The Knowledge Base of Curriculum

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ABSTRACT. Knowledge bases include ways of knowing that are important for professional educators and necessary for practice. Domains of curriculum, along with interrelated curriculum practices that are representative of the kinds of behaviors that curriculum specialists perform in the real world of curriculum work, represent a potential knowledge base. In this study, a teacher group and professors of curriculum identified a quantifiable knowledge base of curriculum practices that were correlated with nine domains of curriculum. As teacher education seeks to redefine professional standards, these findings might suggest a compendium of skills educators should acquire through their training.

The field of education, particularly curriculum, is undergoing tremendous transitions in an effort to identify an operational knowledge base. Knowledge bases that are pertinent to curriculum studies may be conceptualized in terms of classical topical categories, research domains, and paradigms of teacher education (Gideonse, 1989).

Knowledge bases include different ways of knowing that are important for professional educators and necessary practice (Gudmundsdottir, 1991). Selected from source documents, knowledge bases provide a theoretical framework comprised of essential knowledge, research, and practice to provide a structure for making informed decisions. Central to the formulation of a knowledge base are the development of beliefs about the purposes of schools, roles of teachers, educational philosophies, theories and research, social perspectives, educational practices, research on teaching, and contemporary societal concerns.

The field of curriculum influences the design and delivery of effective professional education programs. Programs must be grounded by knowledge bases

that form an authoritative structure offering a platform of concepts, facts, and principles that guide the development and inquiry of a given discipline. Knowledge bases that arise from processes of design, decision, intuition, and empirical inquiry serve to define purpose (Gideonse, 1989). Purpose is the key organizing principle and a primary consideration before any type of instruction can take place.

The knowledge base of curriculum can be defined in terms of *domains* of the field, i.e., broad concepts, as well as practices that help define the field. The work of curriculum specialists has been described as activities, behaviors, or roles. The referent *curriculum practices* is used herewith to represent the behaviors and activities that help define what curriculum workers do in the real world of planning, implementing, or evaluating curriculum. I have postulated that domains and curriculum practices are interrelated, and that the specific behavioral aspects of the field (the curriculum practices) can be used to define and operationalize the broader, more abstract aspects of the field (the domain).

Domains of Curriculum

Domains can be viewed in philosophical and/or operational terms. They represent ways of structuring the knowledge base of a field of study and establishing modes of inquiry. They are important content areas within a field or discipline. By delineating the domains of curriculum we can establish the means-end process and assumptions of decision making in curriculum.

Several experts have underscored the lack of agreement in defining domains of curriculum. Beauchamp (1961) was one of the first theorists to analyze curriculum in terms of domains, which he called "curriculum knowledge," by dividing the curriculum into planning, implementing, and evaluating. Foshay and Beilin (1969) used the term curriculum knowledge and divided the curriculum into theory, design, and change. Rosales-Dordelly and Short (1965) established what they called the "conceptual framework" and "specialized knowledge" of the field: policy-making, development and evaluation, change and enactment, decision making, field of activity, form of inquiry, language for inquiry, and questions directing activity. They concluded that the body of "curriculum knowledge was amorphous, diffuse, incoherent, and fragmentary." More recently, Ornstein and Hunkins (1993) concluded that the domains of curriculum, that is, the essential knowledge of the field, varied from scholar to scholar and from practitioner to practitioner; the only agreed upon and traditional domains were curriculum development and curriculum design — the technical aspects of curriculum construction. All other domains were secondary or contradictory.

Up to this point, all of the above constructs dealing with curriculum knowledge and curriculum domains lacked empirical support. These concepts or ideas were based solely on language and qualitative discussions. The fact that there is considerable disagreement about curriculum domains suggests the field lacks consensus on a theoretical knowledge base.

Domains of Curriculum Quantified

For this study, as many as nine domains were identified: (1) curriculum philosophy, (2) curriculum evaluation,[1] (3) curriculum design, (4) curriculum theory, (5) curriculum policy, (6) curriculum history, (7) curriculum development, (8) curriculum research, and (9) curriculum as a field of study. Each domain was defined by three or more curriculum practices (items) by teachers ($n = 65$) and professors of curriculum ($n = 51$).[2] These curriculum practices represent the kinds of activities performed by curriculum specialists (including teachers, principals, coordinators, and directors of curriculum).

The curriculum practices were quantified through formal reliability and validity procedures. In the first phase of the study, a group of experts ($n = 5$) independently categorized a list of 81 practices into one of 11 domains. As a result of this categorization process, two other curriculum domains were omitted because an insufficient number of curriculum practices were categorized within the two domains. Thirty-four curriculum practices were also omitted at this stage because there was a lack of agreement in categorizing them into domains. In the next phase, the teacher group ($n = 65$) and professors of curriculum ($n = 51$) were asked to rate the importance of the curriculum practices in all the domains on a five-point Likert scale ranging from "very important" to "very unimportant." Similar to the procedures used to establish the curriculum systems, each practice had to exhibit an item-total correlation of .20 or higher within its respective domain (subscale) among the teachers and professors of curriculum. Six curriculum practices were eliminated at this stage because of item discrimination scores below .20. The remaining 49 curriculum practices are listed in Table 1 and categorized within their respective domains.

Each of the subscales reflected high levels of homogeneity by the teachers. All nine of the domains had alpha coefficients of .70 or higher: curriculum evaluation ($\alpha = .93$), curriculum design ($\alpha = .90$), curriculum as a field of study ($\alpha = .87$), curriculum development ($\alpha = .87$), curriculum research ($\alpha = .85$), curriculum theory ($\alpha = .83$), curriculum policy ($\alpha = .80$), curriculum history ($\alpha = .78$), and curriculum philosophy ($\alpha = .73$). Overall, 49 curriculum practices had alpha coefficients of .50 or higher and 6 had ranges of .20 to .49. The teachers showed considerable agreement in their ratings of the curriculum practices.

Perhaps this is because they are engaged in curriculum work on a daily basis and work with colleagues who are involved in similar kinds of activities, roles, and behaviors.

Regarding ratings by the professors of curriculum, all of the curriculum domains except curriculum development (α = .62) evidenced high levels of homogeneity. The remaining eight domains had alpha coefficients of .70 or higher: curriculum design (α = .85), curriculum philosophy (α = .84), curriculum evaluation (α = .84), curriculum history (α = .76), curriculum research (α = .73), curriculum policy (α = .73), curriculum as a field of study (α = .71), and curriculum theory (α = .70). Overall, excluding the six curriculum practices with item discrimination scores of less than .20, 28 curriculum practices had alpha coefficients of .50 or higher and 21 had scores ranging from .20 to .49.

The nine domains represent the broad areas of knowledge important to the field of curriculum and to curriculum specialists. The 49 curriculum practices categorized within the domains represent important activities that describe what curriculum specialists do. Together, the curriculum domains and curriculum practices represent the knowledge base of the field and a partial compendium of behaviors that curriculum specialists engage in while inquiring about planning and implementing the curriculum.

Conclusions

By themselves, the 55 curriculum practices represent the important behaviors of curriculum specialists. Although no educational program can be devised that will encompass all agreed upon knowledge, it is essential to determine what practices are needed to improve the curriculum process. In order to engage in dialogue or inquiry about domains, it is necessary that these constructs be defined in the same way. For this study, the curriculum practices, correlated within their respective subscales, represent the activities that comprise domains of curriculum. These items also provide an operational definition for both components. It seems that empirical investigations are needed to clarify systems and domains if we hope to move discussions beyond the linguistic and metaphorical levels.

In the context of changing demands on the curriculum, the behaviors and activities listed in Table 1 might help codify behaviors or criteria for the emerging roles of the curriculum specialist. They serve as criteria or requirements for graduate study involving curriculum certification, for staff development of curriculum specialists, and for curriculum decisions at many levels — school, district, and community.

The curriculum practices identified are representative of the kinds of behaviors curriculum specialists perform. Most important, they are measurable and observable behaviors for theorists and practitioners to study and use for assessment in school settings. As the field of curriculum seeks to identify a theory, this quantifiable knowledge base of curriculum domains and practices might be helpful by defining what curriculum specialists should know and be able to do. Analyzing the frequency and conditions under which these behaviors are observed in real situations and the degree to which they are emphasized in schools and classrooms might extend our understanding of the empirical relationships between theory and practice.

In considering the roles of the curriculum specialist, I have identified 9 curriculum domains and 55 curriculum practices. I have made certain assumptions, perhaps somewhat controversial in nature, that domains represent the broad content areas that practitioners should know and be able to utilize in actual situations, and that practices coincide with the specific roles and tasks of the curriculum specialist or supervisor. The need to reach some agreement concerning the domains and practices is illustrated by the fact that processes and decision making should be based on objective and quantifiable criteria if they are to lead to school improvement. At present, most curriculum decisions are made in a variety of ways by a variety of people. Clarifying the behaviors and activities of curriculum specialists, via agreed upon domains and practices, should benefit the field of curriculum.

Finally, this study is an attempt to establish an empirical format for identifying *curriculum domains* (the knowledge base or important content areas of the field) and *curriculum practices* (precise activities curriculum specialists perform).

Notes

[1] Curriculum evaluation as it pertains to a domain is a micro-level process concerned with the effectiveness of the curriculum in the classroom, and focuses on a means-end assessment.

[2] The professors of curriculum are curriculum specialists who conduct research and are consultants to schools and education agencies. They are elected to membership by invitation because of their significant contributions and/or publications in the field of curriculum studies.

References

Behar, L. (1992). A study of domains and subsystems in the most influential textbooks in the field of curriculum, 1970-1990. *Dissertation Abstracts International, 53,* 1031-A. (University Microfilms No. 9224577).

Beauchamp, G. (1961). *Curriculum theory.* Wilmette, IL: Kagg Press.

Foshay, A., & Beilin, L. A. (1969). "Curriculum" in *Encyclopedia of educational research* (2nd ed.). New York: Macmillan.

Gideonse, H. D. (1989). *Relating knowledge to teacher education: Responding to NCATES's knowledge base and related standards.* New York: American Association of Colleges for Teacher Education.

Gudmundsdottir, S. (1990). Values in pedagogical content knowledge. *Journal of Teacher Education, 41*(3), 44-52.

Ornstein, A. C., & Hunkins, F. P. (1993). *Curriculum: Foundations, principles and issues* (2nd ed.). Boston: Allyn and Bacon.

Rosales-Dordelly, C. L., & Short, E. C. (1985). *Curriculum professors' specialized knowledge.* Lanham, MD: University of America Press.

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Table 1

Corrected Item-Total Correlations and Alpha Coefficients for the Importance of Curriculum Practices within the Domains of Knowledge in Curriculum

Domains of Knowledge	Corrected Item-Total Correlation	
	Teachers ($n = 65$)	Professors of Curriculum ($n = 51$)
I. CURRICULUM PHILOSOPHY	$\alpha = .7307^*$	$\alpha = .8450^*$

Curriculum Practice

1. Schools of thought, including: perennialism, essentialism, progressivism, reconstructionism, and existentialism.	.2660	.7025
2. Determines the ends of education.	.3748	.4880
3. Determines an orientation to curriculum.	.4228	.6799
4. Suggests a view of society and students in relationship to education.	.4873	.5323
5. States the purposes of education.	.6670	.6428
6. Elaborates on the theory of curriculum.	.6337	.7101

II. CURRICULUM EVALUATION	$\alpha = .9332$	$\alpha = .8483$

Curriculum Practice

Determines what changes took place as a result of the curriculum.	.2521	b
7. Provides information about the effectiveness of the curriculum.	.5642	.3264
8. Determines whether actions yielded predicted results.	.7197	.4984
9. Determines if objectives have been met.	.8437	.4540
10. Offers suggestions for curriculum modification.	.7489	.2716
11. Measures discrepancies between predetermined objectives and outcomes.	.7268	.2727
12. Judges worth of instructional methods and materials.	.7419	.4624
13. Determines desired outcomes of instruction.	.7938	.6907
14. Improves curriculum programs.	.7506	.6040
15. Determines effectiveness of curriculum content.	.8234	.6923
16. Ascertains whether outcomes are the result of the curriculum.	.7085	.7627
17. Determines criteria to measure success of curriculum plan.	.7436	.6328
18. Identifies the strengths of curriculum content.	.7241	.5908

Domains of Knowledge	Corrected Item-Total Correlation	
	Teachers (*n* = 65)	Professors of Curriculum (*n* = 51)
III. CURRICULUM DESIGN	α = .9049	α = .8505
Curriculum Practice		
19. Attempts to define what subject matter will be used.	.5282	.6288
20. Guides program development for individual students.	.7200	.7463
21. Selects subject matter and learning experiences.	.7408	.6173
22. Establishes the primary focus of subject matter.	.8568	.7389
23. Permits curriculum ideas to function.	.6524	.4871
24. Integrates careful planning.	.7818	.7631
25. Indicates instructional strategies to be utilized.	.7830	.3492
IV. CURRICULUM THEORY	α = .8306	α = .6907
Curriculum Practice		
26. Creates statements that give meaning to a school curriculum.	.5470	.6467
27. Uses techniques of science and logic to present a systematic view of phenomena.	.6930	.4298
28. Deals with structuring knowledge.	.6509	.4237
30. Uses principles and rules to study curriculum.	.6393	.2630
V. CURRICULUM POLICY	α = .7964	α = .7350
Curriculum Practice		
Influences control of the curriculum.	.5965	b
Recommends what learning experiences to include.	.6605	b
31. Mandates school goals.	.7015	.5309
32. States what ought to be taught.	.5781	.6497
33. Communicates with local and state government agencies.	.3763	.4942
VI. CURRICULUM HISTORY	α = .7884	α = .7580
Curriculum Practice		
34. Describes past curriculum thought and practices.	.6290	.4127
35. Interprets past curriculum practice.	.6500	.7323
36. Provides a chronology of important events in curriculum.	.5052	.5725
37. Examines forces that inhibit curriculum innovations.	.5932	.2322

Domains of Knowledge	Corrected Item-Total Correlation	
	Teachers ($n = 65$)	Professors of Curriculum ($n = 51$)
VII. CURRICULUM DEVELOPMENT	$\alpha = .8695$	$\alpha = .6236$
<u>Curriculum Practice</u>		
Develops curriculum guides.	.7951	b
Develops school grants.	.7046	b
38. Determines procedures necessary for a curriculum plan.	.7317	.1988
Addresses questions of who will be involved in curriculum construction.	.5622	b
39. Integrates content and learning experiences.	.5797	.4917
40. Decides on nature and organization of curriculum.	.6551	.6499
VIII. CURRICULUM RESEARCH	$\alpha = .8468$	$\alpha = .7340$
<u>Curriculum Practice</u>		
41. Analyzes resisting and supporting forces.	.7320	.4059
42. Advances hypotheses and assumptions of the field.	.6502	.5783
43. Uses systematic inquiry for the purpose of solving a particular problem.	.7192	.4473
44. Analyzes steps to be taken in problem solving.	.5778	.5201
45. Focuses on research and/or inquiry of curriculum.	.5993	.5243
IX. CURRICULUM AS A FIELD OF STUDY	$\alpha = .8697$	$\alpha = .7092$
<u>Curriculum Practice</u>		
46. Promotes curriculum planning and implementation.	.7966	.2080
47. Organizes patterns and structures of curriculum.	.7637	.4157
48. Attempts to integrate theory and practice.	.6423	.6225
49. Analyzes structures of curriculum.	.6999	.4805

[a] α = The alpha correlation coefficient for each domain by teachers and professors, i.e., how the curriculum practices correlated within their respective domains.

[b] Item was eliminated because it had an item discrimination score of less than .20.