ABSTRACT
        This paper presents a study of curriculum
reorganization in schools of education. It used knowledge as the
principle by which a college of education should be organized in
order to maximize effectiveness and elicit the best efforts from its
staff. In the search for this principle or organization, some
criteria were first established: (1) that the principle would imply a
logically consistent organization; (2) that the principle would
generally improve the efficiency and effectiveness of colleges of
education; (3) that the principle would not be restricted by
departmental prejudices, traditional biases, or other interests of
pressure groups within the college of education; (4) that the
principle would permit professional individuality, but preclude
exploitation of a college of education by the individual; and (5)
that the principle would assure the integrity of a college without
submerging and/or stifling the creativity and responsible freedom of
the professional staff. Out of the process of inquiring about what
principle would satisfy the criteria, the concept of knowledge
emerged as a principle of curriculum organization. It was then
established as an organizational principle through a process of
asking a series of analytical and empirical questions. An example of
organization according to the principle of knowledge is provided.
(MM)

A "Knowledgeable" Approach

to

Organizing a College

of Education

by

James E. Christensen

James E. Fisher

John E. King

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One of the major problems of all colleges of education is the task of structuring the curriculum of the college so that, on the one hand, it is logically consistent, and, on the other, it remains flexible and contemporary. Any solution to this problem of curricular organization calls for the formulation of some underlying principle of organization. Historically some of the principles which have been used include: (1) the principle of compatability (i.e., those faculty who could get along with each other formed their own degree specializations); (2) the principle of current topics (i.e., the "hot topic" of the moment became the object of inquiry for a degree specialization); (3) the principle of federal categories (i.e., the category of inquiry which could attract federal or extramural funding became a degree specialization); (4) the principle of occupations (i.e., the curriculum was structured around the kinds of occupations for which students prepared themselves in colleges of education); (5) the principle of levels of schooling (i.e., the curriculum was organized around elementary education, secondary education, and higher education).

Reflection upon the principles of curriculum organization which have prevailed at various times led to the question of whether there might be a principle of organization which (1) implies a higher degree of logical consistency than most other principles and which (2) could clear up much of the ambiguity that so often prevails in the curriculum of colleges of education.

In the search for a principle of organization, some criteria were first established. The principle had to be one that implied a logically consistent organization. It had to be a principle that could generally improve the efficiency and effectiveness of colleges of education. The principle also had to be one that was restricted by departmental prejudices, traditional biases, or the interests

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of pressure groups within colleges of education. Moreover, the principle that
was sought had to be a principle which permitted professional individuality, but
precluded exploitation of a college of education by the individual. It also had
to be a principle which assured the integrity of a college without submerging and/
or stifling the creativity and the responsible freedom of the professional staff in
a college.

The Principle of Knowledge

Out of the process of inquiring about what principle would satisfy the criteria
emerged the concept of knowledge as a principle of organization of curriculum in
colleges of education.

The way that knowledge was established as a principle of organization was
through the process of asking a series of analytical questions. The first questions
asked were "What is the primary mission of colleges of education?", "What are the
roles in a college of education?" The analytical answer was that the roles in and
the mission of colleges of education are to teach about, inquire about, and consult
with others about educational knowledge.

Kinds of Knowledge

The next question asked was, "What kinds of knowledge?" The analytical answer
to this question was that colleges of education teach about, inquire about, and
consult with others about two kinds of knowledge: (1) empirical knowledge and
(2) analytical knowledge.[1]

Empirical knowledge is a kind of knowledge that is acquired by observing
behavior and making statements of observations. These statements are verified

by probable inference. Probable inferences establish the correspondency relation between a statement and an observable occurrence. Psychology of Education, Sociology of Education, and Anthropology of Education are three examples of disciplines which establish empirical knowledge about observable educational occurrences by probable inference.

Analytical knowledge is a kind of knowledge that is acquired by conceiving the meaning of words and statements and making statements of conception. These statements are verified by necessary inference. Necessary inferences establish a coherency relation between statements of conception. History of Education and Philosophy of Education are two examples of disciplines which establish by necessary inference analytical knowledge of educational conception.

Empirical Educational Knowledge (Empirical Educology).[2] Empirical educational knowledge can be characterized as knowledge about extant occurrences in the educational process and knowledge about effective practices in the educational process. An extant practice (occurrence) in the educational process can be described or stated about empirically. And, likewise, an effective practice in the educational process can be described or stated about empirically. It is possible for an empirically described extant educational practice to be ineffective, and it is also possible for an empirically described effective educational practice to be not extant.

Examples of empirical questions about extant occurrences in the educational process are: "What educational practices are presently being used to teach multiplication facts to fifth graders?", or "What educational practices are now in use for counseling a ninth-grader with a dysfunctional sense of inferiority?" Answers to these questions are established by probable inferences made by observing

educational practices as they actually occur in an actual situation. The survey method is a way of collecting data for making these inferences.

Empirical questions about effective practices in an educational process are: "What educational practices are _effective_ for teaching multiplication facts to fifth graders?", or "What educational practices are _effective_ for counseling a ninth-grader with a dysfunctional sense of inferiority?" Answers to these questions are made by observing educational practices and their outcomes in an experimental situation. The experimental method is a way of collecting data for making these probable inferences.

Empirical educational knowledge, then, divides into knowledge about _extant_ practices in the educational process and knowledge about _effective_ practices in the educational process. Educational practices divide into teaching practices and counseling practices. The governance of teaching and counseling practices is another kind of practice. Governance is administrative practices.

Knowledge about _extant_ and _effective_ administrative practices in the educational process is also empirical knowledge. Data for making probable inferences about these practices can also be collected. The survey method is used for collecting data on extant administrative practices.

Because setting up experimental situations for collecting data on effective administrative practices is often not feasible, most of the data collected about administrative practices have been collected by the survey method. Therefore, most of the empirical knowledge about administrative practices which govern teaching and counseling practices is about extant administrative practices.

Empirical knowledge about practices in the educational process divides into

knowledge about extant teaching and counseling practices and knowledge about

effective teaching and counseling practices. Empirical knowledge about extant

educational occurrences is produced in Science of Education. Empirical knowledge

about effective educational practices is produced in Praxiology of Education.[3]

Science of Education produces empirical knowledge about extant educational

teaching, counseling and administrative practices, whereas Praxiology of Education

produces empirical knowledge about effective teaching and counseling practices, but

not effective administration practices. Politics of Education produces this know-

ledge. This is the case because extant and effective teaching and counseling

practices necessarily intend to meet the philosophical condition of understanding

what is being taught or counseled about prior to meeting the political condition

of acceptance. Extant and effective administrative practices do not necessarily

intend this. An administrative practice could be judged effective, politically,

even if understanding was not achieved, but acceptance was. Effective teaching

and counseling practices must not be judged effective by the political standard of

acceptance. They must be judged by the philosophical standard of understanding.

There are, then, three kinds of empirical knowledge about practices in the

educational process and three related disciplines that produce these kinds of

knowledge. Politics of Education produces empirical knowledge about effective

administrative practices. Praxiology of Education produces empirical knowledge

about effective teaching and counseling practices. Science of Education produces

empirical knowledge about extant teaching, counseling and administrative practices.

Analytical Educational Knowledge (Analytical Educology).[4] Analytical educa-

tional knowledge can be characterized as knowledge of the logical structure of

educational concepts, propositions and studies. The logical structure of extant

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educational concepts, propositions, and studies can be analyzed and stated about. Likewise, the history of the logical structure of extant educational concepts, propositions and studies can be analyzed and stated about. In either case, the object being described is the logical structure of the language in the educational studies (not occurrences or practice⁻ in the educational process).

Examples of analytical questions about the logical structure of language in educational studies are: "What are the principles for verifying statements about the educational process?", "How do concepts function in statements about the educational process?", "What has been the development, in the past twenty years, of Federal legislation which supports technical and vocational education?", "What effect did the introduction of the concept of statistics have on the logical structure of educational studies of the time?" Answers to these questions are established by necessary inferences made from the meaning of the language in educational studies and/or documents containing educational statements.

The first two of the questions are questions in Philosophy of Education, and the second two are questions in History of Education.[5] These two disciplines produce analytical knowledge about educational language. History of Education and Philosophy of Education are both methodologically the same in that they both make necessary inferences from conceptions of the meaning of words and statements in educational language. They make inferences for different reasons, however. Philosophy of Education makes the necessary inferences in order to describe the extant logical structure of educational studies, and History of Education makes necessary inferences in order to describe past logical structures of educational studies.

Analysis of the Curriculum of a College of Education

Analysis of the kinds of knowledge that are taught and inquired about in a

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college of education makes it possible to ask and answer the question: "What
do each of the present organizational units in a college of education teach?" An
answer to this question requires an examination and analysis of the course titles
and descriptions in a college catalogue of classes and a sorting of the course
descriptions in accord with the disciplines that produce the knowledge. The cata-
logue that was chosen for analysis was that of our home institution, the College of
Education at Southern Illinois University - Carbondale. In the catalogue, only
the graduate level courses and seminars were examined and analyzed. The result of
our analysis is in the chart which appears in Exhibit A.

Implications for Curricular and Administrative Organization

The analysis of the courses offered by each of the organizational units in
the College of Education (SIU-Carbondale) revealed that the largest number of
courses fell in the category of empirical knowledge about effective educational
practices (Praxiology of Education). The next largest number of courses was in
the domain of empirical knowledge about extant educational occurrences (Science of
Education). The third largest number of courses fell in the category of empirical
knowledge about effective administrative practices (Politics of Education). The
fourth largest number of courses fell in the category of analytical knowledge
of meanings of educational language (History of Education, Philosophy of Education,
and Jurisprudence of Education).

The distribution of courses over the four disciplines shows (Analytical Edu-
cology, Empirical Educology I, Empirical Educology II, Empirical Educology III)
what might be expected. The major effort of the College is the preparation of
practitioners for the public schools and school-related organizations.

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EXHIBIT A

Number of Courses Now Offered by Each Organizational Unit
in the College of Education*
Sorted Out According to Disciplines which
Produce Knowledge About Education

Organizational Units of the College	1 Analytical Educology — Analytical Knowledge About Educational Language	2 Empirical Educology I — Empirical Knowledge About Extant Educational Occurrences	3 Empirical Educology II — Empirical Knowledge About Effective Educational Practices	4 Empirical Educology III — Empirical Knowledge About Effective Administrative Practices
Educational Adminis... .tion & Foundations	10	6	3	22
Elementary Education	1	8	41	5
Guidance & Educational Psychology	8	15	21	1
Health Education	7	5	24	4
Home Economics Education	10	8	12	9
Higher Education	8	5	11	6
Instructional Materials	4	3	26	5
Occupational Education	9	8	18	6
Physical Education-Men Physical Education-Women	6	12	17	6
Professional Education Experiences	0	0	0	0
Recreation	4	5	6	5
Secondary Education	5	7	27	10
Special Education	10	16	22	5
Total Number of Courses	82	98	228	84

*Southern Illinois University - Carbondale

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The analysis of courses in terms of the disciplines implied a framework both for curricular and administrative organization. The analysis implied four academic divisions based upon the discipline in which knowledge about education is taught about and inquired about. One division would be the Department of History, Philosophy, and Jurisprudence of Education. A second division would be the Department of Science of Education. A third division would be the Department of Praxiology of Education. A fourth division would be the Department of Politics of Education.

The Object of Inquiry, the Process of Inquiry, and the Product of Inquiry

One of the important curricular functions which existing organizational units in colleges of education currently perform is the function of identifying the processes of inquiry, the products of inquiry, and the objects of inquiry in the field of knowledge about education.

A process of inquiry is a method of asking questions and verifying answers to those questions. An object of inquiry is that thing about which questions are asked and answers are given. A product of successful inquiry is a true statement (knowledge) which is verified either analytically or empirically. For example, one thing (object) which History of Education might inquire about is the language of past studies about elementary education. The product which History of Education might produce in such a case would be analytically true statements (analytical knowledge) about past studies of elementary education. Another example may be drawn from Praxiology of Education. Empirical inquiry about effective educational practices is a praxiological process of inquiry. One thing (object) which Praxiology of Education might inquire about is physical education. The product which Praxiology of Education might produce in such a case would be empirically true

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statements (empirical knowledge) about effective methods of teaching physical education.

Unfortunately, the names of the current departments in most colleges of education confuse us by naming the object of inquiry, but not the process (as in Secondary Education, Elementary Education, Adult Education, and Higher Education) or by naming the process of inquiry and the object of inquiry (as in Educational Psychology and Guidance).

We submit that it is possible and desirable to clear up this curricular confusion by having the title of each academic department name the process of inquiry and by having the titles of interdepartmental curriculum committees name the objects of inquiry.

The Responsibilities of Departments vs. Interdepartmental Curriculum Committees

The responsibilities of interdepartmental curriculum committees, if organized around objects of inquiry, would be to develop the curriculum for a specialization in a college of education leading to a degree. For example, one interdepartmental curriculum committee might be the Committee on Elementary Education. The committee would have the responsibility to develop, review, and supervise the curriculum which provided instruction in specialized knowledge about the various aspects of elementary education.

Interdepartmental committees would typically draw upon and be composed of faculty from all four departments. The reason for this would be that a complete curriculum, in order to provide both the breadth and depth of knowledge about an object of inquiry, would usually have to include several processes of inquiry. For example, in order for a person to be knowledgeable about elementary education,

he should know some history of elementary education, some philosophy of elementary education, some psychology of elementary education, some sociology of elementary education, some anthropology of elementary education, some economics of elementary education, some praxiology of elementary education, and some politics of elementary education.

The interdepartmental curriculum committees could be coordinated and supervised by a joint committee composed of the heads of the four departments. The department chairman could have the general administrative and supervisory responsibilities.

The Advantages of Interdepartmental Curriculum Committees

If the curriculum committees were organized around the objects of inquiry and across the departments, then a number of advantages would be gained over other systems of organization. The curriculum of colleges of education could maintain contemporary relevance and keep up with the times while minimizing the amount of confusion that usually accompanies a fast-changing curriculum. The number of interdepartmental curriculum committees could fluctuate fairly easily without disrupting the college. That is to say, the committees could increase or decrease in size and number as interest and support (both internal and extramural) dictated. As the demand for the development of a new topic or concept in education arose, the college could quickly respond with new curriculum and with established and p en methods of inquiry. A college of education could easily add new curricular specializations as circumstances demanded, and likewise, a college could drop old specializations relatively easily as the specializations became out-dated and obsolete (and which too often become entrenched in our curricula today).

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What Would Happen to Degree Programs?

Under the plan which we are proposing, ...re would be only one doctoral program, only one master's program and only one bachelor's program. Within each of these programs, specializations would continue to be offered. (For example, educational administration, elementary education, guidance and counseling, physical education, curriculum, etc. would be designated as specializations.) However, the distinction between program and specialization would be made clear. The program would be the number of credit (unit) hours, the number and duration of examinations, the foreign language and the thesis and/or dissertation which would be required in order to grant a degree. The specialization would be the specific courses in the curriculum which a student would study in order to fulfill the credit-hour requirements.

What Would Happen to Teacher Education?

Under the plan which we are proposing, teacher education would be better integrated and coordinated than it now is, by organizing, developing, and supervising the curriculum for teacher education through an interdepartmental curriculum committee for teacher education.

What Would the College of Education Look Like?

Putting the analysis, implications, and suggestions together in an organizational chart, a college of education would look something like that shown in Exhibit B, if it were organized around the principle of kinds of knowledge.

The Conclusion and the Challenge

It is our conclusion, after giving the matter of curriculum reorganization a

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good hard-headed look, that knowledge is the principle by which a college of education should be organized in order that a college can maximize its effectiveness and can elicit the best efforts from its staff.

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EXHIBIT B

Organization of a College of Education According to the
Principle of Kinds of Knowledge

	1	Academic Departments (Organized around the process of inquiry)		
		2	3	4
Interdepartmental curriculum com- mittees (examples): (Organized around objects of inquiry; flexible in size and number as interest and support dictate)	Analytical Educology Department of History, Philosophy, and Juris- prudence of Education	Empirical Educology I Department of Science of Education	Empirical Educology II Department of Praxiology of Education	Empirical Educology III Department of Politics of Education

Administration
Adult education
Career education
Comparative education
Counseling
Curriculum
Early Childhood education
Elementary education
Health education
Higher education
Home economics education
Instructional materials
Occupational education
Physical education
Recreation
Secondary education
Special education
Teacher education
Etc.

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References

1. The distinction us between the concepts 'empirical knowledge' and 'analytical knowledge' as functioning in this paper, parallels the distinction made between the concepts of 'synthetic statements' and 'analytic statements', as functioning in the literature of Philosophy. Empirical knowledge relates to synthetic statements, but value knowledge can also be said to relate to synthetic statements. Value knowledge also relates to analytical statements. A full analysis of the relation between empirical, analytical, and value knowledge and the statements of it is beyond the scope or needs of this paper.

2. The term 'educology' was coined by Elizabeth Steiner Maccia in 'Logic of Education and Educatology: Dimensions of Philosophy of Education', "Proceedings of the Twentieth Annual Meeting of the Philosophy of Education Society", (March 22-25, 1964), pp. 99-109. In this paper, she used 'educatology' but now she uses 'educology'. She has not linked the concept 'educology' as has been done in this paper.

3. 'Praxiology of Education' is a term used by Elizabeth Steiner Maccia.

4. See reference number 2.

5. The claim that History of Education produces analytical knowledge is not a claim that Maccia makes.