M., & McEwin, C. K. (1989). Schools in the middle: Status and progress. Columbus, OH: The National Middle School Association.
- Anderssen, N., & Wold, B. (1992). Parental and peer influences on leisure-time physical activity in young adolescents. Research Quarterly for Exercise and Sport, 63(4), 341-348.
- Bailey, R. A., & Burton, E. C. (1982). The dynamic self: Activities to enhance infant development. St. Louis: C. V. Mosby.
- Bain, L. L. (1990). Physical education teacher education. In W. R. Houston (Ed.), Handbook of research on teacher education (pp. 758-781). New York: Macmillan.
- Berliner, D. C. (1986). In pursuit of the expert pedagogue. Educational Researcher, 15(7), 327-336.
- Blos, P. (1962). On adolescence: A psychoanalytic interpretation. New York: Free Press.
- Blyth, D. A., Simmons, R. G., & Carlton-Ford, S. (1983). The adjustment of early adolescents to school transitions. Journal of Early Adolescence, 3.
- Bottom, J. K. (1993). Cooperative learning strategies in physical education. In J. E. Rink (Ed.), Critical crossroads: Middle and secondary school physical education (pp. 85-90). Reston, VA: National Association for Sport and Physical Education.

Boxer, A. M., Tobin-Richards, M., & Petersen, A. C. (1983). Puberty: Physical change and its significance in early adolescence. Theory into Practice, 22(2), 85-90.

Brashear, H., & Raney, R. (1978). Shand's handbook of orthopaedic surgery. St. Louis: Mosby.

Bredenkamp, S. (1992). What is "Developmentally Appropriate" and why is it important? Journal of Physical Education, Recreation and Dance, 63(6), 31-32.

Brendt, T. J., & Perry, T. B. (1990). Distinctive features and effects of early adolescent friendships. In Montemayor, R., Adams, G. R., & Gullotta, T. P. (Eds.). From childhood to adolescence: A transitional period (pp. 269-290). Newbury Park: Sage.

Brown, B. B. (1968). Delphi process: A methodology used for the elicitation of opinions of experts. Santa Monica, CA: RAND Corporation.

Brown, J. D. (1986). Evaluations of self and others: Self-enhancement bias in social judgments. In S. Fiske & S. Taylor (Eds.), Social Cognition (2nd ed.), (pp. 353-376). New York: McGraw-Hill.

Buchanan, C. M., Eccles, J. S., & Becker, J. B. (1992). Are adolescents the victims of raging hormones: Evidence for activational effects of hormones on moods and behaviors at adolescence. Psychological Bulletin, 111, 62-107.

Carlson, T. B. (1995). We hate gym: Student Alienation from physical education. Journal of Teaching in Physical Education, 14, 467-477.

Carnegie Council on Adolescent Development (1989). Turning points: Preparing American youth for the 21st century. Washington, DC: Author.

Carnegie Task Force on Teaching as a Profession (1986). A nation prepared: Teachers for the 21st century. New York: Author.

Council on Physical Education for Children (1992). Developmentally appropriate physical education practices for children [Brochure]. Reston, VA: NASPE.

Craig, G. (1976). Human development. Englewood Cliffs, NJ: Prentice-Hall.

Cramer, R. H. (1990). Issues related to the education of gifted children in the United States: A Delphi study. Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University.

Curtis, T., & Bidwell, W. (1977). Curriculum and instruction for emerging adolescents. Reading, MA: Addison-Wesley.

Dalkey, N. C. (1968). The Delphi method: An experimental study of group opinion. Santa Monica, CA: The RAND Corporation. Memorandum R. M.-588-PR, 11.

Dalkey, N. C., & Helmer, O. (1963). An experimental application of the Delphi method to the use of experts. Management Sciences, 9, 184-189.

Demo, D. H., & Savin-Williams, R. C. (1992). Self-concept stability and change during adolescence. In R. P. Lipka & T. M. Brinthaupt (Eds.), Self-perspectives across the life span (pp. 116-148). New York: State University of New York.

Deutsch, H. (1984). Sex fair grading in physical education. The Physical Educator, 41(3), 137-141.

DeVries, R., & Kohlberg, L. (1987). Constructivist early education: Overview and comparison with other programs. Washington, DC: National Association for the Education of Young Children.

Doda, N., George, P., & McEwin, K. (1987). Ten current truths about effective schools. Middle School Journal, 18(3), 3-5.

Duncan, S. C. (1993). The role of cognitive appraisal and friendship provisions in adolescents' affect and motivation toward activity in physical education. Research Quarterly for Exercise and Sport, 64(3), 314-323.

Eccles, J. S., & Midgley, C. (1990). Changes in academic motivation and self-perception during early adolescents. In Montemayor, R., Adams, G. R., & Gullotta, T. P. (Eds.). From childhood to adolescence: A transitional period (pp. 134-155). Newbury Park: Sage.

Eccles, J. S., Midgley, C., & Adler, T. (1984). Grade-related changes in the school environment: Effects on achievement motivation. In J. G. Nicholls (Ed.), The development of achievement motivation (pp. 283-331). Greenwich, CT: JAI.

Eichhorn, D. H. (1987). The middle school (2nd ed.). New York: The Center for Applied Research in Education, Inc.

Elkind, D. (1975). Recent research on cognitive development in adolescence. In S. E. Dragastin, & G. H. Elder (Eds.), Adolescence in the lifecycle (pp. 49-61). New York: Halsted Press.

Elkind, D. (1981). The hurried child. Reading, MA: Addison-Wesley.

Ennis, C. D. (1993). Can we really do it all? Making curriculum choices in middle and high school programs. In J. E. Rink (Ed.), Critical crossroads: Middle and secondary school physical education (pp. 13-23). Reston, VA: National Association for Sport and Physical Education.

Epstein, J. L., & MacIver, D. J. (1990). The middle grades: Is grade span the most important issue? Educational Horizons, 68, 88-94.

Erikson, E. H. (1963). Childhood and society. New York: W. W. Norton.

Erikson, E. H. (1965). Youth: Fidelity and diversity. In E. H. Erikson (Ed.), The challenge of youth (pp. 1-28). Garden City, NY: Doubleday & Company, Inc.

Erikson, E. H. (1968). Identity: Youth and crisis. New York: W. W. Norton.

Fortier, R. G. (1984). An AFGE local: An examination of factors contributing to union strength in the public sector. Public Personnel Management Journal, 13(3), 265-289.

Frazer, G. H., Kush, R., & Richardson, C. E. (1983). Unanswered research questions in health education: A Delphi study. Paper

presented at the Research Forum of the annual meeting of the American School Health Association, Louisville, KY. (ERIC Document No. ED 235-123).

Freud, S. (1949). An outline of psychoanalysis. New York: W. W. Norton.

Gatewood, T. E. (1981). History and philosophy of the middle school. In A. Arth, and J. Lounsbury (Eds.), The Middle School Primer. Laramie, Wyoming: University of Wyoming.

George, P. S., & Alexander, W. M. (1993). The exemplary middle school (2nd ed.). Fort Worth, TX: Harcourt Brace College Publishers.

Gilligan, C. (1993). In a different voice: Psychological theory and women's development. Cambridge: Harvard University Press.

Gilligan, C., Lyons, N. P., & Hanmer, T. J. (Eds.). (1990). Making connections: The relational worlds of adolescent girls at Emma Willard School. Cambridge: Harvard University Press.

Ginsburg, H., & Opper, S. (1988). Piaget's theory of intellectual development (3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Graham, G. (1990). Physical education in U. S. schools, K-12. Journal of Physical Education, Recreation and Dance, 61(2), 35-39.

Graham, G. (1992). Teaching children physical education: Becoming a master teacher. Champaign, IL: Human Kinetics.

Graham, G. (1995). Physical Education through students' eyes and in students' voices: Introduction. Journal of Teaching Physical Education, 14, 364-371.

Graham, G., Hopple, C., Manross, M., & Sitzman, T. (1993). Novice and experienced children's physical education teachers: Insights into their situational decision making. Journal of Teaching Physical Education, 12, 197-214.

Graham, K. C. (1993). Research and the improvement of practice in secondary school physical education. In J. E. Rink (Ed.), Critical crossroads: Middle and secondary school physical education (pp. 60-72). Reston, VA: National Association for Sport and Physical Education.

Griffin, P. S. (1984). Girls' participation patterns in a middle school team sports unit. Journal of Teaching Physical Education, 4, 30-38.

Griffin, P. S. (1985a). Girls' and boys' participation styles in middle school physical education team sport classes: A description and practical applications. The Physical Educator, 42, 3-8.

Griffin, P. S. (1985b). Boys' participation styles in a middle school team sports unit. Journal of Teaching Physical Education, 4, 100-110.

Gullota, T. P. (1983). Early adolescence, alienation, and education. Theory into Practice, 22(2), 151-154.

Hall, G. S. (1904). Adolescence: It's psychology and its relations to physiology, anthropology, sociology, sex, crime, religion and education (Vol. 1). New York: D. Appleton and Company.

Hammons, J. O., & Keller, L. (1990). Competencies and personal characteristics of future community college presidents. Community College Review, 18(3), 34-41.

Harter, S. (1981). A new self-report scale of intrinsic versus extrinsic orientation in the classroom: Motivational and informational components. Developmental Psychology, 17, 300-312.

Harter, S. (1982). The perceived competence scale for children. Child Development, 53, 87-97.

Holmes Group Executive Board. (1986). Tomorrow's teachers: A report of the Holmes Group. East Lansing, MI: Author.

Holyoak, C., & Weinberg, H. (1988). Meeting needs and pleasing kids: A middle school physical education curriculum (2nd ed.). Dubuque, IA: Kendall/Hunt.

Housner, L. D., & Griffey, D. C. (1985). Teacher cognition: Differences in planning and interactive decision making between experienced and inexperienced teachers. Research Quarterly for Exercise and Sport, 56, 45-53.

Inhelder, B., & Piaget, J. (1958). The growth of logical thinking from childhood to adolescence. New York: Basic Books.

Jackson, A. (1990). From knowledge to practice: Implementing the recommendations of Turning Points. Middle School Journal, 21(3), 1-3.

Jackson, T. P. (1991). A Delphi study to determine the essential topics for a college preparatory statistics course. Unpublished doctoral dissertation, University of South Carolina.

Jenkins, D. M., & Jenkins, K. D. (1991a). The NMSA Delphi report...but I thought Delphi was just a city in Greece. Middle School Journal, 22(4), 23-26.

Jenkins, D. M., & Jenkins, K. D. (1991b). The NMSA Delphi report: Roadmap to the future. Middle School Journal, 22(4), 27-36.

Johnson, J. H. (1988). Recognition of the middle level of schooling. Middle School Journal, 19(3), 27.

Jones, H., & Twiss, B. C. (1978). Forecasting technology and for planning decisions. London: Macmillian Press.

Katchadourian, H. A. (1977). The biology of adolescence. New York: W. H. Freeman.

Kuntzleman, C. T., & Rieff, G. G. (1992). The decline in American children's fitness levels. Research Quarterly for Exercise and Sport, 63(2), 107-111.

Lacy, A. C., & LaMaster, K. J. (1990). Analysis of fitness activities in junior high school physical education. The Physical Educator, 47(3), 176-179.

Lambert, L. T. (1989). Making the strange familiar: Theory and practice in physical education. Journal of Physical Education, Recreation, and Dance, 60(2), 51-55.

LaPlante, M. J. (1973). Evaluation of a selected list of purposes for physical education using a modified Delphi technique. Unpublished doctoral dissertation, University of Wisconsin.

LaPlante, M. J., & Jewett, A. (1987). Content validation of the purpose dimension. Journal of Teaching Physical Education, 6, 214-223.

Levinson, D. J. (1977). The mid-life transition: A period in adult psychosocial development. Psychiatry, 40, 99-112.

Linstone, H. A., & Turroff, M. (Eds.). (1975). The Delphi method techniques and applications. Reading, MA: Addison-Wesley.

Lipka, R. P., & Brinthaup, T. M. (Eds.). (1992). Self perspectives across the life span. Albany: State University of New York Press.

Lipsitz, J. (1977). Growing up forgotten. Lexington, MA: D. C. Heath.

Lipsitz, J. (1979). Adolescent development: Myths and realities. Children Today, 8, 2-7.

Lipsitz, J. (1984). Successful schools for young adolescents. New Brunswick, NJ: Transaction Books.

Locke, L. F. (1974, October-November). The ecology of the gymnasium: What the tourists never see. Paper presented at the meeting of the SAPECW Fall Workshop, Gattlinburg, TN.

Locke, L. F. (1992). Changing secondary school physical education. Quest, 44(3), 361-372.

Locke, L. F., & Placek, J. (Speakers). (1996). Searching for the "Good" gym: Confused criteria and chaotic conditions. (Cassette Recording No. 443). Washington, DC: American Alliance for Health, Physical Education, Recreation and Dance.

Long, H. B. (1990). Research trends, topics, results, approaches and funding in continuing higher education 1989-1998: A Delphi study. Continuing higher education review, 54, 1-10.

Lund, J. (1992). Assessment and accountability in secondary physical education. Quest, 44, 352-360.

Malina, R. M. (1990). Physical growth and performance during the transitional years (9-16). In Montemayor, R., Adams, G. R., & Gullotta, T. P. (Eds.), From childhood to adolescence: A transitional period (pp. 41-62). Newbury Park: Sage.

Manning, M. L. (1993). Developmentally appropriate middle level schools. Wheaton, MD: Association for Childhood Education International.

Martorella, P. H. (1991). Consensus building among social educators: A Delphi study. Theory and research in social education, 19, 83-94.

Maryland Task Force on the Middle Learning Year. (1989). What matters in the middle grades: Recommendations for Maryland middle grades education. Baltimore, MD: Maryland State Department of Education.

McEwin, C. K. (1992). William M. Alexander: Father of the American middle school. Middle School Journal, 23(5), 33-35.

McEwin, C. K., Dickinson, T. S., Erb, T. O., & Scales, P. C. (1995). A vision of excellence: Organizing principles for middle grades teacher preparation. The Center for Early Adolescence and National Middle School Association.

Middle and Secondary School Physical Education Council.  
(1995). Appropriate practices for middle school physical education [Brochure]. Reston, VA: National Association for Sport and Physical Education.

Miller, P. H. (1989). Theories of developmental psychology (2nd Ed). New York: W. H. Freeman & Company.

Mital, M. A., & Matza, R. A. (1977). Osgood-Schlatter's disease: The pain puzzler. The Physician and Sportsmedicine, 5, 60-73.

Mitchell, S. A. (1996). Relationships between perceived learning environment and intrinsic motivation in middle school physical education. Journal of Teaching in Physical Education, 15, 369-383.

Mitchell, M. F., & Earls, R. F. (1987). A profile of state requirements for physical education K-12. The Physical Educator, 44(3), 337-343.

Morrison, J. L., Renfro, W. L., & Boucher, W. I. (1984). Futures research and the strategic planning process: Implications for higher education (ASHE-ERIC Higher Education Research Report No. 9). Washington, DC: Association for the study of higher education.

Moskowitz, H., & Wright, G. P. (1979). Operations research techniques for management. Englewood Cliffs, NJ: Prentice-Hall, Inc.

National Association for Sport and Physical Education. (1990). Required: Quality, daily physical education [Brochure]. Reston, VA: Author.

National Association for Sport and Physical Education. (1992a). Guidelines for middle school physical education [Brochure]. Reston, VA: Author.

National Association for Sport and Physical Education. (1992b). Outcomes to quality physical education programs [Brochure]. Reston, VA: Author.

National Association for Sport and Physical Education. (1995). The national physical education standards. Reston, VA: Author.

National Commission on Excellence in Education. (1983). A nation at risk: The imperative for educational reform. Washington, DC: U. S. Department of Education.

National Middle School Association. (1982 &1995). This We Believe. Columbus, OH: Author.

Nesbitt, W. (1993). Self-esteem and moral virtue. Journal of Moral Education, 22, 51-53.

Newton, M. (1995). Adolescence: Guiding youth through the perilous ordeal. NY: W. W. Norton & Co.

Nugent, P., & Faucette, N. (1995). Marginalized voices: Constructions of and responses to physical education and grading practices by students categorized as gifted or learning disabled. Journal of Teaching in Physical Education, 14, 418-430.

O'Sullivan, M. (1989). Failing gym is like failing lunch or recess: Two beginning teachers' struggle for legitimacy. Journal of Teaching in Physical Education, 8(3), 227-242.

Paese, P. C. (1983). Improving secondary school physical education. The Physical Educator, 40(2), 60-63.

Pangrazi, R. P., Corbin, C. B., & Welk, G. J. (1996). Physical activity for children and youth. Journal of Physical Education, Recreation, and Dance, 38-43.

Pangrazi, R. P., Darst, P., Fedorchek, S., & Coyle, K. (1982). The needed link: A physical education curriculum designed exclusively for junior high students. The Physical Educators, 39(2), 71-77.

Pasternak, M. (1981). Adult perspectives on purposes for moving: 1980-2000. Unpublished doctoral dissertation, University of Georgia.

Pate, R. R., & Hohn, R. C. (1994a). A contemporary mission for physical education. In R. R. Pate & R. C. Hohn (Eds.), Health and fitness through physical education (pp. 1-8). Champaign, IL: Human Kinetics.

Pate, R. R., & Hohn, R. C. (1994b). Health-related physical education: A direction for the 21st century. In R. R. Pate & R. C. Hohn (Eds.), Health and fitness through physical education (pp. 215-217). Champaign, IL: Human Kinetics.

Pate, R. R., Small, M. L., Ross, J. G., Flint, K. H., & Warren, C. W. (1995). School physical education. Journal of School Health, 65, 312-318.

Petersen, A., & Taylor, B. (1980). The biological approach to adolescence: Biological change and psychological adaptation. In J.

Adelson (Ed.), Handbook of Adolescent Psychology. New York: Wiley and Sons.

Piaget, J. (1972). Intellectual evolution from adolescence to adulthood. Human Development, 15, 1-12.

Piaget, P. (1988). Extracts from Piaget's theory. In A. Richardson & S. Sheldon (Eds.), Cognitive Development for Adolescence (pp. 3-18). Sussex.

Pifer, S. (1987). Secondary physical education: A new design. Journal of Physical Education, Recreation, and Dance, 58(6), 50-51.

Pikulski, J. J. (1991). The transition years: Middle school. In J. Flood, J. M. Jensen, D. Lapp, & J. R. Squire (Eds.), Handbook of research on teaching the English language arts (pp. 303-319). New York: Macmillan.

Placek, J. H. (1992). Rethinking middle school physical education curriculum: An integrated, thematic approach. Quest, 44(3), 330-341.

Portman, P. A. (1995). Who is having fun in physical education classes? Experiences of sixth-grade students in elementary and middle schools. Journal of Teaching in Physical Education, 14, 445-453.

Race, K. E., & Planek, T. W. (1992). Modified scree test: Further considerations on its application to Delphi study data. Evaluation Review, 16(2), 171-183.

Rink, J. E. (1993). What's so critical? In J. E. Rink (Ed.), Critical crossroads: Middle and secondary school physical education (pp. 1-6). Reston, VA: National Association of Sport and Physical Education.

Sariscsany, M. J., & Darst, P. W. (1993). Elective multi-activity models for middle and high school physical education. In J. E. Rink (Ed.), Critical crossroads: Middle and secondary school physical education (pp. 24-32). Reston, VA: National Association of Sport and Physical Education.

Scheele, D. S. (1975). Reality construction as a product of Delphi interaction. In H. A. Linstone & M. Turoff (Eds.), The Delphi method: Techniques and applications (pp. 37-71). Reading, MA: Addison-Wesley.

Schickedanz, J. A., Schickedanz, D. I., Hansen, K., & Forsyth, P. D. (1993). Understanding Children (2nd ed.). Mountain View, CA: Mayfield.

Siedentop, D. (1987). High school physical education: Still an endangered species. Journal of Physical Education, Recreation and Dance, *58*(2), 23-25.

Siedentop, D. (1992). Thinking differently about secondary physical education. Journal of Physical Education, Recreation and Dance, *63*(7), 69-72.

Siedentop, D., & O'Sullivan, M. (1992). Secondary school physical education. Quest, *44*(3).

Simmons, R. G., Rosenberg, F., & Rosenberg, M. (1973).

Disturbance in the self-image at adolescence. American Sociological Review, 38, 553-568.

Speakman, M. A. (1985). A cross-cultural comparison of purposes for moving. Unpublished doctoral dissertation, University of Georgia.

Stevenson, C. (1992). Teaching 10-14 year olds. New York: Longman Publishing Group.

Strand, B., & Scantling, E. (1994). An analysis of secondary student preferences towards physical education. The Physical Educator, 51(3), 119-129.

Stroot, S. A. (1994). Contemporary crisis or emerging reform? A review of secondary school physical education. Journal of Teaching in Physical Education, 13, 333-341.

Surburg, P. R. (1985). Osgood-Schlatter's condition and the forgotten student. The Physical Educator, 42, (4)186-190.

Tanner, J. M. (1962). Growth in adolescence. Oxford, MA: Blackwell Scientific.

Tanner, J. M. (1968). Earlier maturation in man. Scientific American, 218, 21-27.

Tanner, J. M. (1973). Growing up. Scientific American, 229, 35-42.

Tanner, J. M. (1977). Education and physical growth (2nd ed.). New York: International Universities Press.

Tanner, J. M. (1978). Fetus into man: Physical growth from conception to maturity. Cambridge: MA: Harvard University Press.

Templin, T. (1987). Some considerations for teaching physical education in the future. In J. D. Massengale (Ed.), Trends toward the future of physical education. Champaign, IL: Human Kinetics.

Thornburg, H. D. (1982). Development in adolescence (2nd ed.). Monterey: Brooks/Cole.

Thornburg, H. D. (1983). Is early adolescence really a stage of development? Theory Into Practice, 22(2), 79-84.

Tinning, R., & Fitzclarence, L. (1992). Postmodern youth culture and the crisis in Australian secondary school physical education. Quest, 44(3), 287-303.

Tjeerdsma, B. L. (1995). How to motivate students without standing on your head! Journal of Physical Education, Recreation, and Dance, 66(5), 36-39.

Turoff, M. (1975). The policy Delphi. In H. A. Linstone & M. Turoff (Eds.), The Delphi method: Techniques and applications (pp. 84-101). Reading, MA: Addison-Wesley.

Unknown Author. (1982). Ohio Middle School Journal.

U. S. Department of Health & Human Services. (1990). Healthy people 2000: National health promotion and disease prevention objectives. Washington, DC: Author. DHHS Publication No. (PHS)91-50212.

U. S. Department of Health & Human Services. (1996). Physical activity and health: A report of the Surgeon General. Atlanta, GA:

Author.

Veal, M. L. (1992a). School-based theories of pupil assessment: A case study. Research Quarterly for Exercise and Sport, 63, 48-59.

Veal, M. L. (1992b). The role of assessment in secondary physical education: A pedagogical view. Journal of Physical Education, Recreation, and Dance, 63(7).

Venema, K., & Moore, L. V. (1987). ACPA members and leaders evaluate and assign priorities to association goals. College student personnel, 28(4), 371-374.

Vining, A. (1988). Discrete mathematics in the secondary curriculum: A Delphi study of topics and trends, Doctoral dissertation, Florida State University. DAI 50/02A.

Walling, M. D., & Martinek, T. J. (1995). Learned helplessness: A case study of a middle school student. Journal of Teaching in Physical Education, 14, 454-466.

Appendix A  
Pilot Study One

Round One

Fifteen potential pilot experts, satisfying at least one of the expert criteria, were sent a letter explaining the purpose of the pilot study and offering an invitation for participation. The letter, directions, and questionnaire for Round One were electronically mailed on January 22, 1996. Those unable to participate were asked to respond "can not participate" immediately after receiving the message. Ten of the fifteen, or 66.7%, agreed to participate. Three returned the 'could not participate' replied immediately while two did not respond at all. The following number of pilot experts agreed to participate in Round One:

Physical Education University (N=5)

Middle Level Education (N=1)

Physical Education Teachers (N=3)

Administrator (N=1)

Pilot experts were asked to answer five open-ended questions which included a brief evaluation of the questionnaire via electronic mail. The pilot questions were as follows:

1. Define quality physical education at the middle level. What would this look like in the gym? Provide examples if possible.
2. List the components found in this quality middle level physical education program as you see it.

3. Identify and explain critical issues facing middle level physical education today and in the future.
4. Include your expert opinion, concerns, constructive criticism, and/or suggestions for middle level physical education that you have not yet addressed.
5. Please add constructive criticisms and suggestions about this questionnaire.

Six of the respondents returned their opinions by the January 30, 1996 deadline. The other four took up to three weeks to return the data primarily due to problems with the researchers electronic mailing system. However, the response rate was 100%.

Many of the responses in Round One were directed toward quality physical education in general and effective teaching in particular instead of focusing on components unique to middle school physical education. A revised questionnaire was developed to increase the validity of the questions and given to four physical education graduate students. These responses were directed more to middle level physical education.

### Round Two

The researcher developed Round Two from the combined list of usable responses received from both questionnaires during Round One. The number of responses were narrowed from 108 to 61 (e.g., 65 to 31 components and 43 to 30 issues) by filtering items. The researcher eliminated responses that were general (teachers set high expectations, high success rate for students) or redundant

(individualized instruction) while broadening and grouping similar ideas together (clear educational goals and focus on pre-adolescent needs).

Categorizing the responses developed organization for Round Two. The categories used to divide the components were: teachers, curriculum and instruction, support, and community. Categories used for the critical issues were divided into marginality, poor conditions, lack of identity, and other.

The objective for Round Two was for the experts to apply a five point Likert Rating Scale to indicate the level of perceived importance of each component and critical issue. Experts were asked to add any new component or issue that they felt was omitted in Round One. Six new components were added to Round Two; there were no new issues. Once again feedback about the questionnaire was obtained. The experts all felt that the instructions were unclear and that it was hard to rate items because of the mixture of positive and negative responses. It would be wise to alter any negative response into a positive statement for the Delphi study.

Round Two responses were filtered again using a mean of four or more. Since Round Two was considered a sub-group of university physical educators any item with a mean of four or more would move to Round Three. If all other sub-groups rated the same item with a score of four or more that item would be marked 'consensus' and no further work would be needed. In case of an item receiving a mean of four or more by less than the four sub-groups that item would

appear in Round Three and experts would be given the opportunity to revise their rating and/or provide a rationale for their score for the purpose of persuading the others to change their score. Of the 61 items the physical educators rated 17 components and 17 issues with a mean of four or more for a total of 56% of the original responses advancing to Round Three. The purpose of the filtering system is to "help focus the study even further" according to Jenkins and Jenkins (1991, p. 25). It would be realistic for middle level physical education to concentrate their energies on the most important components and issues at this time. Therefore, Round Three will further narrow items by eliminating responses that do not receive a mean of four by all sub-groups and weighting the ranking scores.

Letter to Prospective Pilot One Experts

January 22, 1996

Dear Colleague,

Due to your interest in physical education, middle level education, or both, you are invited to participate in a pilot study designed to refine a questionnaire. The purpose of the questionnaire will be to develop a clear definition of a quality middle school physical education program, recognize the key components of such a program, and identify the critical issues facing physical education programs at the middle level. The actual Delphi study will seek consensus on these items from experts in middle level education.

The viewpoints of educators, such as yourself, interested in providing quality education to all students is vital. I ask your cooperation in providing feedback so the final Delphi questionnaire may be refined. Since this process will utilize the speed of electronic mail and require no extra reading, a minimal amount of your time will be necessary.

Please answer the following questions on the topic of quality middle level physical education. Your personal perspective will provide the basis for directing the final Delphi questionnaire. I appreciate your time to reflect on these questions.

Please return your first set of responses via e-mail no later than January 30, 1996. If you can not participate at this time due to prior commitments please reply a.s.a.p. with the message: "can not participate". If you have any questions about this study, please feel free to e-mail or call me: mccrumb\_dawn@mercury.csg.peachnet.edu, (706) 568-2046 office, (706) 568-6847 home.

Original Questionnaire

1. If you were to visit an exemplary middle school physical education program what would you expect the teachers to be doing? students? be going on in the gym? Provide examples if possible.
2. Briefly describe what you would expect (want?) to see physical education teachers doing in an exemplary middle school physical education program. Describe what students would be doing in an exemplary middle school physical education program.
3. In your opinion, list the five most defining components unique to middle level physical education.
4. Identify 5 critical issues facing the implementation of an exemplary middle level physical education program today and in the future.
5. Please add constructive criticisms and suggestions about this questionnaire.

### Revised Questionnaire

1. If you were to visit an exemplary middle school physical education program what would you expect the teachers to be doing? students? be going on in the gym? Provide examples if possible.
2. In your opinion, list five (5) components of a quality middle level physical education program that different than elementary or high school quality physical education programs.
3. Identify five (5) critical issues facing the implementation of an exemplary middle level physical education program today and in the future.

Results from Revised Questionnaire

1-If you were to visit an exemplary middle level physical education program what would you expect to see the teachers doing? the students? Provide specific examples if possible.

creating safe environments

teach how to become efficient/skillful movers

focus on cooperation

focus on fostering student relationships

explorative in nature (teachers with students, leading students)

providing feedback

active-walking around room observing students

explains health/fitness components to tie into lessons

uses Newton's for assessment

assesses students each day

gives homework

writes newsletters to faculty, parents, and students

grading based on performance and cognitive knowledge

no traditional fitness tests

changes tasks based on needs/ability of student

provides choices for students

creative in nature (students develop/create)

working together in groups

moving around

develops personal portfolios for assessment

active in variety of activities

some co-ed; some gender separate classes

small group lead-up games

cooperative activities

uses a variety of fitness equipment (spa)

excited about being in physical education

problem solving with peers

peers provide feedback

**2-In your opinion, list five important components of a quality middle level physical education program that are different than elementary or high school quality physical education programs.**

parent involvement

peer involvement

emphasizes health issues addressing all domains of development

group activities and peer involvement

attention to co-ed activities

smaller sided games away from skills to strategies, rules

wellness and personal goal setting

curriculum centered around peer accept

intramurals- before and after school programs

assessments-more authentic in nature

addressing puberty

connection of real life pressures

addressing popular body image myths through TV, magazines, etc.

thematic units

**3-Identify five critical issues facing the implementation of an exemplary middle level physical education program today and in the future.**

lack of support from legislature, administrators, parents, faculty

laws governing accountability---fitness testing

traditional athletics vs. non-traditional programs (i.e., intramurals)

lack of developmentally appropriate practices

lack of technology skills

lack of education about middle schoolers

money for technology and new equipment

facilities designed for athletics not instruction

Appendix B  
Pilot Study Two  
Direction Sheet for Round One

Round One consists of an open-ended questionnaire designed to for you to (a) briefly reflect on the value physical education should play in the total educational process, (b) define the role physical education has in the middle level curriculum, and (c) identify the components unique to middle level physical education and critical issues facing the implementation of a quality program.

There are 3 major tasks for Round One. Please take the time to:

- 1) briefly write your response to the first three questions in the space provided. Feel free to use the back of the sheet or another sheet of paper if necessary.
- 2) list 5 **unique components** or elements of a quality middle level physical education program that are **not found** in elementary or high school physical education.
- 3) list 5 critical issues **facing the implementation** of a quality program.

Return each answer sheet by October 16, 1996 by mailing it in the pre-addressed stamped envelope.

Dawn McCrumb  
Columbus State University  
Department of PELM  
Columbus, GA 31907

### Round One Questionnaire

1. If you were to visit an exemplary middle school physical education program what would you expect the teachers to be doing? students? be going on in the gym? Provide examples if possible.
2. In your opinion, list five (5) components of a quality middle level physical education program that different than elementary or high school quality physical education programs.
3. Identify five (5) critical issues facing the implementation of an exemplary middle level physical education program today and in the future.

### Directions for Round Two

The directions for Round Two-Pilot Study, the questionnaire asking experts to rate responses from Round One using a five point Likert scale, and a pre-addressed stamped envelope was mailed to those responding to the first round. The researcher will divide the questionnaire for Round Two into three sections; Section A will consist of the identified components from Round One; Section B will consist of the identified critical issues identified in Round One; and Section C will provide space for experts to add components and/or issues overlooked during Round One. Sections A and B will also provide space under each response for experts to offer an explanation of their personal rating in hopes to sway others to reach consensus (Jones & Twiss, 1978).

As questionnaires were returned, the researcher used a modified version of the filtering process used in the NMSA study. In that study, Jenkins and Jenkins (1991) reported that many new, creative, or innovative ideas were eliminated during the first round. Therefore, to avoid the same mistake and to encourage experts to 'think differently' (Siedentop, 1992) and ensure the opportunity for divergent opinions, this study used responses that score a mean of four or more from any one sub-group instead of the sum of means of four or greater from the entire panel of experts.

The results from the Round Two Pilot study are displayed on Table A. This data reflects the opinions of what would be considered a university physical education sub-group. The frequency of response to each component and issue are found under the respective rating score (e.g., 1, 2, 3, 4, & 5). The mean score was calculated for each response and is displayed in the far right hand column.

Sincerely,

Dawn K. McCrumb

Table A

Frequency of Responses to Perceived Importance of Components (Pilot: Round Two: Section A)

Component	1	2	3	4	5	M
a. Collaborates with professionals and students.	-	-	-	5	1	4.16
b. Identifies 'core concepts' for learning.	-	-	4	1	1	3.50
c. Understands/addresses puberty issues with students.	-	-	2	-	4	4.33
d. Recognizes adolescent pressures.	-	-	1	2	3	4.33
e. Focus' on pre-adolescent needs.	-	-	1	-	5	4.66
f. PE integrates with other subjects.	-	-	2	2	2	4.00
g. Emphasis on personal wellness goals.	-	-	1	3	2	4.16
h. Addresses body image myths.	-	-	2	2	2	4.00
i. Flexible time schedule.	-	1	1	3	-	3.40*
j. Student choice of activities.	-	-	-	3	3	4.50
k. Self paced activities; remedial.	-	-	1	5	-	3.83
l. Emphasis on group work.	-	1	3	2	-	3.16
m. Gender divided according to activity.	1	-	-	4	1	3.66
n. Elimination of traditional warm-ups.	-	-	1	-	5	4.66
o. Includes before and after school programming.	-	1	1	4	-	3.50
p. Connects students with the community.	-	1	2	2	1	3.50
q. Includes music whenever possible.	1	-	3	2	-	3.00
r. Large intramural program.	1	-	2	1	2	3.50
s. Authentic in nature.	-	-	1	3	2	4.16
t. Communicated to students, teachers, parents, and administrators.	-	-	1	3	2	4.16
u. Used for student improvement not grading.	2	1	-	-	3	3.16
v. Variety of assessment tools used.	-	-	-	5	1	4.16
w. Includes peer assessment.	-	1	3	2	-	3.16
x. Elimination traditional fitness testing.	1	-	1	-	4	4.00

y. Class size equal to others in school.	-	-	2	1	3	4.16
z. School promotes physically active lifestyle.	-	-	1	1	4	4.50
aa. Graduation requirement.	1	1	1	2	1	3.16
bb. Increased parental involvement.	-	-	1	4	1	4.00
cc. Multi-purpose facility for community use.	1	2	1	1	1	2.83
dd. Community specialists as invited teachers.	-	1	1	3	-	3.40
ee. Financially supported program.	-	2	-	3	1	3.50

---

**Frequency of Responses of Perceived Importance of Issues (Pilot: Round Two)**

---

Issues	1	2	3	4	5	M
a. PE meaningful to students.	1	-	-	1	4	4.16
b. PE as a graduation requirement.	1	1	3	-	1	2.83
c. Elimination or reduction of programs.	-	-	1	1	3	4.40*
d. Lack of instructional expectations by principals.	-	-	1	2	3	3.33
e. Lack of understanding in administration to effectively evaluate PE instruction.	-	1	3	2	-	3.16
g. Lack of support from parents.	-	1	2	2	1	3.50
h. Improve public perception of PE.	-	-	3	1	2	3.83
i. Require middle level PE teaching certification.	-	1	1	-	4	3.83
j. Lack of professional development.	1	1	-	2	2	3.50
k. Emphasis on coaching and athletics.	3	1	-	1	1	2.33
l. Define role of PE in school program.	-	-	-	2	4	4.66
m. PE valued as 'real' subject.	-	1	-	-	5	4.50
n. Lack of support from administrators.	-	1	1	1	3	4.00
o. Uneducated teaching force.	-	-	1	1	3	4.40*
p. Overcrowded classes.	-	-	1	1	4	4.50
q. Appropriate programming funding.	-	-	3	-	3	4.00
r. Facilities built for athletics.	1	-	2	2	1	3.33
s. Insufficient class time.	-	-	1	3	2	4.16
t. Inadequate amount of equipment.	-	-	2	1	3	4.16

u. Lack of competent instruction.	-	-	-	1	5	4.83
v. Increased technology in the gymnasium.	1	-	1	1	3	3.83
w. Increased program funding.	-	1	2	1	2	3.66
x. Clear educational goals.	-	-	1	2	3	4.33
y. Teacher / coach role conflict.	-	-	-	4	2	4.33
z. Increase parental awareness about wellness.	-	-	2	1	3	4.16
aa. Improve student motivation.	-	-	1	3	1	4.00*
bb. Coed vs. separate classes-gender issues.	1	-	-	2	2	3.80*
cc. Integration of subject matter.	-	-	2	2	2	4.00
dd. Articulation between elementary and high school.	-	-	-	1	5	4.83
ee. Integration of health and PE.	-	-	1	1	4	4.50

Note. N = 6. Those marked with an asterisk (\*) than N = 5.

A revised questionnaire was developed from the Pilot study data obtained during Round Two. Twenty two or 44% of all responses were eliminated. Six new components and no new issues were added. There were 14 components and 13 issues that scored a mean less than four by the physical education sub-group.

#### Components added during Round One

1. Promotes cultural sensitivity
2. Models a physically active lifestyle
3. Students exposed to broad array of content areas
4. Group students according to their choice of content
5. Modify traditional fitness test
6. Use of community recreational facilities for class

Round Two of the pilot study exposed two area's of confusion. The first was insufficient directions and the second was the mixture of positive and negative items. To eliminate these problems, a direction sheet was added to provide step-by-step instructions with examples and all negative responses were put into positive terms for clarity.

## Round Two

### SECTION A: COMPONENTS

The following lists are the combined responses from Round One which have been filtered and categorized. Please indicate the level of perceived importance you place on each component unique to a quality middle level physical education program. Circle the appropriate number based on the scale below. Feel free to add new components after each category that may have been overlooked during Round One.

1—————2—————3—————4—————5

[Unimportant] [Little Importance] [Somewhat Important] [Important] [Very Important]

#### A. TEACHERS

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. Collaborates with other professionals & students     | 1 | 2 | 3 | 4 | 5 |
| _____   |   |   |   |   |   |
| 2. Identifies 'core concepts' for learning              | 1 | 2 | 3 | 4 | 5 |
| _____   |   |   |   |   |   |
| 3. Understands & addresses puberty issues with students | 1 | 2 | 3 | 4 | 5 |
| _____   |   |   |   |   |   |
| 4. Recognizes adolescent pressures                      | 1 | 2 | 3 | 4 | 5 |
| _____   |   |   |   |   |   |
| 5. Other Components _____                               |   |   |   |   |   |
| _____   |   |   |   |   |   |

#### B. CURRICULUM & INSTRUCTION

##### 1. Curriculum:

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| a. Focus' on pre-adolescent needs      | 1 | 2 | 3 | 4 | 5 |
| _____                                  |   |   |   |   |   |
| b. PE integrates with other subjects   | 1 | 2 | 3 | 4 | 5 |
| _____                                  |   |   |   |   |   |
| c. Emphasis on personal wellness goals | 1 | 2 | 3 | 4 | 5 |
| _____                                  |   |   |   |   |   |
| d. Addresses body image myths          | 1 | 2 | 3 | 4 | 5 |
| _____                                  |   |   |   |   |   |
| e. Other Components _____              |   |   |   |   |   |
| _____                                  |   |   |   |   |   |

2. Instruction

a. Flexible time schedule	1	2	3	4	5
<hr/>					
b. Student choice of activities	1	2	3	4	5
<hr/>					
c. Self paced activities including remedial/enrichment	1	2	3	4	5
<hr/>					
d. Emphasis on group work	1	2	3	4	5
<hr/>					
e. Gender sensitive: divide boys & girls according to activity	1	2	3	4	5
<hr/>					
f. Other Components	<hr/>				
<hr/>					

3. Motivational Ideas

a. Elimination of traditional warm-ups	1	2	3	4	5
<hr/>					
b. Includes before and after school programming	1	2	3	4	5
<hr/>					
c. Connects students with the community	1	2	3	4	5
<hr/>					
d. Includes music whenever possible	1	2	3	4	5
<hr/>					
e. Large intramural program	1	2	3	4	5
<hr/>					
f. Other Components	<hr/>				

4. Assessment

a. Authentic in nature	1	2	3	4	5
<hr/>					
b. Communicated to students, teachers, parents, admin.	1	2	3	4	5
<hr/>					
c. Used for student improvement not grading	1	2	3	4	5
<hr/>					
d. Variety of assessment tools used	1	2	3	4	5
<hr/>					

e. Includes peer assessment 1 2 3 4 5

---

f. Elimination traditional fitness testing 1 2 3 4 5

---

g. Other Components \_\_\_\_\_

---

### C. SUPPORT

1. Class size equal to others in school 1 2 3 4 5

---

2. School promotes physically active lifestyle 1 2 3 4 5

---

3. Graduation requirement 1 2 3 4 5

---

4. Increased parental involvement 1 2 3 4 5

---

5. Other Components \_\_\_\_\_

---

SECTION B: ISSUES

Please rate each critical issue, identified in Round #1, according to the level of **perceived importance** it plays in the implementation of a quality middle level physical education program. Circle the appropriate rating based on the following scale:

1—————2—————3—————4—————5  
 [Unimportant] [Little Importance] [Somewhat Important] [Important] [Very Important]

A. Marginality

1. PE meaningful to students	1	2	3	4	5
_____					
2. PE as a graduation requirement	1	2	3	4	5
_____					
3. Elimination or reduction of programs	1	2	3	4	5
_____					
4. Lack of instructional expectations by principals	1	2	3	4	5
_____					
5. Lack of understanding in administration to effectively evaluate PE instruction	1	2	3	4	5
_____					
6. Lack of support from parents	1	2	3	4	5
_____					
7. Improve public perception of PE.	1	2	3	4	5
_____					
8. Require specific middle level PE teaching certification	1	2	3	4	5
_____					
9. Lack of ongoing professional development	1	2	3	4	5
_____					
10. Emphasis on coaching and athletics	1	2	3	4	5
_____					
11. Define role of PE in school program	1	2	3	4	5
_____					
12. PE valued as 'real' subject	1	2	3	4	5
_____					

13. Lack of support from administrators	1	2	3	4	5
---	---	---	---	---	---

---

14. Other Components

---

**B. Poor Condition**

1. Uneducated teaching force	1	2	3	4	5
------------------------------	---	---	---	---	---

---

2. Overcrowded classes	1	2	3	4	5
------------------------	---	---	---	---	---

---

3. Appropriate programming funding	1	2	3	4	5
------------------------------------	---	---	---	---	---

---

4. Facilities built for athletics not instruction	1	2	3	4	5
---	---	---	---	---	---

---

5. Insufficient class time	1	2	3	4	5
----------------------------	---	---	---	---	---

---

6. Inadequate amount of equipment	1	2	3	4	5
-----------------------------------	---	---	---	---	---

---

7. Lack of competent instruction	1	2	3	4	5
----------------------------------	---	---	---	---	---

---

8. Increased technology in the gymnasium	1	2	3	4	5
--	---	---	---	---	---

---

9. Increased program funding	1	2	3	4	5
------------------------------	---	---	---	---	---

---

10. Other Components

---

**C. Lack of Identity**

1. Clear educational goals	1	2	3	4	5
----------------------------	---	---	---	---	---

---

2. Teacher / coach role conflict	1	2	3	4	5
----------------------------------	---	---	---	---	---

---

3. Increase parental awareness about wellness	1	2	3	4	5
---	---	---	---	---	---

---

4. Other Components

---

### Direction Sheet for Round Three

There will be three tasks during the last round.

- 1) Please rate all new items from Round Two indicated by an asterisk (\*) using the same 5 point Likert scale you used in Round Two.
- 2) Secondly, you have the opportunity to revise your ratings on items not obtaining a degree of consensus in Round Two using the same Likert scale.
- 3) Finally, please **rank the top 3 components and top 3 issues** according to the perceived priority of importance in developing a quality middle level physical education program (1 indicates the top score, 2 indicates the second, and 3 the third).

## Appendix C Round One Coverletter

March 28, 1997

Dear Physical/Middle Level Educator,

Due to your past involvement in middle level education, you are invited to participate in a research study designed to identify the components of a quality middle level physical education program and the issues facing the implementation of such a program. Your experience, knowledge, and reputation in one or more of the following areas qualify you as an 'expert' for eligibility in this Delphi study: physical education, middle level physical education, or middle level education.

It is hoped that further discussion and direction for change to improve the lack of identity, poor conditions, and marginality of physical education at the middle level will be the result of this study. As Siedentop (1992) so poignantly asserts, to "think differently about physical education for youth" (p. 70) while being "consistent with guidelines which are directing emerging trends in middle and high school restructuring" (p. 71) would certainly be a major step toward the construction of quality middle level physical education. Through a consensus seeking technique, this Delphi study will provide a forum to 'think differently' while remaining 'consistent with guidelines' of the middle level concept.

The Delphi technique is a method of research that solicits the opinions of experts over a period of time in an attempt to reach group consensus. This study will consist of three rounds conducted through the mail. You will be mailed each round approximately three (3) weeks apart. Each round will take no longer than an hour to complete.

Since experts never meet and anonymity is guaranteed, this research method provides an equal voice to all participants: teachers, administrators, and university faculty members. No extra reading or research is expected. It is your opinion that is of interest and value.

Please complete the enclosed Questionnaire, Expert Criteria Check Sheet, and Human Consent Form and return it in the enclosed self-addressed envelope before April 16, 1997. If you are interested in receiving the final results of the study, please check the bottom of the Expert Criteria Check Sheet.

Thank you for your participation. Your expertise will provide insight into physical education at the middle level. If you have any questions, feel free to e-mail or call me: mccrumb\_dawn@colstate.edu; (706) 568-2046 (w).

Sincerely,

Dawn K. McCrumb  
Assistant Professor  
Columbus State University  
Columbus, GA 31907

enclosed: Questionnaire, Expert Criteria Form, Consent Sheet, and self-addressed stamped envelope.

## Appendix D

**Expert Criteria Sheet**

The Delphi technique inherently creates a non-threatening atmosphere to encourage a free exchange of honest opinion. No one will be able to identify you or your responses except you and the researcher. There is no condition under which the researcher will break confidentiality.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Home Phone #: \_\_\_\_\_ Work Phone #: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

Current Position/Title: \_\_\_\_\_

Highest educational degree obtained: \_\_\_\_\_

**Check One:**

\_\_\_\_\_ Happy to participate in order to help middle level pe.

\_\_\_\_\_ Unable to participate at this time.

Please check **as many** of the following items that apply to your professional career.

\_\_\_\_\_ Five or more years of teaching 6th, 7th, and/or 8th grade.

\_\_\_\_\_ Three or more years experience supervising student teachers, or mentoring beginning teachers at the middle level.

\_\_\_\_\_ Invited speaker on young adolescents, middle level education, and/or physical education for 6th - 8th grade.

\_\_\_\_\_ Faculty or adjunct position at the university level in the field of physical education or middle level education.

\_\_\_\_\_ Administrative position for the middle or junior high level.

\_\_\_\_\_ Co/Author of a journal article, regional or national document, or book published on middle level education.

\_\_\_\_\_ Check here if you would like a copy of the final results.

## Appendix E

### VIRGINIA POLYTECHNIC AND STATE UNIVERSITY

#### Informed Consent for Participants of Investigative Projects

Title of Project: Identifying the components of a quality middle level physical education program and the issues facing the implementation of these programs: Expert Opinion.

Investigator: Dawn K. McCrumb

#### I. The Purpose of this Research

The purpose of this Delphi study is to identify the important components of a quality physical education program at the middle level and the issues facing the implementation of this type of program. The consensus-based list of components and issues will provide a foundation for future discussion and a much needed direction for middle level physical education programs.

#### II. Procedures

You will be asked to complete a three round series of structured questionnaires to determine the level of consensus by a national panel of experts on the components of a quality middle level physical education program and the issues facing the implementation of these programs. Each round is designed sequentially, based on the information received in the previous round. The study will begin on April 1, 1997 and will end by June 6, 1997.

#### III. Risks

There are no risks to participants. The Delphi technique inherently creates an non-threatening atmosphere to encourage a free exchange of honest opinion since there are no face-to-face interactions where individuals or groups are able to dominate discussion.

#### IV. Benefits of the Project

There is no promise of benefits made to encourage you to participate. The results of this research project will be made available to you by checking the appropriate space at the bottom of the Expert Criteria Sheet.

#### V. Extent of Anonymity and Confidentiality

No one will be able to identify your personal responses except you and the researcher. The researcher will store all questionnaires at her home. All questionnaires will be destroyed at the end of the study. There is no condition under which the researcher will break confidentiality.

#### VI. Compensation

There is no compensation for participating in this project other than professional and/or personal satisfaction.

#### VII. Freedom to Withdraw

You are free to stop participating in this project at any time without any type of penalty or professional repercussion. You do not have to answer any questions of which you are not comfortable.

#### VIII. Approval of Research

This research project has been approved, as required, by the Institutional Review Board for Research Involving Human Subjects at Virginia Tech Polytechnic and State University, and the Department of Teaching and Learning.

#### IX. Subject's Responsibility

I voluntarily agree to participate in this study. I have the following responsibilities: 1) return the completed Expert Criteria sheet and Informed Content form; 2) complete each of the three rounds and return in the self-addressed, stamped envelop, and 3) agree to return completed questionnaires by the stated timelines.

#### X. Subject's Permission

I have read and understand the Informed Consent and conditions of this study. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this study. I may withdraw at any time without penalty. I agree to abide by the rules of this study.

---

Signature

---

Date

Should I have any questions about this research or its conduct, I may contact:

Dawn K. McCrumb (Investigator)

Phone: (706) 568-6847

George Graham (Faculty Advisor)

Phone: (540) 231-7545

Tom Hurd (Human Subject Reviewer)

Phone: (540) 231-5281

Appendix F  
Round One Questionnaire

Columbus State University  
MIDDLE LEVEL PHYSICAL EDUCATION QUESTIONNAIRE

For each statement below, circle the number that most accurately reflects each **component's level of perceived importance** as it contributes to a quality middle level physical education program. A component is defined as an item that is within the realm of control for a teacher in the immediate teaching context. Feel free to add new components and make comments at the end of this section.

Levels of Perceived Importance

- 5 = Very Important.  
4 = Important  
3 = Somewhat Important  
2 = Of Little Importance  
1 = Unimportant

	Unimportant		Very Important		
	1	2	3	4	5
1. PE teachers have a clear understanding of the middle level concept and the unique contribution made to middle level education by physical education.	1	2	3	4	5
2. The middle level pe faculty provide an orientation program for incoming students from local elementary schools.	1	2	3	4	5
3. The middle level pe program engages families in the educational process by emphasizing active lifestyles through special programs such as family activity nights, wellness exhibits, and fitness fairs.	1	2	3	4	5
4. Grades are based primarily on participation & dressing out in class.	1	2	3	4	5
5. Students are held accountable for learning based on performance assessments that focus on the technique or process.	1	2	3	4	5
6. Students are connected with community agencies, experiences, & services that encourage active lifestyles.	1	2	3	4	5
7. Cooperative learning is a method used in the instruction of middle level pe.	1	2	3	4	5
8. The pe faculty works cooperatively to solve problems, establish policies, and make decisions that guide the program.	1	2	3	4	5
9. The developmental characteristics, needs, and interests of the young adolescent are the basis of instructional decisions.	1	2	3	4	5

10. Interdisciplinary themes are used within the physical education curriculum.	1	2	3	4	5
11. There is a written mission statement representative of a shared vision among pe faculty of the goals, objectives, and outcomes of the program.	1	2	3	4	5
12. The pe faculty provides resources on physical education concepts, content, and examples that contribute to the interdisciplinary teams.	1	2	3	4	5
13. Students have input in the creation of assessment rubrics.	1	2	3	4	5
14. Official sport games are primarily used during instruction.	1	2	3	4	5
15. A safe, active, varied, and innovative warm-up period is provided at the beginning of each class.	1	2	3	4	5
16. Students are able to choose from a variety of uniform options.	1	2	3	4	5
17. Middle level physical education content is taught using developmentally appropriate practices that focus on the unique needs of young adolescents.	1	2	3	4	5
18. Grades are based on student learning as demonstrated on various assessments of content.	1	2	3	4	5
19. The instruction is concentrated on pe content offering little to no integration of other subject matter.	1	2	3	4	5
20. Technology is used within the pe program.	1	2	3	4	5
21. Students are held accountable for learning based on skill tests that focus on the product.	1	2	3	4	5
22. A recognition program exists to award every student before their peers for outstanding qualities and achievements.	1	2	3	4	5
23. Students have the responsibility to choose from an array of activity course options.	1	2	3	4	5
24. Students have an opportunity to choose from a variety of options in an extracurricular pe program.	1	2	3	4	5
25. Individual learning styles and multiple intelligences of students are used for instructional decisions.	1	2	3	4	5
26. Lead-up and/or small group games are primarily used during instruction.	1	2	3	4	5
27. Students are gender grouped according to the instructional situation (co-ed & separate).	1	2	3	4	5

28. PE teachers communicate regularly with parents using methods such as phone calls, newsletters, & conferences.	1	2	3	4	5
29. Qualified community members provide special expertise and assistance for the instructional program.	1	2	3	4	5
30. PE teachers provide positive role models by practicing good health and fitness habits.	1	2	3	4	5
31. PE faculty are aware of & use appropriate referral services and procedures when recommending students for specialized services.	1	2	3	4	5

Please feel free to add additional components, comments, and remarks in this space. Attach additional paper if needed.

For each statement below, circle the number that most accurately reflects the critical issue's level of perceived importance in the implementation of a quality middle level pe program. A critical issue is defined as an item that goes beyond the decision-making process of a teacher in the immediate teaching context.

	Unimportant			Very Important	
1. PE is taught daily at the middle level.	1	2	3	4	5
2. Students are gender mixed (co-ed) for pe classes.	1	2	3	4	5
3. Research on effective middle level physical education is needed.	1	2	3	4	5
4. PE teachers are hired for teaching ability more than coaching ability.	1	2	3	4	5
5. Teacher preparation programs in physical education include specific coursework and field experiences at the middle level.	1	2	3	4	5
6. Class size for pe is equal to that found in core classrooms.	1	2	3	4	5
7. PE teachers are included in the common planning period for core teams.	1	2	3	4	5
8. Administrators use a systematic process with a clearly defined set of criteria when evaluating pe teachers.	1	2	3	4	5
9. The curriculum provides a broad range of physical activities for students to discover personal interests and possible lifetime activities.	1	2	3	4	5
10. Facilities are designed primarily for pe instruction purposes.	1	2	3	4	5

11. Interdisciplinary teams include a pe representative.	1	2	3	4	5
12. The political influence from school boards and parents are the basis of program decisions.	1	2	3	4	5
13. A systematic process using a clearly defined set of criteria for evaluating the total pe program is used.	1	2	3	4	5
14. The philosophy of the pe program emphasizes the importance of class instruction more than coaching athletic teams.	1	2	3	4	5
15. Intramurals takes precedence over varsity athletics within the physical education program.	1	2	3	4	5
16. There is an adequate amount of equipment for effective instruction.	1	2	3	4	5
17. The pe department is separate from other departments or teams.	1	2	3	4	5
18. There is a common planning period for the physical education faculty scheduled during the school day.	1	2	3	4	5
19. Facilities provide adequate learning space to accommodate all pe classes without combining classes together.	1	2	3	4	5
20. Students are gender separate (boys/girls) for pe classes.	1	2	3	4	5
21. Facilities are designed primarily for athletic program uses.	1	2	3	4	5
22. Physical Education teachers participate in the	1	2	3	4	5

teacher-based advisory program.

23. PE teachers use a systematic process with a clearly defined set of criteria when evaluating peers. 1 2 3 4 5

24. Teachers assigned to middle level pe without prior middle level preparation and experience will receive on in-service staff development the middle level concept and the characteristics of young adolescence. 1 2 3 4 5

25. Flexible class scheduling is available to the physical education teacher to accommodate instructional needs. 1 2 3 4 5

26. There is a clearly defined curriculum focused on developing a physically educated person. 1 2 3 4 5

27. The pe curriculum continues to build upon the basic skills taught during elementary to help students understand their developing bodies. 1 2 3 4 5

28. Varsity athletics takes precedence over intramurals within the physical education program. 1 2 3 4 5

29. Lifelong activities are emphasized within the curriculum offerings. 1 2 3 4 5

30. The pe curriculum centers on the development of personal fitness. 1 2 3 4 5

31. The curriculum centers on the preferences and special interests of the pe teachers. 1 2 3 4 5

Feel free to add new issues and make comments, and remarks in this space. Attach additional paper if needed. Please return in the envelope provided by April 16, 1997. Thank you for participating.

## Appendix G Round Two Directions

April 30, 1997

Dear Expert,

Thank you for your opinion and support on the first round questionnaire. This study is designed to determine consensus from a wide variety of experts on the components and critical issues of a quality Middle Level Physical Education program. Enclosed you will find Round Two. Please complete each section and return it no later than May 14, 1997 in the enclosed self-addressed, stamped envelope.

This round consists of components and issues receiving a mean of 4 or more by all sub-groups (Teachers, Administrators, PE and Middle Level University Faculty) and are marked "CONSENSUS." Therefore, these items do not require rescoring. Items receiving a mean score of 4 or greater by at least one sub-group have been included in this round for another opportunity to reach consensus. New items, marked by an asterisk (\*), which were suggested by experts during Round One have been added. Please rate all items not marked "CONSENSUS" using the same 5 point Likert scale (1 = Unimportant - 5 = Very Important) as you did during Round One.

**Section A** consists of the Components, within the realm of teacher control, that would be found in a quality middle level physical education program. Since the first 12 items have already obtained a consensus skip to item # 13 and rate each item not receiving consensus and all of the new items marked with an asterisk (25-36).

**Section B** consists of the Critical Issues, beyond the decision-making process of a teacher in the immediate teaching context, found in a in a quality middle level physical education program. The first 15 items obtained consensus during Round One and are marked "CONSENSUS." Beginning with item 16 rate each using the Likert scale you used in Section A. Items 26 through 33 are new items suggested during Round One. Please rate each accordingly.

There is a special section that will provide additional data on how experts view physical education as part of the learning community and how it fits specifically into middle level education. This information will provide an understanding of what experts are thinking about physical education especially at the middle level. Your attention to this section is appreciated.

In the next and final round, you will be asked to prioritize only the items that have reached consensus by rank ordering the top 3 components and issues. The end result will yield a list of important components that should be included in quality program and issues that need to be considered.

Thank you for your participation and enthusiasm for middle level physical education!

Sincerely,

Dawn K. McCrumb  
Assistant Professor  
Columbus State University  
Columbus, GA 31907

enclosed: Round 2 Questionnaire (3 pages) and self-addressed stamped envelope.

Appendix H  
 ROUND 2 - QUESTIONNAIRE  
MIDDLE LEVEL PHYSICAL EDUCATION

Section A: Components of a quality middle level Physical Education Program:

The first 12 items have already reached consensus during Round 1. Therefore, skip to item 13 and circle the number that most accurately reflects the level of perceived importance you believe it contributes to a quality middle level physical education program. Remember that a component is defined as an item that is within the realm of control for a teacher in the immediate teaching context.

\* Indicates a new item suggested in the first round.

Levels of Perceived Importance

5 = Very Important.

4 = Important

3 = Somewhat Important

2 = Of Little Importance

1 = Unimportant

- |   |           |
|---|-----------|
| 1. PE teachers have a clear understanding of the middle level concept & the unique contribution made to middle level education by physical education. | CONSENSUS |
| 2. Students are connected with community agencies, experiences, & services that encourage active lifestyles.  | CONSENSUS |
| 3. The pe faculty works cooperatively to solve problems, establish policies, and make decisions that guide the program.                               | CONSENSUS |
| 4. The developmental characteristics, needs, and interests of the young adolescent are the basis of instructional decisions.                          | CONSENSUS |
| 5. There is a written mission statement representative of a shared vision among PE faculty of the goals, objectives, and outcome of the program.      | CONSENSUS |
| 6. A safe, active, varied, and innovative warm-up period is provided at the beginning of each class.  | CONSENSUS |
| 7. Middle level pe content is taught using developmentally appropriate practices that focus on the unique needs of young adolescents.                 | CONSENSUS |
| 8. Students have an opportunity to choose from a variety of options in an extracurricular PE program.   | CONSENSUS |
| 9. Individual learning styles and multiple intelligence's of students are used for instructional decisions.   | CONSENSUS |

10. PE teachers communicate regularly with parents using methods such as phone calls, newsletters, & conferences. CONSENSUS

11. PE teachers provide positive role models by practicing good health and fitness habits. CONSENSUS

12. PE faculty are aware of & use appropriate referral services & procedures when recommending students for specialized services. CONSENSUS

	Unimportant			Very Important	
13. The middle level PE faculty provide an orientation program for incoming students from local elementary schools.	1	2	3	4	5
14. The middle level PE program engages families in the educational process by emphasizing active lifestyles through special programs such as family activity nights, wellness exhibits, and fitness fairs.	1	2	3	4	5
15. Students are held accountable for learning based on performance assessments that focus on the technique or process.	1	2	3	4	5
16. Cooperative learning is a method used in the instruction of middle level PE.	1	2	3	4	5
17. Interdisciplinary themes are used within the PE curriculum.	1	2	3	4	5
18. The PE faculty provides resources on PE concepts, content, & examples that contribute to the interdisciplinary teams.	1	2	3	4	5
19. Students have input in the creation of assessment rubrics.	1	2	3	4	5
20. Grades are based on student learning as demonstrated on various assessments of content.	1	2	3	4	5
21. Students have the responsibility to choose from an array of activity course options each marking period.	1	2	3	4	5
22. Lead-up and/or small group games are primarily used during instruction.	1	2	3	4	5
23. Students are gender grouped according to the instructional situation (co-ed & separate).	1	2	3	4	5

24. Qualified community members provide special expertise & assistance for the instructional program.	1	2	3	4	5
*25. PE teachers must belong to at least one professional organization for the purpose of professional development.	1	2	3	4	5
*26. Modified sport games, as opposed to official sports, are used during instruction.	1	2	3	4	5
*27. Yearly course scheduling and requirements ensure a balanced program of options for each student.	1	2	3	4	5
*28. Grades are based on student learning as demonstrated on various assessments of content and course objectives.	1	2	3	4	5
*29. Students have the responsibility to choose from an array of activity course options at least once a year.	1	2	3	4	5
*30. Grades are based primarily on participation.	1	2	3	4	5
*31. The physical education program emphasizes life-time physical activities, fitness, and health practices for total physical, mental, social, and emotional well being.	1	2	3	4	5
*32. Physical Education should not be graded but encouraged within the overall middle school program.	1	2	3	4	5
*33. The wellness concept is an essential part of the PE curriculum.	1	2	3	4	5
*34. Physical Education teachers help young adolescents understand their particular maturation process.	1	2	3	4	5
*35. Student progress is reported in various ways and reflects the goals of PE.	1	2	3	4	5
*36. Students are held accountable for learning's derived from all three curriculum sources: (1) student interests, needs and concerns, (2) societal expectations and standards, (3) research and scholarship in physical education and its supporting disciplines.	1	2	3	4	5

**Section B: Critical issues facing implementation of quality middle level Physical Education programs:**

The first 15 items have already secured a level of consensus during Round 1. Therefore, skip down to item 16 and circle the number that most accurately reflects your level of perceived importance of each critical issue in the implementation of a quality middle level physical education program. Remember, a critical issue is defined as an item that goes beyond the decision-making process of a teacher in the immediate teaching context. \* Indicates a new item suggested in the first round.

---

1. PE is taught daily at the middle level.	CONSENSUS
2. Research on effective middle level physical education is needed.	CONSENSUS
3. PE teachers are hired for teaching ability more than coaching ability.	CONSENSUS
4. Teacher preparation programs in Physical Education include specific coursework and field experiences at the middle level.	CONSENSUS
5. Administrators use a systematic process with a clearly defined set of criteria when evaluating PE teachers.	CONSENSUS
6. The curriculum provides a broad range of physical activities for students to discover personal interests and possible lifetime activities.	CONSENSUS
7. Facilities are designed primarily for Physical Education instruction purposes.	CONSENSUS
8. A systematic process using a clearly defined set of criteria for evaluating the total Physical Education program is used.	CONSENSUS
9. The philosophy of the PE program emphasizes the importance of class instruction more than coaching athletic teams.	CONSENSUS
10. Intramurals takes precedence over varsity athletics within the pe program.	CONSENSUS
11. There is an adequate amount of equipment for effective instruction.	CONSENSUS
12. There is a common planning period for the PE faculty scheduled during the school day.	CONSENSUS
13. Teachers assigned to middle level PE without prior middle level preparation and experience will receive in-service staff development on the middle level concept & the characteristics of young adolescence.	CONSENSUS
14. There is a clearly defined curriculum focused on developing a physically educated person.	CONSENSUS
15. The PE curriculum continues to build upon the basic skills taught during elementary to help students understand their developing bodies.	CONSENSUS

	Unimportant			Very Important	
16. Students are gender mixed (co-ed) for every Physical Education class.	1	2	3	4	5
17. Class size for PE is equal to that found in core classrooms.	1	2	3	4	5
18. PE teachers are included in the common planning period for core teams.	1	2	3	4	5
19. Interdisciplinary teams include a PE representative.	1	2	3	4	5
20. Facilities provide adequate learning space to accommodate all PE classes without combining classes together.	1	2	3	4	5
21. PE teachers participate in the teacher-based advisory program.	1	2	3	4	5
22. PE teachers use a systematic process with a clearly defined set of criteria when evaluating peers.	1	2	3	4	5
23. Flexible class scheduling is available to the Physical Education teacher to accommodate instructional needs.	1	2	3	4	5
24. Lifelong activities are emphasized within the curriculum offerings.	1	2	3	4	5
25. The PE curriculum centers on the development of personal fitness.	1	2	3	4	5
*26. Varsity athletics are NOT offered at the middle level.	1	2	3	4	5
*27. Intramurals and varsity athletics are a part of the overall ML program but are separate from the Physical Education program.	1	2	3	4	5
*28. Curriculum is based on the National Standards for Physical Education.	1	2	3	4	5
*29. Administrators use the same systematic process with a clearly defined set of criteria to evaluate PE teachers as they do when evaluating other teachers.	1	2	3	4	5
*30. Students choose mode of participation either co-ed or separate.	1	2	3	4	5

(OVER)

*31. The instructional segment of PE is co-ed while students divide by gender to compete separately (boys vs. boys; girls vs. girls).	1	2	3	4	5
*32. Class size for PE should be between 25-30 regardless of core class sizes since many are below 20.	1	2	3	4	5
*33. Arrangements are made so that PE teachers can, on occasion, meet with the core teachers for planning.	1	2	3	4	5

Appendix I  
Directions for Round Three

Dear Expert,

Finally, the third and final Round of the Middle Level Physical Education Delphi Study! I do realize this is a difficult time of year to be filling out forms but we are almost through. This round is quite simple but most important. All that is required is to rank order each list of Components and Issues identified as Important to Very Important. Please review each list separately. Remember Components are items that are within a teachers control and are found on the front page on the Questionnaire. Simply **rank order the top 3 Components** according to your perceived level of priority. In other words, which component is the most important in leading to an exemplary middle level program. Then, on the backside of the Questionnaire, repeat the process by ranking the Issues which are outside of a teachers control. Please rank the top Component and top Issue with a 1; the second most important with a 2; and the third with a 3. **Do not use ties.** Please return the questionnaire before **JUNE 25, 1997.**

Although you are only asked to rank order both lists on a scale of 1 to 3 please spend the time reviewing each list carefully. Each one of the items reached a level of consensus by receiving a mean score of 4 or greater during the first two rounds. It is now necessary for all experts to be very discriminative during this stage. We could argue that all are vital, therefore, all are necessary. However, the purpose of this study is to identify the most important components and issues that will lead to exemplary middle level physical education. Your score, along with the other 60 plus experts who are participating, will be weighted thus producing a list of components and issues in order of importance.

Many of the leaders in Physical Education such as Placek, Rink, and Siedentop have warned us that secondary physical education is at a critical crossroads. This study was designed to obtain a consensus from experts to open discussion, increase research, and offer direction for middle level physical education based on the informed opinions of experts who represent middle level physical educators, administrators, and university faculty in physical education and middle level education.

This has been an exciting process for me. The individuals who are participating are of the highest quality. I want to personally thank each of you because each round has been time consuming at a demanding time of year. I look forward to your last set of responses and the final list of components and issues so that work to the development of exemplary middle level physical education can begin. Your responses have been most appreciated. Thanks again.

Sincerely,

Dawn K. McCrumb  
Assistant Professor  
Columbus State University  
Department of PELM  
Columbus, GA 31907

Enclosed: Questionnaire and self-addressed stamped envelope.

## Appendix J

## Round Three Questionnaire

Section A: Components of an Exemplary Middle Level Physical Education Program:

Please **rank the top three** components (within a teachers control) that, in your judgment, are the most needed for an exemplary middle level physical education program to occur. Use the following rankings:

- 1 = The Most Important Component  
 2 = Next Important Component  
 3 = Third Important Component

- \_\_\_\_\_ Physical education teachers have a clear understanding of the middle level concept & the unique contribution made to middle level education by physical education.
- \_\_\_\_\_ Students are connected with community agencies, experiences, & services that encourage active lifestyles.
- \_\_\_\_\_ The PE faculty works cooperatively to solve problems, establish policies, and make decisions that guide the program.
- \_\_\_\_\_ The developmental characteristics, needs, and interests of the young adolescent are the basis of instructional decisions.
- \_\_\_\_\_ There is a written mission statement representative of a shared vision among Physical Education faculty of the goals, objectives, and outcomes of the program.
- \_\_\_\_\_ A safe, active, varied, and innovative warm-up period is provided at the beginning of each class.
- \_\_\_\_\_ Middle level pe content is taught using developmentally appropriate practices that focus on the unique needs of young adolescents.
- \_\_\_\_\_ Students have an opportunity to choose from a variety of options in an extracurricular PE program.
- \_\_\_\_\_ Individual learning styles and multiple intelligences of students are used for instructional decisions
- \_\_\_\_\_ PE teachers communicate regularly with parents using methods such as phone calls, newsletters, and conferences.
- \_\_\_\_\_ PE teachers provide positive role models by practicing good health and fitness habits.
- \_\_\_\_\_ PE faculty are aware of & use appropriate referral services & procedures when recommending students for specialized services.
- \_\_\_\_\_ The middle level PE program engages families in the educational process by emphasizing active lifestyles through special programs such as family activity nights, wellness exhibits, and fitness fairs.
- \_\_\_\_\_ Cooperative learning is a method used in the instruction of middle level physical education.

- \_\_\_\_\_ The Physical Education faculty provides resources on physical education concepts, content, and examples that contribute to the interdisciplinary teams.
- \_\_\_\_\_ Grades are based on student learning as demonstrated on various assessments of content.
- \_\_\_\_\_ Modified sport games, as opposed to official sports, are used during instruction.
- \_\_\_\_\_ Yearly course scheduling and requirements ensure a balanced program of options for each student.
- \_\_\_\_\_ Grades are based on student learning as demonstrated on various assessments of content & course objectives.
- \_\_\_\_\_ The PE program emphasizes life-time physical activities, fitness, and health practices for total physical, mental, social, and emotional well being.
- \_\_\_\_\_ The wellness concept is an essential part of the Physical Education curriculum.
- \_\_\_\_\_ PE teachers help young adolescents understand their particular maturation process.
- \_\_\_\_\_ Student progress is reported in various ways and reflects the goals of Physical Education.
- \_\_\_\_\_ Students are held accountable for learning's derived from all three curriculum sources:  
(1) student interests, needs and concerns, (2) societal expectations and standards, (3) research and scholarship in physical education and its supporting disciplines.

**Section B: Critical Issues of an Exemplary Middle Level Physical Education Program:**

Please **rank the top three** Issues (outside the control of teachers) that, in your judgment, must exist for an exemplary middle level physical education program to occur. Use the following rankings:

- 1 = The Most Important  
2 = Next Important  
3 = Third Important

- \_\_\_\_\_ Physical Education is taught daily at the middle level.
- \_\_\_\_\_ Research on effective middle level physical education.
- \_\_\_\_\_ Physical Education teachers are hired for teaching ability more than coaching ability.
- \_\_\_\_\_ Teacher preparation programs in Physical Education include specific coursework and field experiences at the middle level.
- \_\_\_\_\_ Administrators use a systematic process with a clearly defined set of criteria when evaluating Physical Education teachers.
- \_\_\_\_\_ The curriculum provides a broad range of physical activities for students to discover personal interests and possible lifetime activities.
- \_\_\_\_\_ Facilities are designed primarily for Physical Education instruction purposes.
- \_\_\_\_\_ A systematic process using a clearly defined set of criteria for evaluating the total PE program is used.

- \_\_\_\_\_ The philosophy of the Physical Education program emphasizes the importance of class instruction more than coaching athletic teams.
- \_\_\_\_\_ Intramurals takes precedence over varsity athletics within the physical education program.
- \_\_\_\_\_ There is an adequate amount of equipment for effective instruction.
- \_\_\_\_\_ There is a common planning period for the PE faculty scheduled during the school day.
- \_\_\_\_\_ Teachers assigned to middle level PE without prior middle level preparation and experience will receive in-service staff development on the middle level concept & the characteristics of young adolescence.
- \_\_\_\_\_ There is a clearly defined curriculum focused on developing a physically educated person.
- \_\_\_\_\_ The Physical Education curriculum continues to build upon the basic skills taught during elementary to help students understand their developing bodies.
- \_\_\_\_\_ Class size for Physical Education is equal to that found in core classrooms.
- \_\_\_\_\_ Physical Education teachers are included in the common planning period for core teams.
- \_\_\_\_\_ Interdisciplinary teams include a Physical Education representative.
- \_\_\_\_\_ Facilities provide adequate learning space to accommodate all PE classes without combining classes together.
- \_\_\_\_\_ Physical Education teachers participate in the teacher-based advisory program.
- \_\_\_\_\_ Physical Education teachers use a systematic process with a clearly defined set of criteria when evaluating peers.
- \_\_\_\_\_ Flexible class scheduling is available to the PE teacher to accommodate instructional needs.
- \_\_\_\_\_ Lifelong activities are emphasized within the curriculum offerings.
- \_\_\_\_\_ Curriculum is based on the National Standards for Physical Education.
- \_\_\_\_\_ Administrators use the same systematic process with a clearly defined set of criteria to evaluate physical education teachers as they do when evaluating other teachers.
- \_\_\_\_\_ Arrangements are made so that Physical Education teachers can, on occasion, meet with the core teachers for planning.

**THANK YOU FOR PARTICIPATING!**

## Appendix K

## Round Two Frequency Chart

Components	1	2	3	4	5	<u>M</u>
The middle level PE faculty provide an orientation program for incoming students from local elementary schools.	-	3	12	22	10	3.83
The middle level PE program engages families in the educational process by emphasizing active lifestyles through special programs such as family activity nights, wellness exhibits, & fitness fairs.	-	1	6	25	15	4.15
Students are held accountable for learning based on performance assessments that focus on the technique or process.	-	2	6	24	15	3.68
Cooperative learning is a method used in the instruction of middle level PE.	-	2	6	15	24	4.30
Interdisciplinary themes are used within the PE curriculum.	-	5	8	19	15	3.94
The PE faculty provides resources on PE concepts, content, & examples that contribute to the interdisciplinary teams.	-	4	7	16	20	4.11
Students have input in the creation of assessment rubrics.	1	5	14	20	6	3.54
Grades are based on student learning as demonstrated on various assessments of content.	1	-	9	15	22	4.21
Students have the responsibility to choose from an array of activity course options each marking period.	4	4	17	15	7	3.36
Lead-up and/or small group games are primarily used during instruction.	-	3	10	19	14	3.84
Students are gender grouped according to the instructional situation (co-ed & separate).	10	3	7	16	12	3.34
Qualified community members provide special expertise & assistance for the instructional program.	1	4	14	16	12	3.72
PE teachers must belong to at least one professional organization for the purpose of professional development.	2	2	14	10	18	3.79
Modified sport games, as opposed to official sports, are used during instruction.	-	1	7	12	27	4.34
Yearly course scheduling and requirements ensure a balanced program of options for each student.	-	2	9	16	19	4.13



Flexible class scheduling is available to the PE teacher to accommodate instructional needs.	-	1	9	19	18	4.15
Lifelong activities are emphasized within the curriculum offerings.	-	2	7	15	23	4.26
The PE curriculum centers on the development of personal fitness.	1	9	11	13	1	3.60
Varsity athletics are NOT offered at the ML.	5	7	10	8	13	3.40
Intramurals and varsity athletics are a part of the overall ML program but are separate from the PE program.	5	7	6	11	18	3.64
Curriculum is based on the National Standards for physical education.	2	-	8	8	29	4.32
Administrators use the same systematic process with a clearly defined set of criteria to evaluate PE teachers as they do when evaluating other teachers.	-	1	6	6	33	4.54
Students choose mode of participation either co-ed or separate.	13	14	9	6	5	2.49
The instructional segment of PE is co-ed while students divide by gender to compete separately.	18	7	10	8	4	2.43
Class size for PE should be between 25-30 regardless of core class sizes since many are below 20.	15	7	14	6	5	2.55
Arrangements are made so that PE teachers can, on occasion, meet with the core teachers for <u>planning</u> .	1	1	6	13	24	4.29

Note. A dash (-) indicates no response. ML = Middle Level. PE = Physical Education.

## Appendix L

## Weighted Scores of Components &amp; Issues

WS	Components
45	Physical education teachers have a clear understanding of the middle level concept & the unique contribution made to middle level education by physical education.
4	Students are connected with community agencies, experiences, & services that encourage active lifestyles.
15	The PE faculty works cooperatively to solve problems, establish policies, & make decisions that guide the program.
42	The developmental characteristics, needs, and interests of the young adolescent are the basis of instructional decisions.
17	There is a written mission statement representative of a shared vision among Physical Education faculty of the goals, objectives, and outcomes of the program.
- -	A safe, active, varied, and innovative warm-up period is provided at the beginning of each class.
67	Middle level pe content is taught using developmentally appropriate practices that focus on the unique needs of young adolescents.
- -	Students have an opportunity to choose from a variety of options in an extracurricular PE program.
2	Individual learning styles and multiple intelligences of students are used for instructional decisions.
3	PE teachers communicate regularly with parents using methods such as phone calls, newsletters, & conferences.
6	PE teachers provide positive role models by practicing good health and fitness habits.

- - PE faculty are aware of & use appropriate referral services & procedures when recommending students for specialized services.
- 14 The middle level PE program engages families in the educational process by emphasizing active lifestyles through special programs such as family activity nights, wellness exhibits, & fitness fairs.
- - Cooperative learning is a method used in the instruction of middle level physical education.
- - The Physical Education faculty provides resources on physical education concepts, content, & examples that contribute to the interdisciplinary teams.
- 4 Grades are based on student learning as demonstrated on various assessments of content.
- 11 Modified sport games, as opposed to official sports, are used during instruction.
- 3 Yearly course scheduling and requirements ensure a balanced program of options for each student.
- 8 Grades are based on student learning as demonstrated on various assessments of content & course objectives.
- 59 The PE program emphasizes life-time physical activities, fitness, and health practices for total physical, mental, social, and emotional well being.
- - The wellness concept is an essential part of the physical education curriculum.
- 1 PE teachers help young adolescents understand their particular maturation process.

- 2 Student progress is reported in various ways and reflects the goals of Physical Education.
- 39 Students are held accountable for learning's derived from all three curriculum sources: student interests, needs & concerns; societal expectations and standards; research & scholarship in physical education & its supporting disciplines.

WS	Issues
36	Physical Education is taught daily at the middle level.
16	Research on effective middle level physical education.
36	Physical Education teachers are hired for teaching ability more than coaching ability.
27	Teacher preparation programs in Physical Education include specific coursework & field experiences at the middle level.
3	Administrators use a systematic process with a clearly defined set of criteria when evaluating PE teachers.
36	The curriculum provides a broad range of physical activities for students to discover personal interests and possible lifetime activities.
4	Facilities are designed primarily for PE instruction purposes.
15	A systematic process using a clearly defined set of criteria for evaluating the total PE program is used.
8	The philosophy of the Physical Education program emphasizes the importance of class instruction more than coaching athletic teams.
6	Intramurals takes precedence over varsity athletics within the physical education program.
11	There is an adequate amount of equipment for effective instruction.

- 1 There is a common planning period for the PE faculty scheduled during the school day.
- 12 Teachers assigned to middle level PE without prior middle level preparation and experience will receive in-service staff development on the middle level concept & the characteristics of young adolescence.
- 42 There is a clearly defined curriculum focused on developing a physically educated person.
  - 2 The PE curriculum continues to build upon the basic skills taught during elementary to help students understand their developing bodies.
- 24 Class size for Physical Education is equal to that found in core classrooms.
- 7 Physical Education teachers are included in the common planning period for core teams.
- 5 Interdisciplinary teams include a PE representative.
- 20 Facilities provide adequate learning space to accommodate all PE classes without combining classes together.
- - PE teachers participate in the teacher-based advisory program.
- - PE teachers use a systematic process with a clearly defined set of criteria when evaluating peers.
- - Flexible class scheduling is available to the PE teacher to accommodate instructional needs.
- 3 Lifelong activities are emphasized within the curriculum offerings.
- 23 Curriculum is based on the National Standards for Physical Education.

- 4 Administrators use the same systematic process with a clearly defined set of criteria to evaluate PE teachers as they do when evaluating other teachers.
- - Arrangements are made so that PE teachers can, on occasion, meet with the core teachers for planning.
- 

Note. WS = Weight Score. Weight Scores were calculated by tabulating all rankings and summing scores based on the following formula: Rank 1 = 5 points, Rank 2 = 3 points; Rank 3 = 1 point. Dashes (--) indicate a weighted score of zero.

## VITA

**DAWN K. McCRUMB***Dawn K. McCrumb*

Columbus State University  
 4225 University Avenue  
 Department of Physical Education  
 Columbus, Georgia 31907

5358 Woodruff Farm Road  
 Apartment 210  
 Columbus, Georgia 31907  
 (706) 568-6847

**EDUCATION**

1997

**Doctoral Degree - Ed.D.**

Virginia Polytechnic Institute and State University  
 Blacksburg, VA 24061

Concentration: Curriculum & Instruction-Physical Education  
 Specialization: Elementary & Secondary Pedagogy, Supervision

1984-1987

**Masters of Education**

Salisbury State University  
 Salisbury, MD 21801

Concentration: Administration & Supervision in Education

1974-1978

**Bachelors of Science**

Salisbury State University  
 Salisbury, MD 21801

Concentration: K-12 Physical Education

**PROFESSIONAL EXPERIENCE**

1995-Present

**Assistant Professor of Physical Education**

Columbus State University  
 College of Education  
 Columbus, Georgia 31907

- \*Instructor of Assessment in Physical Education - Graduate
- \*Instructor of Analysis of Teaching Behaviors - Graduate
- \*Instructor of Curriculum and Development-Graduate
- \*Instructor of Introduction of Physical Education - Methods
- \*Instructor of Elementary Physical Education - Methods
- \*Instructor of Physical Education in Middle School - Methods
- \*Instructor of Health/Wellness - Methods
- \*Instructor of Individual Sport Activities - Majors
- \*Instructor of Personal Fitness - General

- 1993-1995      **Instructor of Physical Education**  
Virginia Polytechnic Institute and State University  
College of Learning and Instruction  
Blacksburg, VA 24061
- \* Director of Student Teaching Internship
  - \* Supervisor of Student Teachers
  - \* Instructor of Practicum Field Experience
  - \* Curriculum & Instruction of Secondary Physical Education
  - \* Introduction to Teaching Physical Education
  - \* Foundations of Teaching
- 1991-1993      **Graduate Teaching Assistant**  
Virginia Polytechnic Institute & State University
- Instructor in Basic Instruction Program:  
Badminton, Cycling, Tennis, Volleyball, and Weight Training
- 1984-1991      **Instructor of Physical Education**  
Salisbury State University  
Salisbury, MD 21801
- \* Elementary Physical Education Methods
  - \* Secondary Physical Education Methods
  - \* Fitness Programming
  - \* Personal Fitness
  - \* Basic Health
  - \* Various Activity Classes
- 1985-1991      **Varsity Softball Coach**  
Salisbury State University  
Salisbury, MD 21801
- \* Budgeting & Scheduling
  - \* Planning Practice & Game Strategies
  - \* Recruitment of Student Athletes
  - \* Scouting
  - \* Travel & Facility Preparation

- 1981-1984            **Fitness & Program Director**  
Mid-Delmarva YMCA  
Salisbury, MD 21801
- \* Budgeting
  - \* Created, Directed & Managed Various Special Programs & Events
  - \* Created & Taught Various Fitness Classes
  - \* Designed Program Newsletter
  - \* Developed Satellite Programs
  - \* Funding Raising
  - \* Public Relations & Community Speaking Circuit
  - \* Scheduled Classes, Special Events & Facility
  - \* Supervised Fitness, Children's & Adult Education Instructors
- 1980-1984            **Head Varsity Softball Coach**  
**Assistant Field Hockey Coach**  
Mardela Senior High School  
Mardela Springs, MD
- State Champions & Finalists - Softball & Field Hockey
- 1979-1981            **Instructor of Physical Education & Health (8-12th grade)**  
Arcadia Senior High School  
Accomac County, VA
- 1978-1979            **Instructor of Physical Education (K-8th grade)**  
Montgomery & Prince Georges Counties, MD

## **PROFESSIONAL ACTIVITIES**

### **Research** 1994-Present

**Dissertation Topic:**  
Components of a Quality Middle Level Physical Education Program:  
A Delphi Study seeking expert opinion.

1993-1994            **Authentic Assessment:** Fitness & Motor Skills Knowledge of 5th graders.

**Authentic Assessment:** The Valuing of Physical Activity by 8th graders.

1992-1993            **Why Fitness Test?** Study of various Virginia County Public School teachers to determine feelings about fitness tests and how they are held accountable for scores.

### **Publications**

McCrum, D.K. (1995). A look inside the middle school concept. Middle School Physical Education. Champaign, IL: Human Kinetics.

McCrumb, D.K. & McCollum, S. (1995). \$2,000 Virginia COOL Grant. Grant for after-school programming with rural at risk elementary and middle school students.

McCrumb, D.K. (1994). Value System for Fitness and Performance Related Activities. In Whittle Education Network.

## Professional Service

- 1997-Present      **Assistant Editor**  
 \* Teaching Elementary and Middle School Physical Education. Human Kinetics.
- 1994-1997      **Editorial Board**  
 \* Teaching Secondary School Physical Education. Human Kinetics.
- 1994      **National Elementary Conference**  
 \* Facilitator of General Session-Portfolio & Performance Assessment  
 \* Facilitator of General Session-Educational Reform & Restructuring
- 1993      **AAHPERD Convention**  
 \* Discussion Leader and Presider for EDA Project  
 \* Presider for Special Dance Section  
 \* Discussion Leader for Early Childhood Position Paper
- 1992-1993      **Virginia Polytechnic Institute & State University**  
 College of Education:  
 Excellence in Education Workshop  
 \* Presider
- 1991-1992      **Reviewer for Eastern District Association**  
 \* Elementary Curriculum Project  
 \* Middle School Curriculum Project
- 1986-1987      **Maryland State Board of Education**  
 \* Consultant for Curriculum Committee: K-12th grade  
 Sommerset County, MD

## Presentations

- 1995      McCrumb, D. What Inquiring Minds Should Know: The Middle School Concept. National United States Physical Education Conference. Orlando, FL.
- 1995      McCrumb, D., Brands, P., Holyoak, C., Kiser, P., Roslevege, S. & Weinberg, H. Teacher Talk with Dawn-a-hue: Implications for Middle School Physical Education. United States Physical Education National Conference. Orlando, FL.

- 1995 Graham, G., McCrumb, D., Bell, K., Doering, N., McCollum, S., Oliver, K. & Westfall, S. Authentic Assessments for Program Evaluation. Jekyll Island Elementary/Middle School Conference.
- 1994 **National Elementary Conference**  
\* 'Think Tank' on Reform in Physical Education
- 1993 **Jekyll Island Elementary Conference**  
\* Clip board Fitness-It's Time for a Change  
\* But My Students Aren't With Me! How to Motivate Students.
- 1993 **Virginia State Conference**  
\* Why Fitness Test?
- 1992 **Jekyll Island Elementary Conference**  
\* Effective Teaching Methods  
\* Developmentally Appropriate Practices
- 1992 **Montgomery County Inservice**  
\* Introduction to the American Master Teacher Program
- 1991 **Various Community Groups**  
\* Oh! My Aching Back!
- 1990 **Maryland State Conference**  
\* Aquacises: Fitness and Fun!
- 1989-1990 **Various Community Groups**  
\* Are You Physically Fit? It's Not Too Late!
- 1988-1989 **Various Community Groups**  
\* You and Your Child: An Active Life

## **University Service**

- Columbus State University**
- 1997-98
- \* Graduate Council
  - \* Faculty Senate Committee - Student Rights & Responsibilities
  - \* Instructor of College 105 - College Orientation Program
- 1996-97
- \* Graduate Council
  - \* Status of Women Committee
  - \* Faculty Senate Committee - Student Rights & Responsibilities
  - \* Search Committee-Theater Arts
- Salisbury State University**
- 1984-91
- \* Faculty Student Affairs Committee - Secretary
  - \* Faculty Athletic Committee
  - \* University Speakers Bureau
  - \* Freshman Orientation Program - Instructor & Advisor
  - \* Presidential Ad-Hoc Committee - Risk Management Task Force studying the personal safety of students on campus
  - \* University Wellness Day - Chair

## **College of Education & P.E. Department Service**

- Columbus State University**
- 1997-1998
- \* NCATE Steering Committee
  - \* Graduate Appeals Committee
  - \* Committee on Intellectual Vitality
  - \* Committee on Technology
- 1996-97
- \* Dean's Advisory Committee
  - \* College Technology Committee
  - \* Mission Statement & Assumptions Committee
- 1991-1994
- Virginia Polytechnic Institute & State University**
- \* Teaching and Learning Committee
  - \* Middle School Certification Committee
  - \* Search Committee for Pedagogy Faculty
  - \* Curriculum Committee for Physical Education Major
  - \* Advisory Board to Basic Instruction Program
  - \* Graduate Teaching Assistant Orientation - Instructor
  - \* Graduate Teacher of the Year Committee
- 1989-1991
- Salisbury State University**
- \* Academic Advisor
  - \* Grant Writing: University Fitness Court-Awarded
  - \* Secondary Education Committee
  - \* Physical Education Curriculum Committee
  - \* Founder & Advisor of the P.E. Majors Club
  - \* Editor of Department Newsletter
  - \* Library and Resources - Chair
  - \* Individualized Fitness Class Committee

- 1984-1991      **National and Regional Athletic Committees**  
 \* NCAA Softball Advisory Committee  
 \* All-American Regional Selection - Softball  
 \* National Softball Coaches Association - Membership Committee  
 \* E.C.A.C. Softball Championship Committee - Chair  
 \* E.S.A.C. All-Conference Softball Selection - Chair  
 \* Salisbury State Drug and Alcohol Committee

### **Community Service**

- 1997-98      **Board of Directors of American Heart Association**  
 Muscogee County, GA
- 1997-98      **Muscogee County Service Coalition & Community Initiative**  
 Muscogee County, GA
- 1992-95      **Gamma Beta Delta Academic & Service Society**  
 Virginia Polytechnic Institute & State University
- 1988-93      **Fitness Director for Asthmatic Camp for Children**  
 Wicomico County, MD
- 1987-1989    **Board of Directors for American Lung Association**  
 Easton, MD
- 1986-1990    **Board of Directors for American Heart Association**  
 Wicomico County, MD
- 1985-1991    **Chair of Lower Shore Jump Rope for Heart**  
 Salisbury, MD

### **Current Memberships**

- 1976-Present    **AAHPERD-NAGWS, NASPE- COPEC & MASSPEC**
- 1994-96      **American Association of University Women**
- 1988-Present    **Association of Supervision and Curriculum Development**
- 1995-Present    **Georgia Association of Health, P.E., Recreation, & Dance**
- 1992-Present    **National Association for Physical Education in Higher Education**  
 1994-Present    **National Middle School Association**
- 1991-96      **Virginia Association of Health, P.E., Recreation & Dance**
- 1994-95      **United States Physical Education Association**
- 1976-95      **Maryland Association of Health, P.E., Recreation & Dance**

**Honors and Awards**

- 1993           Who's Who in American Education  
                  Who's Who of Raising Young Americans
- 1992           **Graduate Assistant Teacher of the Year**  
                  Virginia Polytechnic Institute & State University  
                  College of Education-H.P.E.
- 1991           **Maryland State Governors Service Award**  
                  Outstanding Community Service for State of Maryland
- 1991           **Softball Coach of the Year**  
                  Eastern States Conference Association
- 1989           Who's Who in Society