

CONCEPTUAL FRAMEWORKS AS A FOUNDATION FOR THE STUDY OF OPERATIONAL CURRICULUM

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The operational curriculum is receiving increasing attention as a research focus.¹ Investigators are studying the complexity of the environment with an emphasis on the patterns of interactions among a wide range of phenomena. Traditionally such studies have been limited to the description of curriculum development or implementation from the perspectives of only one decision-making or experiential group. These studies have limited data collection to observable phenomena characterized by identifiable products and tight controls.² However, many researchers no longer consider it appropriate simply to select a "research recipe" which results in a single outcome or product.³ These designs decrease the usefulness of the results in school settings because they frequently fail to consider the multidimensionality of context and individual perspectives that affect curriculum in schools.

A conceptual framework or explanatory theory⁴ is useful for structuring contextual elements within complex settings. A conceptual framework is defined as a structure that can be used to operationalize a curriculum theory by systematically identifying and defining the components and elaborating the ways in which they are related.⁵ Frameworks can provide a guiding structure

¹Richard E. Snow, "Representative and Quasi-representative Designs for Research on Teaching," *Review of Educational Research* 44 (Fall 1974), 265-291; John I. Goodlad, *Curriculum Inquiry* (New York: McGraw-Hill, 1979); M. Frances Klein, "The Use of a Research Model to Guide Curriculum Development," *Theory into Practice* 22 (Summer 1983): 198-202; George J. Posner, "Approaches to Curriculum Research: An Analysis and a Proposal" (paper presented at Milwaukee Curriculum Theory Conference, Milwaukee, Wisconsin, November 1976).

²Egon Brunswik, *Perception and the Representative Design of Psychological Experiments* (Berkeley: University of California Press, 1956); Richard E. Snow, "Representative and Quasi-representative Designs for Research on Teaching," *Review of Educational Research* 44 (Fall 1974), 265-291.

³A. S. Berk and R. J. Light, "Designing Evaluation for Different Program Environments," in *Educational Evaluation Methodology: The State of the Art*, ed. Ronald A. Berk (Baltimore: Johns Hopkins University Press, 1981), p. 14.

⁴Ilene B. Harris, "An Exploration of the Role of Theories in Communication for Guiding Practitioners," *Journal of Curriculum and Supervision* 1 (Fall 1985): 28.

⁵Ann E. Jewett and Marie R. Mullan, *Curriculum Design: Purposes and Processes in Physical Education Curriculum Development* (Washington, D.C.: American Association for Healthy, Physical Education, and Recreation, 1977), p. 1.

for research without limiting the design to a recipe. When conceptual frameworks are utilized in research, compatibility of framework elements and relationships with the existing setting is crucial.

Conceptual frameworks may be used to facilitate research in existing school settings by minimizing the possibility of omission of relevant data without compromising the assumptions of the natural environment. In this paper, I briefly discuss two issues for consideration when selecting and utilizing conceptual frameworks in operational school settings followed by an example of curriculum research using two conceptual frameworks. The first issue is related to the criteria that should be considered when selecting conceptual frameworks for curriculum research. The second issue focuses on the importance of the selection of data collection and analysis strategies congruent with the selected frameworks.

CRITERIA FOR SELECTION OF A CONCEPTUAL FRAMEWORK

Environments both within school and across school settings are characterized by their diversity. Each setting represents a conglomerate of value orientations,⁶ decision-making systems,⁷ teaching strategies,⁸ and learning styles.⁹ In order to capture and examine these phenomena, frameworks should have both sufficient breadth and compatibility to accommodate the diversity of participant belief constructs and should be systematically structured to organize the setting for empirical research.

Comprehensive frameworks can be employed to conceptualize the environment and to provide a system for describing and monitoring influential variables essential for empirical curriculum research. The essence of the framework is the ability to conceptualize apparently disparate elements into logical patterns and relationships. These structures are most effective in guiding research when all relevant elements or variables have been identified and defined. Realistically, even our most complete curriculum frameworks are probably lacking here. Yet this curriculum is important to the validity of the

⁶Elliot W. Eisner and Elizabeth Vallance, *Conflicting Conceptions of Curriculum* (Berkeley: McCutchan, 1974); Henry A. Giroux, Anthony N. Penna, and William F. Pinar, eds., *Curriculum and Instruction. Alternatives in Education* (Berkeley: McCutchan, 1981); Dorothy Huenecke, "What Is Curriculum Theorizing? What Are Its Implications for Practice?" *Educational Leadership* 39 (January 1982): 290-294; James B. Macdonald, "Curriculum Theory as Intentional Activity" (paper presented at the Curriculum Theory Conference, Charlottesville, Virginia, October 1975); John D. McNeil, *Curriculum. A Comprehensive Introduction* (Boston: Little, Brown, 1985); Donald E. Orlosky and B. Othanel Smith, *Curriculum: Issues and Insights* (Chicago: Rand McNally, 1978).

⁷John I. Goodlad, M. Frances Klein, and Kenneth A. Tye, "The Domains of Curriculum and Their Study," in *Curriculum Inquiry*, ed. John I. Goodlad (New York: McGraw Hill, 1979), pp. 43-76.

⁸Bruce Joyce and Marsha Weil, *Models of Teaching* (Englewood Cliffs, NJ: Prentice Hall, 1980).

⁹Kenneth T. Henson, guest editor, "Marching Teaching and Learning Styles," *Theory into Practice* 23 (Winter 1984): entire issue.

research results. Frameworks, though comprehensive, represent one facet of the complex milieu. Conceptual frameworks in curriculum facilitate the examination of the effects of a limited set of variables in the environment. Because these variables are perceived within a comprehensive context, isolation or fragmentation, sometimes described as pigeonholing, may be only temporary. Variables are identified and then immediately nested within the context of the operational setting, contributing to the validity of empirical curriculum research.

Conceptual frameworks while necessarily broad must be sufficiently compatible to allow unique participant perspectives to be examined with minimal distortion. A certain amount of congruence is required to permit these beliefs to endure relatively unaltered in the natural school setting. A primary issue here focuses on the extent to which a conceptual framework can provide structure without imposing an alternate value position. The concern is essentially one of internal validity. Are the conceptual categories *assumed* to have mutual meaning to the participants and the observer really shared?¹⁰ Frameworks that are compatible with the participants' perspective should reflect that perspective, precluding the forced use of an alternative, less valid structure.

The definition of a conceptual framework as an orderly conceptualization of components implies a systematic structure. One advantage of using frameworks to conceptualize research is the methodical coverage of the complex arena. Elements, patterns, and relationships identified within a theory or framework can be documented in a process that can be replicated. A general design for data collection and analysis can be proposed a priori and later limited or expanded in light of emerging data.

This predetermined structure, to some, may be the source of a major criticism. Researchers within a naturalistic paradigm would argue that the use of a conceptual framework imposes a bias that limits or distorts the naturalistic design. It may further serve to stifle the emergence of novel categories during data analysis. These critics assert that research that incorporates a conceptual framework cannot be considered naturalistic. The question is one of degree. To what extent can a conceptual structure be utilized without imposing a framework bias on the results? Certainly the extent to which the framework reflects or is compatible with the existing setting may partially determine the magnitude of the framework bias. The problem may be further minimized by utilizing the constant comparative analysis procedure,¹¹ which requires the classification of all data, not just that which lies within the framework structure. Erickson¹² has argued that the framework is simply an extension of the researcher's point of view and is always present in ethnographic research.

¹⁰Margaret D. LeCompte and Judith P. Goetz, "Problems of Reliability and Validity in Ethnographic Research," *Review of Educational Research* 52 (Spring 1982): 44.

¹¹Barney G. Glaser and Anselm L. Strauss, *The Discovery of Grounded Theory. Strategies for Qualitative Research* (New York: Aldine, 1967).

¹²Frederick Erickson, "What Makes School Ethnography 'Ethnographic'?" *Anthropology and Education Quarterly*, 15 (Spring 1984): 52.

Goetz and LeCompte have stated that the framework can minimize systematic bias manifest in the researcher's preoccupation with a familiar or preferred set of categories. Frameworks may be used "deliberately to compensate for observer perceptual and cultural biases."¹³ The criticism of framework bias is an important issue that must be considered prior to the utilization of a framework. It is my position that frameworks, when carefully selected for compatibility and breadth, can provide a valid, systematic structure for operational curriculum research.

One such framework which is appropriate for use in studies examining existing curriculum is the Goodlad, Klein, and Tye¹⁴ domain approach of curriculum decision making. This approach offers a design option to account for the breadth of the school environment and is compatible with perspectives of decision makers in schools. Initial validation studies of these domains have been reported in a series of ERIC documents.¹⁵ Research designs compatible with this approach investigate curriculum from the perspectives of the ideological, formal, perceived, experiential, and operational domains.

The *ideological* domain reflects the "idealistic planning process."¹⁶ Curricula are usually designed external to the school system and marketed as textbooks or workbooks. In subject areas where textbooks are not common (i.e., physical education), the ideological curriculum is more elusive. Careful analysis of teachers' professional background may reveal significant others or coursework that influenced the program ideology. The *formal* domain consists of the curriculum guide or other documents internally developed and officially approved by the school board or other district-level administrators. Typically, these documents are developed by teacher committees and include statements of philosophy, aims, goals, and instructional objectives. They influence the curriculum to the extent that the individual teacher values and understands the strategies required for implementation. The *perceived* domain

¹³Judith P. Goetz and Margaret D. LeCompte, *Ethnography and Qualitative Design in Educational Research* (New York: Academic Press, 1984), p. 184.

¹⁴John I. Goodlad, M. Frances Klein, and Kenneth A. Tye, "The Domains of Curriculum and Their Study," in *Curriculum Inquiry*, ed. John I. Goodlad (New York: McGraw-Hill, 1979), pp. 43-76.

¹⁵Phillip Giesen and Kenneth A. Sirotnik, "The Methodology of Classroom Observation in a Study of Schooling in the United States," Report No. SP 019 812, University of California, Los Angeles, Graduate School of Education (ERIC document reproduction service No. ED 214 875, 1979); M. Frances Klein, "State and District Curriculum Guides: One Aspect of the Formal Curriculum," Report No. SP 019 816 (ERIC document reproduction service No. ED 214 879, 1980); M. Frances Klein, "Teacher Perceived Sources of Influence on What Is Taught in Subject Areas," Report No. SP 019 822, (ERIC document reproduction service No. ED 214 885, 1980); Kenneth A. Sirotnik, "Development of Psychometric Analyses of Major Scales Utilized in a Study of Schooling in the United States," Report No. SP 019 811 (ERIC document reproduction service No. ED 214 874, 1979); Kenneth A. Sirotnik, "An Inter-observer Reliability Study of the SRI Observation System as Modified for Use in a Study of Schooling," Report No. SP 019 834 (ERIC document reproduction service No. ED 214 895, 1981).

¹⁶John I. Goodlad, M. Frances Klein, and Kenneth A. Tye, "The Domains of Curriculum and Their Study," in *Curriculum Inquiry*, ed. John I. Goodlad (New York: McGraw-Hill, 1979), p. 60.

consists of the teacher's perceptions of the curriculum. These perceptions are informed by their values, experiential background, and assessment of students' interests and abilities.¹⁷ Curricular and instructional decisions are based in part on teachers' perceptions of the environment. The *experiential* domain is composed of the preferred students' experiences in the classroom. The interests, abilities, and learning styles of the students as well as their prior experiences determine which activities or events will be most influential for learning. As teachers expand their knowledge of this domain, they are able to convey concepts in ways that increase the meaningfulness to students. The *operational* domain consists of the events that occur in the classroom as witnessed by an outside observer. In this domain, the observer may utilize a variety of techniques to describe the curriculum. This domain should not be limited to a cursory analysis of teacher or student behavior.¹⁸ Data collection should include an in-depth report of the events, interactions, and strategies as well as the behaviors that occur as the curriculum is conveyed to students.

The Goodlad approach provides a broad and compatible structure to organize the curriculum decision-making environments. Researchers may utilize this structure to examine components of the existing curriculum within an individual subject area as well as in response to more general curriculum questions. In most subject areas additional frameworks exist to select and organize content conceptually. In physical education, the Purpose Process Curriculum Framework, developed by Jewett and her associates,¹⁹ can be used to conceptualize the scope and sequence of physical education curriculum content around two dimensions. The purpose and the process dimensions structure the selection of physical education content based on a personal meaning foundation. The purpose dimension postulates 22 movement concepts or purposes individuals might choose to engage in movement. The three key concepts of individual development, environmental coping, and social interaction compose the central structure. The second dimension focuses on the process of learning motor skills. Generic, ordinal, and creative movement compose the conceptual structure in the process dimension. Together these dimensions provide a comprehensive structure for pedagogical decision making in physical education.

The Purpose Process Curriculum Framework has proven useful when investigating physical education content in school programs. It combines the structure of the body of knowledge in physical education, as determined through analyses similar to those conducted in many disciplines during the

¹⁷M. Frances Klein, "Teacher Perceived Sources of Influence on What is Taught in Subject Areas," Report No. SP 019 822, (ERIC document reproduction service No. ED 214 885, 1980).

¹⁸Walter Doyle, "Research on Classroom Contexts," *Journal of Teacher Education* 22 (November-December 1981):3-6.

¹⁹Ann E. Jewett and Marie R. Mullan, *Curriculum Design: Purposes and Processes in Physical Education Curriculum Development* (Washington, D.C.: American Association for Health, Physical Education, and Recreation, 1977).

late 1960s, with a conceptual rationale for content selection based on personal meaning. Content validation for the purpose dimension²⁰ and the process dimension²¹ suggests that it accurately represents the body of knowledge and the learning processes for movement within physical education. Thus when one describes physical education curriculum in operation, it follows that the Purpose Process Curriculum Framework juxtaposed with the Goodlad domain concepts can provide a valid structure for research on curriculum content in physical education.

CONGRUENCE OF PROCEDURES WITH THE SELECTED FRAMEWORKS

Conceptual frameworks used in curriculum research should be both comprehensive and compatible with the research setting. The framework should provide a systematic research structure that can be incorporated into an effective design. Compatibility continues to be a concern in the selection of data collection and analysis procedures. Ethnographic data collection strategies, which include field note, interview, and artifactual data, are receiving increasingly widespread usage.²² These strategies address the multiple perspectives and the unique social interactions of participants within complex school structures. Goetz and LeCompte²³ describe ethnographic data as potentially verifiable information obtained within a specific environment. Interactive and non-interactive collection strategies are equally effective when collecting data based on framework categories. Interactive methods consist of questioning participants and eliciting data regarding their view of the educational setting. The methodologies, which include interview and participant obser-

²⁰Peggy A. Chapman, "Evaluation of Affective Responses of Students to a Selected List of Purposes for Human Movement" (Ph D. diss., University of Wisconsin, Madison, 1974), Catherine D. Ennis, "Purpose Concepts in Physical Education Curriculum Development" (Ph D. diss., University of Georgia, Athens, 1984), Marilyn I. LaPlante, "Evaluation of a Selected List of Purposes for Physical Education using Modified Delphi Technique" (Ph.D. diss., University of Wisconsin, Madison, 1973); Marta Pasternak, "Adult Perspectives on Moving 1980-2000" (Ed.D. diss., University of Georgia, Athens, 1981), Maureen Speakman, "Cross-cultural Comparisons of Purposes for Moving" (Ed.D. diss., University of Georgia, Athens, 1985), Antoinette Tiburzi, "Validation of the Construct of Physiological Fitness" (Ed.D. diss., University of Georgia, Athens, 1979).

²¹Elizabeth Bressan and M. H. Woolcott, "A Prescription Paradigm for Sequencing Instruction in Physical Education," *Human Movement Science* 1 (1982) 155-175, Wilma M. Harrington, "A Study of Feedback Diversity in Teaching Physical Education" (Ph D. diss., University of Wisconsin, Madison, 1974); Daphne Hall, "Creative Movement Processes Defined" (M.S. thesis, University of Georgia, Athens, 1977); Gretchen A. Brockmeyer, "Development and Evaluation of a Teacher Behavior Instructional Unit for Eliciting Creative Movement Performance" (Ed D. diss., University of Georgia, Athens, 1976), Mary M. Carnes, "Movement Processes for Physical Education Instruction" (Ed.D. diss., University of Georgia, Athens, 1985).

²²Judith P. Goetz and Margaret D. LeCompte, *Ethnography and Qualitative Design in Educational Research* (New York: Academic Press, 1984), Michael Q. Patton, *Qualitative Evaluation Methods* (Beverly Hills: Sage, 1980); James P. Spradley, *The Ethnographic Interview* (New York: Holt, Rinehart & Winston, 1979).

²³Judith P. Goetz and Margaret D. LeCompte, *Ethnography and Qualitative Design in Educational Research* (New York: Academic Press, 1984), p. 107.

vation, provide relevant information regarding the compatibility of the framework with the participants' understanding and their own category system. A caution should be noted when using interactive methodologies. These strategies are generally considered to be reactive and obtrusive and may sensitize participants to the research focus, thus altering behavior. In addition, participants may deliberately or unconsciously supply false or misleading information. Non interactive data collection strategies include non-participant observation and artifactual data collection. These strategies rely on the examination of behavior, documents, and other artifacts to support or refute the existence of framework categories or to answer research questions within categories. Though less reactive and obtrusive, data collection may be limited by the availability of naturally occurring information and may not reflect the meaning that participants hold for phenomena in their school. Both procedures are effective when used judiciously to answer questions posed within the structure of a framework. Procedures should be consistent with the criteria of breadth and compatibility of the framework and reflect the perspectives of the participants. Data collection should be structured within a systematic design that is compatible with the conceptual arrangement of the framework. The sequential ordering of collection strategies within the research design may also be used to minimize potential reactive effects of the interactive procedures. For instance, non-interactive methods can be used initially to examine participant behaviors and naturally occurring phenomena. These procedures may then be followed by interactive data collection to investigate the participants' perspectives and to compare them with those discerned by the investigator through non-interactive strategies. The advent of the participants' perspectives may expand or delimit the categories or require the development of new categories that were absent in the original framework. At this point data collection and reduction strategies are used recursively to generate and categorize data.

Several data reduction and analysis strategies may be used to facilitate the use of a conceptual framework. The procedures selected are formal and systematic and can be used to establish documentation for the presence of elements, constructs, and the relationships among them. Goetz and LeCompte²⁴ describe the first step in data analysis as theorizing, which is the cognitive process of discovering or manipulating abstract categories and the relationships among those categories. Theorizing involves perceiving, comparing, contrasting, and aggregating. This process occurs as the investigator is analyzing and selecting a framework. The advent of novel categories or the application of new definitions to previously conceived categories during data analysis may make theorizing a primary focus of curriculum research. The internal validity of the research design and results are dependent on the selection of a framework and unit of analysis that retain the "natural integrity"²⁵

²⁴Ibid., p. 167.

²⁵Ibid., p. 168.

of the setting while reflecting a consistent conceptual focus. Units of analysis differ based on the research questions and the strategies of data collection. Data analysis can be structured either to discover concepts or properties, creating or expanding constructs and conceptual frameworks, or to confirm concepts or properties within an existing framework.

When the purpose of analysis is to discover concepts to create or expand theory, analytic induction and constant comparison are usually the procedures of choice. Analytic induction²⁶ involves scanning the data for categories of phenomena and relationships among the categories. Working typologies may emerge which can be later verified, modified, or revised in other settings or with other populations. Specific properties or characteristics of phenomena that suggest category inclusion or exclusion are identified and tested with each successive example. In ethnographic research, categories and properties represent constructs that have meaning to the participants. The development or elaboration of frameworks in this manner strengthens research claims for internal validity.

Constant comparative analysis²⁷ is a procedure that may be used to supplement analytic induction. It combines category coding (analytic induction) with a simultaneous comparison of all incidents observed. This recursive strategy may be used to discover and describe new categories and relationships that may increase or decrease the breadth of the original framework. When these strategies are used within the structure of a conceptual framework, analysis is limited to the generation and elaboration of properties or characteristics of the framework categories that emerge from the observations of and interviews with the participants. The framework categories have been imposed into the setting, a priori, and are not generated through these procedures.

Predetermined categories, definitions, and properties may be verified through the typological analysis procedure.²⁸ Typological analysis involves the classification of events or phenomena into groups or categories on the basis of some theoretical structure. Two forms of typological analysis can be used in ethnographic research. The first is a mundane analytic system which is developed through analytic induction or constant comparison and roughly corresponds to the conceptual structures used by participants in the setting. The system when developed in school settings incorporates the terminology and classification system used by teachers, administrators, or students to describe their school. Although initially intended to reflect the organizations and meanings of a particular research site, these systems may become the

²⁶W. S. Robinson, "The Logical Structure of Analytic Induction," *American Sociological Review* 16 (December 1951): 812-818.

²⁷Barney G. Glaser and Anselm L. Strauss, *The Discovery of Grounded Theory: Strategies for Qualitative Research* (New York: Aldine, 1967).

²⁸Judith P. Goetz and Margaret D. LeCompte, "Problems of Reliability and Validity in Ethnographic Research," *Review of Educational Research* 52 (Spring 1982): 39-40.

basis of a more formal framework or the initial stages of a systematic observation system.

The second category of typological analysis is based on the acceptance of an existing theoretical structure, such as a conceptual framework. The structure postulates the existence of elements that can be identified and categorized. Data analysis consists of scanning and sorting examples into the proposed categories. Properties are derived from the inductive analysis of sorted examples and form the criteria for testing future examples. The frameworks of Goodlad and colleagues and of Jewett can be used as structures for this form of typological analysis. For example, curriculum decisions can be categorized as originating within one of the Goodlad domains. Decisions relating to physical education content can be classified within one of the purpose or process categories in the Jewett Purpose Process Curriculum Framework. It should be noted, however, that at this stage of analysis these classifications are primarily constructive and lack the precision required for enumerative purposes.²⁹

Systematic research in curriculum can be facilitated through the use of conceptual frameworks that are comprehensive and compatible with the research setting. The systematic structure of the framework can expedite the design of data collection and analysis procedures. Designing research that adequately reflects the school setting is a monumental task. Conceptual frameworks that apprise the research design bring this task within the confines of human ability. The following section provides an example of curriculum research based on the categorical systems of two conceptual frameworks. The technical report of the research and a discussion of content category properties are reported in other sources.³⁰ The purpose of this section is to exemplify the utilization of conceptual frameworks for the structure of data collection and analysis within operational curriculum research.

CURRICULUM RESEARCH STRUCTURED BY CONCEPTUAL FRAMEWORKS

The major focus of this research was to examine the extent to which physical education content was being conveyed to students in an existing middle school setting. The purpose dimension of the Purpose Process Curriculum Framework was selected as a comprehensive typology for the analysis of physical education content. The Goodlad and colleagues domain approach was chosen to structure the design for data collection and analysis in the operational setting. Research decisions were made to collect data in four of

²⁹Judith P. Goetz and Margaret D. LeCompte, "Ethnographic Research and the Problem of Data Reduction," *Anthropology and Education Quarterly* 12 (Spring, 1981): 51-70.

³⁰Catherine D. Ennis, "Purpose Concepts in Existing Curriculum," *Research Quarterly for Exercise and Sport* 56 (December 1985): 323-333. Catherine D. Ennis, "Properties of Purpose Concepts in an Operational Curriculum," in *Purpose Process Curriculum Framework Research Monograph*, ed. Ann E. Jewett and Linda L. Bain (in press).

the five Goodlad domains. The ideological domain was not included as no textbook was in use. (Explicit curricular ideologies were included both in the curriculum guide examined in the formal domain and in teacher perceptions of ideal curriculum investigated in the perceived domain.) Data were analyzed for curriculum content using the 22 purpose concepts. Examples within each purpose were compared across domain to determine the extent to which the purpose concept was present in each domain.

The Goodlad conceptual framework was used to structure the design for the data collection and analysis. Data were collected in the operational domain using non-interactive procedure of non-participant observation. Twelve 6th, 7th, and 8th grade physical education classes ($N=355$ students) at five elementary schools ($N=5$ teachers) were observed over a four-month period (October–January). Documentation included behavioral examples of purpose concepts verbally discussed by teachers and performed by students. The formal domain was examined through a content analysis of the curriculum guide. Specific statements representing purpose content were recorded from the philosophy, aims, goals, and objectives sections of the guide.³¹ Two methodologies were used to examine content in the perceived and experiential domains. First, teacher and student forms of the Middle School Movement Purposes Inventory (MSMPI) derived from the Purpose Process Curriculum Framework³² were used to examine physical education content that teachers and students perceived to be present in their classes. Second, teachers and a sample of students were interviewed to determine examples of content related to each purpose concept. This design ensured that the collection procedures were sensitive to the 22 different physical education content categories within the four decision-making perspectives.

Data collected across four domains contributed to the understanding of the curriculum planning and implementation process. It was evident from this research that the domains were not discrete, but interacted to form the existing school curriculum. Therefore, analysis strategies to combine information from several perspectives were required to organize and interpret data within and across categories of the two conceptual frameworks.

The data analysis strategies of typological analysis, analytic induction, and constant comparison provided a protocol for the interpretation of varying perspectives on purpose concepts within and across conceptual frameworks. Typological analysis was used initially to analyze field note data collected in the operational domain. The categories of the Middle School Movement Purposes Inventory were used as the predetermined framework for the anal

³¹M. Frances Klein, "State and District Curriculum Guides. One Aspect of the Formal Curriculum," Report No. SP 019 816 (ERIC document reproduction service No. ED 214 879, 1980)

³²Marta Pasternak, "Adult Perspectives on Moving 1980–2000" (Ed.D. diss., University of Georgia, Athens, 1981); Candace Norton, "Student Purposes for Engaging in Fitness Activities" (Ed.D. diss., University of Georgia, Athens, 1982).

ysis of curriculum content. This strategy facilitated the use of the conceptual framework by providing the protocol for the organization of the observation, interview, and inventory data into manageable units. The presence of purpose concepts were assessed within each domain while structuring the data to be examined across four domains.

The cross-domain analysis was performed using the analytic induction and the constant comparison strategies. In the analytic induction procedure, data were examined for properties elaborating the characteristics of the purpose concept within each domain. Constant comparison was then used to compare the characteristics of each purpose concept across domains to expand the understanding of the concept into the existing curriculum. Through this procedure, the consistencies and the inconsistencies in curriculum design became evident throughout the program.

The results of the research indicated that physical education curriculum content in the form of purpose concepts could be documented in the four Goodlad domains investigated. An examination of Table 1 reveals a marked consistency in the strong movement skill (item 14), fitness (item 16), and teamwork (item 8) focus documented throughout the physical education curriculum. Nine purpose concepts were found in all four curriculum domains in the five schools investigated. These concepts were behavioral and represented "traditional" physical education programs with a subject matter focus. Among the purpose concepts evident in all four domains were circulatory/respiratory efficiency (fitness), neuromuscular efficiency (skill), mechanical efficiency (flexibility, balance, agility), and teamwork. Programs with these emphases are typical of the sports, games, and fitness approach that has dominated physical education curriculums since the 1920s.³³

Several inconsistencies, however, were noted when purpose concepts were examined across domains. Of most value in understanding discrepancies within operational curriculums were those between the formal and the perceived domains and the operational and perceived/experiential domains. Discrepancies between the formal and the perceived domains related to the teachers' perceptions of the usefulness of the curriculum guide in their planning. The content analysis of the curriculum guide revealed 11 purpose concepts in the formal domain (Table 1). However, when teachers were asked to assess the importance of the guide in their curriculum planning, only two indicated that it was used extensively. Both of these teachers taught in the same school, and one was instrumental in the development of the guide. Reasons cited by the teachers for not using the guide were that it was directed toward younger elementary students and that it had a "movement education" orientation. Although curriculums based on Laban's movement themes³⁴ are

³³Ann E. Jewett and Linda L. Bain, *The Curriculum Process in Physical Education* (Dubuque, Wm. C. Brown, 1985).

³⁴Rudolf Laban, *The Mastery of Movement*, 3rd ed., revised by L. Ullman (Boston: Plays, 1971).

Table 1. Purposes Present in the Four Domains

Purpose	Domain			
	Formal	Perceived	Experiential	Operational
1. Catharsis (release tension)		**	*	
2. Feel Healthier		**	*	
3. Self-Knowledge (discover what I can and cannot do)		**	**	
4. Leadership (encourage teammates)		**	*	*
5. Transcendence (a special feeling of excitement)		**	*	
6. Participation (take part in activities)		**	**	
7. Object Manipulation (become better at things like throwing, catching, and kicking)	*	**	**	*
8. Teamwork (work with others)	*	**	**	*
9. Awareness (explore space)	*	**	*	*
10. Cultural Understanding (know more about my country)				
11. Joy of Movement (have fun)	*	**	**	*
12. Weight Control (help keep the right weight)		**	**	
13. Competition (compete with self or team)		**	**	*
14. Neuromuscular Efficiency (improve speed and skill)	*	**	**	*
15. Challenge (test skill and coverage)	*	**	**	**
16. Circulatory-Respiratory Efficiency (maintain healthy heart and lungs)	*	**	**	*
17. Expression (express thoughts and actions)	*	**	*	
18. Personal Integration (feel like a complete person)		**	*	
19. Muscular Strength (develop strong muscles)	*	**	**	*
20. Aliveness (feel good)		**	**	
21. Movement Appreciation (watching sports and games)		**	*	*
22. Mechanical Efficiency (maintain balance and flexibility)	*	**	**	*
Purpose Totals	11	21	21	12

Data Sources:

Formal = curriculum guide

Perceived = MSMPI verified through teacher interviews

Experiential = MSMPI verified through student interviews

Operational = 90 hours of observation prior to introduction of purpose concepts

* = documented in the domain

** = rated very meaningful (> 6.5 on 9 pt. scale) on MSMPI

considered by some physical education specialists to be appropriate for all grade levels,³⁵ other teachers believe that sport and game models are more appropriate than movement themes for upper elementary students. In this study only the two teachers who actually used the guide reported that they had been trained professionally using the movement approach. The other three teachers cited *The Physical Education Handbook*,³⁶ a sport and games based text, and their own experiences as the primary sources for their curriculums.

These data support results reported by Klein³⁷ which indicated that teachers perceived their own background and experiences and students' interests and abilities as most influential in curriculum decision making. Curriculum consultants, advisory councils, equivalency exams, and teacher unions were considered to be least influential. The results also confirmed Miel's³⁸ position that only those guides that are locally developed and supported by a representative sample of teachers will actually influence curriculum decisions.

It is possible that the inconsistencies evident between the operational and the perceived/experiential domains were due to the behavioral limitations of data collection from the third party or observer perspective. The criteria for inclusion of an example as representative of a purpose concept in the operational domain (an overt example or an unsolicited connecting statement made by a teacher or student) prohibited the documentation of more than 11 purpose concepts identified in the Purpose Process Curriculum Framework (Table 1). Results of the inventories and interviews indicated that both teachers (N = 5) and students (inventory N = 355; interview N = 35) believed that 21 of the 22 framework concepts were "taught" and "experienced" in their classrooms. However, only half of these purposes were recorded by the researcher as observed behaviors even after four months of data collection.

The typological and constant comparative data analysis strategies increased the feasibility of using conceptual frameworks for empirical data collection. The Goodlad domain approach and the Purpose Process Curriculum Framework were used to structure the research design to collect empirical data within the gymnasium. The Goodlad approach was used to conceptualize the existing setting into distinct decision-making arenas which interacted to form the existing curriculum. The Purpose Process Curriculum Framework structured the study of physical education curriculum around a particular content focus. Data were then compared across domains to provide insight into the curriculum content of an existing physical education program.

³⁵Hal Lawson and Judy Placek, *Physical Education in the Secondary Schools* (Boston: Allyn and Bacon, 1981).

³⁶Donald C. Seaton, I. A. Clayton, A. C. Leibe, and L. L. Messersmith, *Physical Education Handbook*, 6th ed. (Englewood Cliffs, NJ: Prentice Hall, 1974).

³⁷M. Frances Klein, "Teacher Perceived Sources of Influence on What is Taught in Subject Areas," Report No. SP 019 822 (ERIC document reproduction service No. ED 214 885, 1980).

³⁸Alice Miel, *Changing the Curriculum: A Social Process* (New York: Appleton-Century, 1946).

CONCLUSIONS

Clearly, conceptual frameworks are useful in the structure of comprehensive designs for the study of curriculum in school settings. Research designs and compatible frameworks allow data collection in many contextual domains,³⁹ expanding the network of valid responses to the total arena of the school. Although the teacher reigns supreme in the classroom or gymnasium when the door is closed, the content decisions manifest in the teaching situation are grounded in the values and experiences that are developed outside of the classroom as well as within. Conceptual frameworks that are comprehensive and compatible with the natural setting are valid tools to use when examining classroom structures.

Framework compatibility with the environment is crucial to the internal validity of the study. Currently most school curriculums are most compatible with Tyler's guiding questions.⁴⁰ This is as evident in physical education as it is in other subject areas. Despite criticisms lodged by Kliebard⁴¹ and others, this rationale is firmly entrenched as a structure for decision making and evaluation. Regardless of whether research questions involve sociopolitical structures or being-in-the-world,⁴² research conducted in the school setting must be sensitive to dominant curriculum processes. Frameworks must be developed and sought that address pertinent questions on a variety of topics consistent with existing organizational and decision-making structures.

A word of caution. Each framework is in itself the perspective of its originator. Careful consideration of the assumptions and the structure must be made prior to its acceptance into the research design. For example, when the Goodlad approach is used, a careful analysis is necessary to determine the extent to which teachers acknowledge both the influence of the curriculum guide as a source of curriculum in the formal domain and the influence of the guide on the perceived curriculum. Likewise, researchers must be cautious as they determine the presence of curriculum content from the restricted perspectives of only one domain. The verbal and behavioral limitations of the operational domain restrict the discovery or verification of affective objectives that are not overtly a part of participant behavior. Omission of one or more domains would have threatened the internal validity of this study of existing curriculum.

Frameworks can be used to guide and tailor the data collection process to be consistent with the school program. The combined strategies of typol-

³⁹Kenneth A. Sirotnik and Jeannie Oakes, "A Contextual Appraisal System for Schools: Medicine or Madness?" *Educational Leadership* 39 (December 1981): 164-173.

⁴⁰Ralph W. Tyler, *Principles of Curriculum and Instruction* (Chicago: University of Chicago Press, 1949).

⁴¹Herbert M. Kliebard, "The Tyler Rationale," *School Review* 78 (February 1970): 259-272.

⁴²Karen A. Mazza, "Reconceptual Inquiry as an Alternative Mode of Curriculum Theory and Practice: A Critical Study," *Journal of Curriculum Theorizing* 4 (Spring 1982): 5-89.

ogical analysis and constant comparison provide methodologies for the analysis of qualitative data that are both compatible with the selected framework and sufficiently comprehensive to locate relationships or interactions among framework components. Frameworks can be used to prevent omission of important environmental elements and to guide the research perspective beyond a unidimensional study. The judicious use of conceptual frameworks in school settings can result in empirical curriculum research that is relevant and valid in complex environments.⁴³

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Doll, Ronald C. *Curriculum Improvement. Decision Making and Process.*
6th ed. Boston: Allyn and Bacon Inc., 1986. 490 pp. \$32.95.

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—George Evan Say

⁴³Research reported in this paper was conducted as dissertation research carried out at the University of Georgia under the direction of Professor Ann E. Jewett

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