

Chapter 8

Properties of Purpose Concepts in an Operational Middle-School Curriculum

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The curriculum activity initiated during the 1960s to define the structure of knowledge in physical education (Austin, 1965; Brown, 1967; Brown & Cassidy, 1963; Mackenzie, 1969; Pye & Alexander, 1971; Stanley, 1969; Tillotson, 1969; Ulrich & Nixon, 1972; Vogel, 1969) synthesized the philosophical curriculum positions of the previous 80 years and provided direction for the future. In 1963 the American Association for Health, Physical Education and Recreation began a 4-year sponsorship of the Curriculum Commission, which was responsible for developing a conceptual framework for physical education and the research project required for its validation (Aldrich, 1967). Concepts developed in this project were later modified and expanded by Jewett and her associates (Jewett & Mullan, 1977).

The Jewett focus for the purpose dimension of the Purpose Process Curriculum Framework was derived initially from a content analysis of the professional literature in physical education and is similar to the "subconcepts" proposed by the Curriculum Commission (Aldrich, 1967). This professional literature had served as the philosophical foundation for teacher preparation and physical education programs at all levels. Therefore, it followed that physical education programs should incorporate many of the same concepts that constitute the purpose dimension of the Purpose Process Curriculum Framework. The research reported in this article represented an attempt to examine purpose concepts in an operational middle-school curriculum and document the properties of the purposes from teacher and student perspectives. The technical report of the research is published elsewhere (Ennis, 1985). This paper consists of a brief summary of the research design, procedures, and results followed by a discussion of the properties of purpose concepts.

Examination of an Operational Middle-School Curriculum

In order to study the presence of purpose concepts in an existing or operational curriculum, it was necessary to establish a working framework from which to structure and organize the school setting. The Goodlad, Klein, and Tye (1979)

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domain approach to the organization of existing curricula postulates five domains of curricular decision-making: the ideological, formal, perceived, experiential, and operational. The ideological domain is composed of curricula that usually originate outside the school system and are marketed as textbooks or workbooks. Since student textbooks are uncommon in physical education, the ideological curriculum is elusive. Careful analysis of the teacher's professional background may reveal significant individuals or courses that influenced the program ideology. The formal domain consists of curricular documents developed within the school system by teachers and other curriculum specialists, usually presented as a curriculum guide. The perceived domain is defined as teacher beliefs about the teaching-learning process. The experiential domain consists of student reports of experiences in physical education. The operational domain is the classroom as viewed by an outside observer. Goodlad et al. (1979) have proposed that an existing curriculum integrates these five domains.

Researchers studying the Purpose Process Curriculum Framework (PPCF) have examined the purpose concepts in the ideological domain (LaPlante, 1973; Pasternak, 1981; Speakman, 1985), the perceived domain (Dishman, 1975), and the experiential domain (Chapman, 1974; Mangham, 1979; Norton, 1982). The relationship of concepts across domains has been investigated by LaPlante (ideological and perceived) and DeTroye (1972; formal, perceived, and experiential), although the interactions of decision-making across domains have not been a primary curriculum research focus. There have been no attempts to examine the purposes in the operational domain. This study was the first to examine purpose concepts across four decision-making domains and to investigate the concepts in the operational domain.

The research was conducted in 12 sixth-, seventh-, and eighth-grade classes in five elementary schools in a predominantly rural school system in northeast Georgia. Five physical education teachers and 355 students participated in the study. Data were collected in four curriculum domains to examine the presence of purpose concepts. The ideological domain was not present in textbook form in the school system investigated, although explicit curricular ideologies were encountered both in the curriculum guide examined in the formal domain and in teacher perceptions of ideal curriculum investigated in the perceived domain. The data collection procedure was sequenced across domains to minimize investigator bias. Field notes were the primary source of data collection in the operational domain. Data collection in the formal domain utilized a content analysis of the curriculum guide, while data collection in the perceived and the experiential domains was based on formal and informal interviews and the Middle School Movement Purposes Inventory (derived from the PPCF and based on research by Pasternak, 1981, and Norton, 1982).

Data analysis consisted of both qualitative and quantitative strategies. Qualitative data were analyzed using analytic induction, constant comparison, and typological analysis. Quantitative inventory data were analyzed using descriptive statistics and analysis of variance procedures. It should be noted that the typological analysis used the items of the Middle School Movement Purposes Inventory as a taxonomy for classification of content. This procedure was advantageous in that it provided a systematic method for analyzing content. The disadvantage was that it may have imposed a framework bias on the interpretation of the data. Teachers and students responded to inventory and interview questions related to

the planning and experiencing of purpose concepts in their physical education classes; they were not asked to generate personal purpose concepts for meaningful movement. Therefore, interpretation of these results must be limited to the use of the Middle School Movement Purposes Inventory items as a taxonomy for physical education and does not approach the sophistication required to claim phenomenological support for the personal meaning focus of the Purpose Process Curriculum Framework.

The results of the research indicated that purpose concepts could be documented in the four domains investigated. Table 1 reveals the consistency of the movement skill, fitness, enjoyment, and teamwork purposes throughout these middle-school physical education programs. This is evidenced through the documentation of the concepts of object manipulation, teamwork, awareness, joy of movement, neuromuscular efficiency, challenge, circulo-respiratory efficien-

Table 1
Purposes Present in the Domains*

| Purpose | Domain | | | |
|------------------------------------|--------|-----------|--------------|-------------|
| | Formal | Perceived | Experiential | Operational |
| 1. Catharsis | | * | * | |
| 2. Feel healthier | | * | * | |
| 3. Self-knowledge | * | * | * | |
| 4. Leadership | | * | * | * |
| 5. Transcendence | | * | * | |
| 6. Participation | | * | * | |
| 7. Object projection/reception | * | * | * | * |
| 8. Teamwork | * | * | * | * |
| 9. Awareness | * | * | * | * |
| 10. Cultural understanding | | | | |
| 11. Joy of movement | * | * | * | * |
| 12. Weight control | | * | * | |
| 13. Competition | | * | * | * |
| 14. Neuromuscular efficiency | * | * | * | * |
| 15. Challenge | * | * | * | * |
| 16. Circulo-respiratory efficiency | * | * | * | * |
| 17. Expression | * | * | * | |
| 18. Personal integration | | * | * | |
| 19. Muscular strength | * | * | * | * |
| 20. Aliveness | | * | * | |
| 21. Movement appreciation | | * | * | * |
| 22. Mechanical efficiency | * | * | * | * |
| Purpose totals | 11 | 21 | 21 | 12 |

Data sources: Formal = Curriculum Guide; Perceived = MSMPI and teacher interviews; Experiential = MSMPI and student interviews; Operational = 90 hours of observation prior to introduction of purpose concepts.

*Ennis (1984)

cy, muscular strength, and mechanical efficiency in all four domains. These concepts may represent traditional physical education programs with a subject matter focus. In addition, 21 of the 22 purposes were documented in the perceived and the experiential domains, while 11 were identified in the curriculum guide (formal domain). Twelve purpose concepts were observed in the operational domain. Examples of these purposes were behavioral in nature and were limited to explicit statements by teachers linking the lesson to a purpose or an overt student action (e.g., dribbling a basketball—object manipulation).

Examination of the results suggested that a physical education curriculum, though complex, may be partitioned for study in a way that is valid within the school setting. The domains of curriculum decision-making represent an effective conceptual framework for this purpose. Purpose concepts can be documented in the curriculum guide and observed in the gymnasium and on the playing fields. Furthermore, teachers and students can provide specific examples of content consistent with the Purpose Process Curriculum Framework without having had specific training in its use.

Properties of Purpose Concepts

Glaser and Strauss (1967) have stated that a primary goal of naturalistic study is the discovery of theory from data. They cite an overemphasis on theory verification to the detriment of the theory generation process. This research combined the concepts of verification and generation. First, the item categories of the Middle School Movement Purposes Inventory, as derived from the purpose dimension of the PPCF (Pasternak, 1981; Norton, 1982), were used as a taxonomy to categorize and verify that purpose concepts existed in operational curriculum. Second, qualitative strategies were used to generate properties of each purpose concept as described by teachers and students. Properties were classified into theoretical categories, which in turn provided the foundation for theory development grounded in the participants' perspectives. These properties are summarized in Table 2. Additional research is required to determine the extent to which these properties and categories are relevant in other programs and at other grade levels.

Analysis of purpose properties revealed two topics of interest: the perceptions of purposes as instrumental or terminal movement goals and the diversity of purpose concept interpretations by teachers and students. Selected purpose concepts served as both instrumental and terminal goals related to the achievement of success and the role of movement. Instrumental goals were defined as contributing to the accomplishment of a valued outcome, while terminal goals represented valued end products (Rokeach, 1973).

Purposes as Instrumental and Terminal Goals

Teachers and students valued success as both an instrumental and a terminal goal. Purpose concepts were perceived as contributing to success (instrumental) or as final products achieved when one was successful (terminal). This second category was further elaborated to include unexpected success and lack of success as contributors to the realization of a purpose.

Purposes instrumental to success were described as those in which the quality of the performance was paramount to accomplishing a particular goal.

Table 2: Purpose Properties in the Perceived and the Experiential Domains (Ennis, 1984)

| Purpose | Domain | |
|------------------------|--|--|
| | Perceived | Experiential |
| 1. Catharsis | (a) Opportunity provided through vigorous physical activity (b) Important for all students; usually discussed only with specific students | (a) Movement or activity itself served to release tension (b) Experienced by directing emotions at someone or something |
| 2. Feel healthier | (a) Movement itself helped students to feel healthier | (a) "Moving around" helped students to feel healthier (b) Positive change in emotional or physical health |
| 3. Self-knowledge | (a) Opportunity provided through varied curriculum (b) Varied curriculum increased possibility of success (c) Emphasis on positive aspects of self-knowledge | (a) Listing of activities that student could or could not do (b) Importance of improving skills |
| 4. Leadership | (a) Leader appointed by teacher (b) Leader helped others (c) Class structured so leader could emerge | (a) Leader appointed by teacher (b) Leader helped others (c) Leader interacted positively with others |
| 5. Transcendence | (a) Student choices (b) Competitive experience | (a) Experienced through novel, unexpected success (b) Movement originally perceived to be beyond student capabilities |
| 6. Participation | (a) Team play (b) Student choices (c) Total class involvement | (a) List of activities (b) Experienced through working well with others |
| 7. Object manipulation | (a) List of activities | (a) List of activities (b) Quality or success of skill/task considered important |

(cont.)

Table 2 (cont.)

| Purpose | Domain | |
|------------------------------|---|---|
| | Perceived | Experiential |
| 8. Teamwork | (a) Working together for success (b) Discussed with all students | (a) List of team sports (b) Working together essential for accomplishing goals (c) Helping others inherent in concept |
| 9. Awareness | (a) Confusion concerning terminology (b) List of activities (c) Class structured to increase student awareness | (a) Space perceived as a finite concept (b) Space used advantageously to avoid a negative result (c) Successful performers used space effectively |
| 10. Cultural understanding | Not present | Not present |
| 11. Joy of movement | (a) Experienced inherently in movement (b) Student choices (c) Increased through a varied curriculum | (a) List of activities (b) Competitive and team sports more fun than drills or individual sports (c) Experienced through success |
| 12. Weight control | (a) Achieved through vigorous exercise (b) Important for all students; usually discussed with individual students | (a) "Moving around" important for weight control (b) Jogging and exercises most frequently used for weight control |
| 13. Competition | (a) A central focus of 6th, 7th, and 8th grade curriculum (b) Competing with self was different from competing with team | (a) List of activities (b) Competing with self, emphasis on improvement for next performance (c) Competing with team, personal improvement to benefit the team, working with others for success |
| 14. Neuromuscular efficiency | (a) A central focus of 6th, 7th, and 8th grade curriculum (b) Importance of preparing students for future movement needs | (a) List of activities used to acquire or refine skill (b) Skill improvement (practice) important for better performance in games |

(cont.)

Table 2 (cont.)

| Purpose | Domain | |
|------------------------------------|--|---|
| | Perceived | Experiential |
| 15. Challenge | (a) Novel or high-risk activities (b) Performance in front of peers | (a) List of activities that were difficult or required courage |
| 16. Circulo-respiratory efficiency | (a) List of activities | (a) List of activities (b) Experienced through vigorous physical exercise |
| 17. Expression | (a) Expression of negative feelings (b) Performance in front of peers | (a) Both positive and negative emotions affected performance (b) Emotion resulted in an increased expenditure of force in movement; positive—individual movement (dancing, jumping); negative—force directed at someone or something |
| 18. Personal integration | (a) Developed through confidence-building activities (success) (b) Activities structured to increase success (c) Student choices | (a) Successful performance increased self-esteem |
| 19. Muscular strength | (a) List of activities | (a) List of activities |
| 20. Aliveness | (a) Inherent in physical education | (a) Experienced through tension activities (b) Experienced with success |
| 21. Movement appreciation | (a) Knowledge of rules and skills required (b) Examples of movement on TV used as models of correct performance | (a) Increased enjoyment of TV sports because of P.E. (b) Watching movement on TV increased knowledge and contributed to future success |
| 22. Mechanical efficiency | (a) List of activities | (a) List of balancing activities (b) Explanation of how balance contributed to success in specific activities |

The four purposes, object projection and reception, teamwork, mechanical efficiency, and neuromuscular efficiency, reflected traditional goals of physical education related to skill development (Table 2). Students described these purposes in terms of success:

You have to balance in basketball when you're by the sidelines and you're about to go out of bounds. You have to balance when you stop, and in football when you are switching your way real quick, so you won't get tackled. (Mechanical efficiency, 7th-grade boy, Walnut Hill School)*

The exception to this statement was the teamwork purpose, which teachers associated with "working together for success." This instrumental role was similar to the utility dimension described by Chapman (1974). Students valued the ability to manipulate objects, move, and cooperate effectively as important to a successful experience in physical education.

Students associated the purposes of neuromuscular efficiency and movement appreciation with *future* success. The neuromuscular purpose contributed to development and maintenance of skill, which students perceived as promoting success. The movement appreciation purpose appeared to heighten their awareness of future movement opportunities and to increase their understanding of skilled movement, the complex movement environment, and the potential for advanced levels of competition.

Success appeared to be a terminal goal for the purposes of joy of movement, personal integration, and aliveness. Students designated success as a key factor in *achieving* meaningful movement:

Basketball is the most fun when you see who can get the most points. You shoot baskets and see how good you are. (Joy of movement, 6th-grade boy, Oak Grove School)

However, teachers did not identify success as important in the joy of movement or aliveness purposes. Teacher comments were limited to broad statements that these purposes were inherent in "everything I do." Statements from students suggested that purposes should be planned specifically to include a success component in physical education classes.

Unexpected success was designated as an essential element when experiencing the transcendence purpose. Students associated a "special feeling of excitement" with experiences that were novel and perceived to be beyond their capabilities. The feeling was associated with the anticipation of an exciting experience, such as making a difficult catch or scoring a goal, as well as with successful experiences. Students also reported empathetic feelings of excitement when friends or teammates experienced unexpected success, which may reflect an association with the movement appreciation purpose.

Analysis of the data for the self-knowledge purpose revealed that teachers emphasized the positive or the successful accomplishments of students as in-

*Quotations presented as examples of purpose concepts were taken from the unpublished dissertation (Ennis, 1984).

strumental to self-knowledge, while students responded with both their successes and their failures. Students took pride in learning a difficult skill or accomplishing a task for the first time. However, they repeatedly emphasized skills they had not mastered or the realization that they were not always successful:

In basketball at the end of the game in class you only have 10 seconds left. You are too far away to shoot, but you try anyway and you miss. (Self-knowledge, 7th-grade boy, Walnut Hill School)

These comments were specifically associated with an interest in learning to perform more effectively with the clear acknowledgment that success was not yet achieved. Students discussed failure in a positive manner, associating it with the need for more practice. Students in these classes were challenged to continue to improve. The concept of "awareness of failure" as a component of the self-knowledge purpose may lead to some controversial questions. Should student failure be allowed to happen haphazardly? Should degrees of failure be planned for the express purpose of allowing students to know more about themselves? In this respect, is failure a holistic goal relevant to personal meaning?

A second category of purpose concepts identified "movement" as the instrumental means of attaining the purpose goal. Two subcategories of this concept were identified. First, both teachers and students considered vigorous physical activity as important for the attainment of circulo-respiratory efficiency, weight control, and catharsis. Second, movement of any kind was considered a positive factor in the concepts of feeling healthier and joy of movement. Neither students nor teachers articulated these concepts further. Certainly preservice and inservice education should emphasize the cognitive components of fitness, weight control, and relaxation using appropriate instructional strategies and experiences to convey these concepts to students.

Teachers or students discussed 14 purposes as either instrumental or terminal concepts. These properties were derived through qualitative analysis using analytic induction (Robinson, 1951). The Curriculum Commission report (Aldrich, 1967) postulated "zero-order" concepts, which could be classified into two broad categories: concepts that affect movement (afferent) and concepts that are affected by movement (efferent). These two categories were proposed as the poles of the continuum with all "lower order" concepts gravitating toward the afferent or efferent poles (Aldrich, 1967, p. 6). The similarities in the two classification systems (instrumental/terminal and afferent/efferent) suggest continuity of theory, which can be verified after two decades.

Concept Interpretation

Communication of the concepts underlying each purpose has been important to developers of the Purpose Process Curriculum Framework (Jewett & Mullan, 1977). Care has been taken by PPCF researchers over the last 15 years to ensure that inventory items accurately represented the purposes for each population examined. However, diversity of interpretation of purpose concepts continues to plague PPCF proponents. In this research, teachers and students were unaware of the framework definition and were interpreting the Middle School Movement Purposes Inventory items from their own frame of reference. Analysis of the properties of purpose concepts in this research identified two topics of interest. First, dis-

crepancies were noted between teacher and student abilities to articulate class experiences related to a concept as well as general confusion over the interpretation of certain purposes. Second, teachers used purpose concepts in a manner that was not intended by the PPCF developers. Teachers at times communicated information about purposes only to selective students, whereas both teachers and students used purpose concepts to express negative feelings or emotions.

Students were able to articulate their experiences more descriptively than teachers for four of the purposes: feeling healthier, transcendence, awareness, and aliveness. Teachers described the feeling healthier purpose as being fulfilled through the movement itself. Students identified feeling healthier as a positive change in their emotional and physical health related to strenuous movement and to cooperative efforts with others. Likewise, in the transcendence purpose teachers assumed that students would experience "special feelings of excitement" when engaged in activities that students had selected or that were competitive in nature. Students, on the other hand, implied that transcendence was experienced as a part of novel, unexpected success and the performance of a movement originally perceived to be beyond the student's capabilities:

You get a special feeling of excitement in flag football when you are running with the ball and you get past everyone and you wonder if you can make it. (Transcendence, 6th-grade boy, Willow Brook School)

Teachers appeared to rely on class structure and traditional sports and games activities to expose students to the awareness purpose. More elaborate statements from students indicated that they perceived space as a finite concept limited by objects, boundaries, or other people. Space was something to be used to avoid a negative result (e.g., trapped in a corner of the basketball court, used to avoid a football tackle). Furthermore, students acknowledged that successful performers used space effectively. Aliveness was the fourth purpose that teachers described as inherent in physical education with no specific requirement for planning. Students associated it with success and tension-releasing activities. This suggests a relationship with catharsis and other purposes consistent with vigorous activity.

There was confusion about two other purpose concepts in this study: participation and competition. Participation as an instructional concept is related to involvement in activity. Academic learning time is a manifestation of this concept, in which a primary component of effective teaching is on-task or participatory behavior. The definition used in the PPCF emphasizes the use of movement to participate in activities engaged in by other members of society. In this respect, participation is consistent with the "worthy use of leisure time" principle (Commission of the Reorganization of Secondary Education, 1918), which is clearly a curriculum goal. In this study both teachers and students appeared to use the instructional definition as their frame of reference. Therefore, properties of the participation purpose from these data should be interpreted cautiously.

A second source of confusion and concern for some teachers was the definition of the competition purpose. Competition was defined as "competing with myself and with others." Two teachers expressed concern that the statement reflected two different concepts. They encouraged students to compete with themselves to accomplish tasks to the best of their abilities. However, competition

against others was not considered an acceptable curriculum goal in these teachers' physical education classes. These teachers appeared to base their curriculum on the learner source (Tyler, 1949) or the self-actualization value orientation (Eisner & Vallance, 1974; Jewett & Bain, 1985). Teachers whose curriculum appeared to be based on subject matter or disciplinary mastery positions did not object to the wording of this item.

At times, teachers used concepts in a manner that was inconsistent with the intention of the PPCF developers. Teachers discussed two purpose concepts, catharsis and weight control, only with students whom they perceived to have a special need for this information. This is consistent with teacher expectation results of Martinek, Crowe, and Rejeski (1982). Students whom teachers believed to be hyperactive or overweight were advised of the positive effects of exercise to moderate these problems, but the majority of the class did not receive this information. In addition, neither teachers nor students associated weight control with underweight conditions. Three teachers stated that several of their students were overweight and that discussions of weight control made both the teacher and these students feel uncomfortable:

I never specifically talk about it to the group. Again, I may pull a student over and talk about it. (Weight control, Ms. Leland, Willow Brook School)

I don't mention it much to the students. Some of them are overweight, and I don't want to embarrass them in front of others. (Weight control, Mr. Hodges, Oak Grove School)

Similarly, catharsis was addressed by the teacher when tension, frustration, or hyperactivity of students led to disruption in the class. Only in these circumstances did teachers acknowledge the cathartic effects of movement and specifically plan activities for students who appeared to be experiencing these problems.

This emphasis on a purpose to moderate a negative behavior was found in the expression purpose as well as in weight control and catharsis. Although both teachers and students acknowledged that expression could be positive or negative, the idea of the effects of negative emotions on performance was a very important concept to the middle-school students interviewed in this study. Students associated expression with emotional release and acknowledged that expenditures of force accompanied both positive and negative emotions. Examples of negative expression were described as force directed at someone or something:

When you are mad, you hit the ball hard. In volleyball, you sometimes hit it right at someone on the other team. When you are happy, you enjoy playing; you hit it right. You let others have a turn. (Expression, 7th-grade boy, Elm Ridge School)

The release of anger is not the intention of the expression purpose in the PPCF, and may reflect catharsis. The concept of expressing thoughts and feelings is directed toward positive expression related to communication about personal meaning in movement. However, negative expressions are personally meaningful to those individuals who use movement to express their ideas and feelings. A question, then, is whether negative expression is an acceptable curriculum goal for physical education.

Diversity in participants' interpretation suggests that purpose concepts are complex phenomena that are multidimensional in nature. Although different populations may consistently rate purpose statements as very meaningful, it is unclear to which component of the purpose they are responding. The properties of purpose concepts reported in Table 2 support the research focus of construct validation by Jones (1972), Blaser (1974), Tiburzi (1979), Rady (1981), Segall (1985), and in some respects McGinn (1979). These studies suggest that each purpose concept is, in fact, a complex purpose *construct*. Additional research is needed to confirm the construct validation of these researchers and suggest construct components for the other purposes.

Summary

The categories described in this article represent one way of classifying purpose concepts based on the properties identified by a sample of middle-school students and teachers. The classification represented an alternative approach to understanding curriculum content within the Purpose Process Curriculum Framework. Analysis and interpretation of purpose data corroborated the dimension of utility (Chapman, 1974), the instrumental and terminal categories for movement purposes (afferent/efferent categories are described by Aldrich, 1967), and the presence of purpose concepts in the operational domain. Additional properties of purposes were generated in this study, reaffirming the complexity of purpose constructs. Clearly, the purpose dimension represents a comprehensive approach to curriculum development. It is hoped that purpose properties reported here may serve as a stimulus for further questioning and empirical research related to each purpose "construct," the purpose dimension, and the Purpose Process Curriculum Framework.

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