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A CONCEPTUAL SYSTEMS APPROACH MODEL
DESIGNED FOR THE PROCESS OF
CURRICULUM PLANNING, DEVELOPMENT
AND SUPERVISION IN UGANDA

by

Emmanuel K. Waddimba

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment
of the
Degree of Doctor of Education

Western Michigan University
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Emmanuel K. Waddimba
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CHAPTER I
STATEMENT OF THE PROBLEM

Chapter one consists of the purpose of the study, use of the study, significance of the study, limitations, definition of terms, and the outline of the study.

Purpose of the Study

The purpose of the study was to design and substantiate a conceptual systems approach model for the process of curriculum planning, development, and supervision, as a proposal for Uganda. An account of the use, significance, and limitations of the study was given. After a definition of terms, an outline of the study was stated. Other aspects of the study dealt with a review of related literature on educational development in Uganda, the presentation of the model and a list of related assumptions, theoretical support, application of the model, and implications, summary and recommendations.

Use of the Study

It was assumed that the results of the study might bring about an increased representation of and participation by more components of society in the process of curriculum planning, development and supervision. Through more collaborative endeavors there could be an increase and improvement on understanding of theory and practice of education at various levels in society. Hopefully, the extent to which goals are disseminated would correlate with the degree to
which specific objectives were delineated. As instructional activities become more germane to theory, goals, and objectives, more learning should be enhanced. A greater number of personnel engaged in education would be expected to use the framework of theory, goals, objectives, and instructional activities in order to articulate and diversify methodology. If the model were implemented, knowledge of quantity, quality, provision, and utilization of instructional materials should improve.

An increase in the use of disciplined inquiry through formative evaluation might result in an improvement of programs. Supplementary to that, summative evaluation would assist in judging the worth of curriculum. As testing and measurement improve (but only as part of evaluation) a new positive attitude toward examinations might emerge. By making research an integral part of the process of curriculum planning, development, and supervision, knowledge and application of research might be disseminated to more people faster, and might be more readily accepted as a device to increase knowledge about the educational system.

Unlike ad hoc implementation of program suspected to be the case in the past, the study should urge innovators to schedule the implementation by specifying who does what, how and when. The assumption is that curriculum policies would be developed on the basis of empirical evidence. If so, then there should be an improvement in identifying, collecting, analyzing, and interpreting data upon which to defend or justify what is done in planning, developing, and supervising curriculum.
Significance of the Study

According to the literature cited under this section, curriculum studies are very important. Both that factor and the situation in Uganda make this study significant. With regard to the definition, (Hass, Bondi & Wiles, 1974, p. vii) the curriculum is all the experiences that individual learners have in the program of education, which is planned in terms of a framework of theory and research. Curriculum encompasses all intended learning goals, objectives, activities, methodology, materials, evaluation, research, experiences... and policy (Thomas, 1968, pp. 5-6). Curriculum as planned network of experiences, is the most crucial element of the school program and serves as the focus of the many factors that have a bearing on education (Firth & Kimpston, 1973, p. 3). Curriculum study, Firth & Kimpston added, is a basis for directed long-range planning.

The significance of curriculum studies results from the inability of programs that served past needs to meet emergency challenges. As Koopman (1966, p. 38) said, curriculum lies at the base of the educational effort to forge the bonds and harness the energies of people. The literature cited in the next chapter vividly indicates the need for new models on curriculum in Uganda. That need for leadership on the process of curriculum planning, development and supervision was expressed continuously at conferences cited in the next chapter. Stake (1966, pp. 523-540) said that curriculum innovation was sure to have deep and widespread effects on society. The author is inclined to speculate that unless the process of curriculum planning, development, and supervision is improved, all
other aspects of educational development might be futile.

Definition of Terms

Affective domain:

Affective domain is a set of educational objectives which stress feelings, emotions, interests, attitudes, appreciation, and values (Krathwohl, Bloom & Macia, 1956, pp. 6-7; Krathwohl in Lindvall, 1964). A theoretical order of objectives in the affective domain is illustrated on a continuum below.

Figure 1. A Continuum Showing the Hierarchy of Objectives in the Affective Domain

Cognitive domain:

Cognitive domain is a set of educational objectives which stress acquisition of knowledge, and the development of skills and abilities necessary to use knowledge (Krathwohl et al., 1956; Worthen & Sanders, 1973). On the continuum below a theoretical order of objectives in the cognitive domain is illustrated.

Figure 2. A Continuum Showing the Hierarchy of Objectives in the Cognitive Domain

Psychomotor domain:

A psychomotor objective is an objective which stresses means of
expression through movement behaviors by body control, play, and acquisition of skills such as manual, muscular or motor skills, manipulation of materials and objects, for recreation, vocation and everyday life experiences or in separate disciplines (Singer (Ed.), 1972).

Goal:

A goal is a broad or general long range intangible aim or principle (Tyler, 1950, 1964, 1969; Firth & Kimpston, 1973, p. 6) reflecting a philosophy of education and life (Richmond, 1971, p. 17; Frost & Rowland, 1969, p. 226), and which provides answers to the questions: What sort of persons should students become? (Bettelheim, 1964; Busia, 1969, p. 18; Rogers, 1969, p. 278; Castle, 1965, pp. 55-59), and What is being done and what is worthwhile achieving? (Peters, 1966, p. 32; 1967, pp. 1-16).

Objective:

An objective is a preplanned specific activity of an intermediate learning outcome.

Behavioral/performance objective:

A behavioral/performance objective is a preplanned specific activity of an immediate or intermediate learning outcome expressed in terms of student behavior/performance as an indication of what a successful learner is able to do at the end of a learning activity (Mager, 1967, p. 3, 6, 13).

Taxonomy:

A taxonomy is a classification scheme of educational objectives.
expressed in terms of student behavior/performance, namely knowledge, comprehension, application, analysis, synthesis, and evaluation (Krathwohl et al. op. cit., pp. 6-7; Krathwohl in Lindvall, op. cit., p. 19).

Curriculum:

Curriculum is a network of all the intended/planned and structured series of learning outcomes, or what individual students should learn/do rather than what they do, in the domains of cognitive, affective and psychomotor, embedded in theory and research on educational programs (Hass, Bondi & Wiles, op. cit., p. vii; Thomas, op. cit., pp. 5-6; Johnson, 1967; Mauritz, 1967, pp. 127-140; Firth & Kimpston, 1973, p. 3).

Instruction:

Instruction is an interaction between student and teacher on curriculum. Its input is curriculum, its content is student/teacher activities together with materials and methodology; its output is learning.

Development:

Development is the production, testing, and evaluation of curriculum activities, methodology, materials, and organizational plans for accomplishing and improving educational goals and objectives as an application of evaluation and research.

Evaluation:

"Evaluation is the process of delineating, obtaining, and providing useful information for judging decision alternatives"
(Stufflebeam, 1967; Stufflebeam, et al., 1971); or a "decision oriented inquiry" (Worthen & Sanders, 1973, pp. 28-29; Purkey, 1960; Cronbach & Suppes, 1961, pp. 20-21.

**Formative evaluation:**

Formative evaluation is a process by which to discover success and deficiencies of all sets of a curriculum system while the program is still fluid, or before large scale dissemination, to provide feedback on tryouts to planners and developers of curriculum, for improving various aspects of the curriculum system at intermediate state (Scriven, 1967; Worthen & Sanders, op. cit., p. 62, 104, pp. 123-124; Cronbach, 1963; Grobman, 1970, pp. 182-209; Baker, 1969, p. 353).

**Summative evaluation:**

Summative evaluation is a process for assessing various aspects of a completed product on the consistency of preplanned intents and outcomes, the quality and merit of curriculum, for supplementary and future decisions toward improvement.

**Research:**

Research is an empirical, statistical, scientific, comparative, operationalized, conclusion oriented and disciplined inquiry, method, technique, activity, or approach aimed at obtaining generalizable knowledge about relationships among variables on phenomena.

**Implementation:**

Implementation is the diffusion or dissemination and utilization of knowledge and products of curriculum, evaluation, research,
and development by use of various communication techniques to facilitate adoption or application of knowledge.

**Model:**


**Systems:**

A system is a bounded collection or sum total of interdependent and interacting parts devoted to an accomplishment of some goal(s) with the parts maintained in a steady relation to each other and the entire system by means of (1) standard models of operation, and (2) feedback from the entire system (Miles, 1964, p. 13; Hoetker, Finchtenau & Farr, 1973). Researchers assign characteristics to systems, namely, goal focus, communication adequacy, optional power and resource utilization, cohesiveness, morale, innovativeness, autonomy, adaptation, and problem solving adequacy.

**Systems model:**

A systems model is the newest and most complex model of organization (Rice & Bishoprick, 1971), a hierarchy of subsets (Litterers, 1965). Its functions comprise: overall goals and objectives,
integration permitting individual and organizational subunits to effectively operate, adaptation of organization to environment and internal requirements, and acquiring and maintaining necessary resources. Parts of a systems model consist of planning at all levels, organization to integrate all activities, feedback, interaction and interdependence among components, plus implementation and evaluation. "PERT" (Program Evaluation Review Technique) is applicable to a systems model in identifying subsets, relationships, planning process, facilities, flow of materials and/or information, and to analyze each point in terms of input, content and process, and output.

**Systems approach:**

A systems approach is a way of thinking, a technique of acquiring new knowledge appropriate to effective decision making (Tanner, 1971, p. 1, 16, 24), a problem solving process and planning tool (Kaufman in Piele, Eidel & Smith (Eds.), 1970, p. 145; Kaufman, 1970), a strategy and set of operations designed to maximize solution of problems (McNamara, 1971, pp. 19-23), an orderly way of identifying differentiated components and their properties, a tool for examining many forms of phenomena (Hartley, 1968, pp. 23-73).

**Systems analysis:**

Systems analysis is a way of seeking alternatives and a process of investigating the nature, function, and relationships of a problem and interrelated parts by thinking logically and intelligently to provide procedure for problem solving and pursuing feasible alternatives to solutions (Tanner, 1971, pp. 1-2, 4, 9, 15).
Systems theory:

A systems theory is a set of concepts, assumptions, and hypotheses stressing interaction within a component, and interaction of components in an organization, Price and Bishoprick (op. cit., p. 163). A systems theory deals with description and systematic analysis rather than control (ibid; Gross, 1958; Boulding, 1956).

Theory:

Theory is a set of interrelated, coherent, and logical assumptions/concepts/principles/hypotheses for empirical inquiry on phenomena and their related variables. Theory consists of and helps to clarify interrelationships among variables, explain/specify empirical inquiry on phenomena, provide logical explanations/predictions on specified phenomena, maximize probability and exactitude on specified phenomena, and provide road maps to research. Theory provides frameworks within which to investigate, observe, test, and interpret phenomena (Van Dalen & Meyer, 1966, pp. 63-66; Kerlinger, 1973; Hills, 1968, p. 71; pp. 487-492; Wiles, 1967; and Travers, 1969, p. 10).

Leader:

A leader is a member of a group or organization who best influences and works with an individual, group or organization, toward achievement of desired goals and/or objectives through interrelated human, conceptual, and technical skills, to maintain and improve individual, group, and/or organization.

Leadership:

Leadership is an interpersonal process of influence between
leader and follower(s) in efforts toward achieving group and/or organizational goals and/or objectives in a specific situation on specific tasks (Gibb, C. A., 1969; Drucker, 1953; Gibb, J. R., in Lassey (Ed.), 1971, p. 11; Fiedler, 1964; 1967; Knickerboker, 1948; Tannenbaum, 1968, p. 101; Saville, 1971, pp. 52-55).

Supervision:

Supervision is a process based on behavioral sciences and research, and function used by personnel responsible for school goals and objectives to offer opportunity for increasing personal self-actualization and organizational growth. Its concern is creating an environment favorable to learning, increasing school effectiveness through appropriateness of goals and objectives together with the welfare and growth of school inhabitants (Sergiovanni & Starratt, 1972; Harris, 1963; Wiles, 1967; Leeper & Wilhelms (Eds.), 1969; Neagley & Evans, 1970).

Limitations

Whereas the study covered a great deal of current theories on curriculum and related areas, the gist of it is conceptual. Sources of the data included a review of literature on education in Uganda, theories on the process of curriculum planning and development, the assumptions formulated and the model designed by the author. Unlike a research study designed and carried out in the local school setting, this study was based upon concepts and theories which were not yet well disseminated in the country. The process of curriculum planning and development was not presented separately. Instead, that

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was incorporated into Chapter V which presents the application of the designed model. Unless there was a cadre of professional educational leaders to cooperate with other scholars, the proposed model and process would be difficult to implement. Despite its potential to improve curriculum, learning, performance and production, the results of this study would have to be thoroughly digested first by the key personnel all over the country. Its scientific orientation could become a drawback if the components within the educational system were not scientifically enculturated. Apparently, the process would be more time consuming and challenging than the traditional trial and error method.

Outline of the Study

Chapter II deals with an historical review of educational development in Uganda from the inception of western influence up to present. Chapter III presents the model and its related rationale and assumptions. Chapter IV presents more theoretical support to the model. Application of the model is discussed in Chapter V. Chapter VI contains the summary, conclusions, and implications for further study. Discussion and recommendations are presented in Chapter VI as an educational program for Uganda.
CHAPTER II
HISTORICAL REVIEW OF
EDUCATIONAL DEVELOPMENT IN UGANDA

Environmental and geographical conditions should be taken into consideration as a context for curriculum planning, development, and supervision. The essential data might include historical factors, politics, economy, trade, finance, land use, and other demographic considerations for development purposes. In this chapter, these are elaborated.

Conditions as a Context for Curriculum

Politics

European influence dates from the first British explorers: Speke in 1862, followed by Stanley in 1875, the British missionaries in 1877, and the French missionaries in 1879. (Economist Intelligence Unit, Ed., African Journal, Africa Magazine, 1973, p. 181). The information analyzed below is an excerpt from the same source. The British government established a formal protectorate over Buganda in 1894, and over the whole of Uganda in 1902. The law making branch of the government was the Legislative Council. The appointment of the first African to the Legislative Council occurred in 1905. Internal self rule with ministerial type of government was introduced in 1958, followed by the first full elections in 1961. Independence was achieved in October 1962. In 1963 Uganda had a president, a prime minister, local and federal governments. After a military coup
d'état of 1966, the country became a republic in 1967, followed by a one-party system in 1969. A second coup d'état took place in 1971 and marked the beginning of a second republic. The government of the second republic resolved to improve the economy of Uganda through equitable arrangements. That plan was officially declared in 1972 as the "Economic War." The British had divided Uganda into regions, districts, sub-districts, counties and parishes arbitrarily. The organization of the educational system is based on those divisions: district, region, and federal, but it is centralized.

The land

Uganda is on a plateau situated on the equator and is bordered by Kenya to the east; Sudan in the north; Lake Albert, Lake Edward, and Zaire in the west; Lake Victoria, Tanzania, and Rwanda to the south. The total area is approximately 235,886 Sq. Km. of which 42,382 Sq. Km. are open water and swamp. The general altitude is from 1000 m (3,333 ft.) to 1500 m (5,000 ft.) above sea level. According to Langlands (1970), 84% of the land lies between 900 m and 1500 m (3,000 ft. and 5,000 ft.). Langlands contends that none of the areas in the country lies below 600 m (2,000 ft.). Further data from Langlands (1973) stated that 18% of the area is open water, over 20% swamp, about 17% to 2% under cultivation, and 0.2% urbanized officially.

Population

In 1971 Uganda's population was about 10.1 million, with the most densely populated areas being Eastern Region, Buganda, Western
Region, and Northern Region, respectively, (Africa Magazine, 1973). Langlands (1970) calculated the population growth rate to be 2.2% per annum in 1959, 3.8% per annum in 1966. The birth rate which varies by district, is increasing, whereas the death rate is decreasing. In Langland's view, over 4% of the population is under nineteen years of age. According to Africa Magazine, urban population was estimated to be 332,000 for Kampala City, the capital, 47,000 for Jinja, and 23,500 for Mbaile, an agricultural town. Each region has its headquarters and so does each district, but smaller towns are spread all over the country.

Economy

Uganda is predominantly agricultural, with commercial agriculture consisting of one-quarter of the Gross Domestic Product (GDP). Other sectors are estimated to be 30% subsistence economy, 12% commerce, 9% manufacturing, and 2% mining. Economy remains heavily reliant on fortunes of the main agricultural exports (see Table 1 and 2 Africa Magazine, 1973, pp. 184-185). Coffee provides well over half of Uganda's export earnings, followed by cotton and copper. Farmers produce significant quantities of tea, sugar, ground nuts, tobacco, and livestock for sale.

The third five-year development plan 1971-1976, among other sectors, envisaged the manufacturing sector to be the most dynamic part of the economy. The plan would be accomplished partly through increased processing of agricultural output to raise the volume of agricultural exports. It appears to follow that a drop in agricultural exports is a major drop in national economy. Over half of
### TABLE 1

**ECONOMY**

Gross Domestic Product by Sector 1966-1970

<table>
<thead>
<tr>
<th>Sector</th>
<th>1966</th>
<th>1970</th>
<th>1966 as %</th>
<th>1970 as %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>1,480</td>
<td>1,768</td>
<td>24.4</td>
<td>24.5</td>
</tr>
<tr>
<td>Cotton ginning, coffee curing and sugar manufacture</td>
<td>96</td>
<td>113</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>Forestry, fishing and hunting</td>
<td>52</td>
<td>76</td>
<td>0.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>104</td>
<td>123</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Manufacture of foods</td>
<td>49</td>
<td>66</td>
<td>0.8</td>
<td>1.0</td>
</tr>
<tr>
<td>Other manufacturing</td>
<td>359</td>
<td>452</td>
<td>6.0</td>
<td>6.2</td>
</tr>
<tr>
<td>Electricity</td>
<td>68</td>
<td>87</td>
<td>1.1</td>
<td>1.2</td>
</tr>
<tr>
<td>Construction</td>
<td>69</td>
<td>108</td>
<td>1.1</td>
<td>1.5</td>
</tr>
<tr>
<td>Commerce</td>
<td>811</td>
<td>885</td>
<td>13.4</td>
<td>12.2</td>
</tr>
<tr>
<td>Transport and communications</td>
<td>225</td>
<td>304</td>
<td>3.7</td>
<td>4.2</td>
</tr>
<tr>
<td>Government</td>
<td>323</td>
<td>411</td>
<td>5.3</td>
<td>5.7</td>
</tr>
<tr>
<td>Miscellaneous services</td>
<td>351</td>
<td>451</td>
<td>5.8</td>
<td>6.2</td>
</tr>
<tr>
<td>Rents</td>
<td>213</td>
<td>231</td>
<td>3.5</td>
<td>3.2</td>
</tr>
<tr>
<td>Total monetary economy</td>
<td>4,200</td>
<td>5,075</td>
<td>69.2</td>
<td>70.3</td>
</tr>
<tr>
<td>Subsistence economy</td>
<td>1,871</td>
<td>2,149</td>
<td>30.8</td>
<td>29.7</td>
</tr>
<tr>
<td>Total Gross Domestic Product</td>
<td>6,071</td>
<td>7,224</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Source:** Uganda’s Third Five-Year Development Plan 1971-72-1975-76.

**Output of Selected Products**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement (000 metric tons)</td>
<td>139.5</td>
<td>154.6</td>
<td>176.1</td>
<td>190.8</td>
<td>151.2a</td>
</tr>
<tr>
<td>Single superphosphate (000 metric tons)</td>
<td>17.0</td>
<td>15.0</td>
<td>22.8</td>
<td>24.8</td>
<td>23.9a</td>
</tr>
<tr>
<td>Beer (000 litres)</td>
<td>20.5</td>
<td>19.8</td>
<td>21.0</td>
<td>27.8</td>
<td>25.2a</td>
</tr>
<tr>
<td>Cotton and rayon fabrics (million square metres)</td>
<td>41.7</td>
<td>43.4</td>
<td>47.2</td>
<td>49.6</td>
<td>46.2</td>
</tr>
</tbody>
</table>

**Source:** Uganda Statistical Abstract.

**Output of Major Crops**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton (000 bales)</td>
<td>344.8</td>
<td>422.9</td>
<td>466.8</td>
<td>345.0</td>
<td>402.0</td>
</tr>
<tr>
<td>Coffee (000 metric tons)</td>
<td>133.4</td>
<td>247.2</td>
<td>201.5</td>
<td>179.1</td>
<td>179.0</td>
</tr>
<tr>
<td>Tea (000 metric tons)</td>
<td>15.2</td>
<td>17.6</td>
<td>18.2</td>
<td>17.0</td>
<td>------</td>
</tr>
<tr>
<td>Sugar (000 metric tons)</td>
<td>152.4</td>
<td>140.0</td>
<td>144.0</td>
<td>138.0</td>
<td>------</td>
</tr>
<tr>
<td>Tobacco (000 metric tons)</td>
<td>4.6</td>
<td>3.4</td>
<td>3.4</td>
<td>4.5</td>
<td>4.4</td>
</tr>
</tbody>
</table>

**Source:** Quarterly Economic and Statistical Bulletin; Official estimates.

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## Table 1 (continued)

### Intra-Community Trade

<table>
<thead>
<tr>
<th>Year</th>
<th>Tanzania</th>
<th>Kenya</th>
<th>Total</th>
<th>Tanzania</th>
<th>Kenya</th>
<th>Total</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1968</td>
<td>2.0</td>
<td>8.6</td>
<td>10.6</td>
<td>0.8</td>
<td>13.3</td>
<td>14.0</td>
<td>-3.4</td>
</tr>
<tr>
<td>1969</td>
<td>1.7</td>
<td>7.8</td>
<td>9.5</td>
<td>1.2</td>
<td>15.9</td>
<td>17.1</td>
<td>-7.6</td>
</tr>
<tr>
<td>1970</td>
<td>2.0</td>
<td>10.0</td>
<td>12.0</td>
<td>1.5</td>
<td>16.7</td>
<td>18.2</td>
<td>-6.2</td>
</tr>
<tr>
<td>1971</td>
<td>0.8</td>
<td>8.0</td>
<td>8.8</td>
<td>1.9</td>
<td>19.2</td>
<td>21.1</td>
<td>-12.3</td>
</tr>
</tbody>
</table>

*Source: East African Customs and Excise Annual Trade Report.*

### Main Commodities Traded

<table>
<thead>
<tr>
<th>Year</th>
<th>Exports (USh million)</th>
<th>Imports (USh million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>Coffee 1,014.4</td>
<td>Machinery 167.0</td>
</tr>
<tr>
<td>1971</td>
<td>Cotton 351.0</td>
<td>Transport equipment 123.8</td>
</tr>
<tr>
<td></td>
<td>Copper 165.5</td>
<td>Iron and steel 55.8</td>
</tr>
<tr>
<td></td>
<td>Tea 95.0</td>
<td>Other metals and metal products 58.8</td>
</tr>
<tr>
<td></td>
<td>Hides and skins 27.4</td>
<td>Paper and paper products 29.8</td>
</tr>
</tbody>
</table>

*Source: East African Customs and Excise.*

### Balance of Payments

<table>
<thead>
<tr>
<th>Year</th>
<th>Trade balance</th>
<th>Services and invisibles</th>
<th>Transfer payments</th>
<th>Balance on current account</th>
<th>Public long-term capital</th>
<th>Private long-term capital</th>
<th>Short-term capital</th>
<th>Net errors and omissions</th>
<th>Balance on capital account</th>
<th>Increase in reserves (=-increase)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1968</td>
<td>8.4</td>
<td>9.7</td>
<td>0.2</td>
<td>-1.1</td>
<td>4.2</td>
<td>-0.3</td>
<td>0.5</td>
<td>+0.5</td>
<td>4.9</td>
<td>-3.8</td>
</tr>
<tr>
<td>1969</td>
<td>7.5</td>
<td>-8.9</td>
<td>-0.8</td>
<td>-2.2</td>
<td>6.3</td>
<td>-1.0</td>
<td>0.4</td>
<td>-14.1</td>
<td>5.7</td>
<td>-3.5</td>
</tr>
<tr>
<td>1970</td>
<td>20.2</td>
<td>-9.8</td>
<td>-1.9</td>
<td>8.5</td>
<td>----</td>
<td>5.3</td>
<td>-14.1</td>
<td>-8.8</td>
<td>0.3</td>
<td>-4.3</td>
</tr>
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</table>

*Source: Background to the Budget 1970-71: Ministry of Planning estimates.*

### Gold and Foreign Exchange Reserves

<table>
<thead>
<tr>
<th>Year</th>
<th>Total reserves (USh million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1967</td>
<td>34.9</td>
</tr>
<tr>
<td>1968</td>
<td>49.0</td>
</tr>
<tr>
<td>1969</td>
<td>52.3</td>
</tr>
<tr>
<td>1970</td>
<td>56.7</td>
</tr>
<tr>
<td>1971</td>
<td>43.5</td>
</tr>
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TABLE 1 (continued)

<table>
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<tbody>
<tr>
<td>of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SDRs</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>5.4</td>
<td>9.7</td>
</tr>
<tr>
<td>Foreign exchange</td>
<td>30.9</td>
<td>45.0</td>
<td>47.8</td>
<td>44.8</td>
<td>33.8</td>
</tr>
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</table>

a. End-June

Mineral Production

<table>
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<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Blistet copper</td>
<td>14.4</td>
<td>15.6</td>
<td>16.6</td>
<td>17.1</td>
<td>16.9</td>
</tr>
<tr>
<td>(000 metric tons)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beryl (metric tons)</td>
<td>319</td>
<td>361</td>
<td>286</td>
<td>330</td>
<td>230</td>
</tr>
<tr>
<td>Wolfram (metric tons)</td>
<td>133</td>
<td>142</td>
<td>170</td>
<td>230</td>
<td>221</td>
</tr>
</tbody>
</table>


subsistence agriculture. Plans under the third five-year development plan were geared to diversify agricultural production. The aim was to process locally produced raw materials, mostly agricultural products.

Land use

The major land use classifications analyzed by Langlands (1973) in order of magnitude deserve the reader's attention. Pasturage and grazing constitute approximately 30% of the land, cultivation 17%, game reserve 8.2%, forestry 6.4%, swamps 30.8%, and cattle ranches 1.3%, but the amount of land used for urbanization is minute. In some areas 10% of the population is on 1% of the land, whereas there are areas with fewer people than they could sustain. There is no question that Uganda has adequate land to meet her needs in the foreseeable future. However, the open spaces are not equitably

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distributed; therefore, migration will have to take place from the fully utilized areas of today to lands for the improvement of tomorrow.

Rural and urban development

The literature cited in this section should illustrate part of many efforts made to provide that there was need for rural and urban development.

Immigration to town was uncontrolled and unplanned in Uganda (Adams and Bjork, 1969). The comparison between country and town is vast (Cameron, 1970, p. 3). Whereas approximately 90 per cent of the population is engaged in agriculture, teachers were not available to teach it, and parents did not know it either (Scanlon, 1970, p. 25). What was done in the classroom was not correlated to the school garden (de Burnsen Commission, 1953)\(^1\). According to the report of that Commission, rural trade schools offered a three year post-primary course in village crafts, small holding cultivation, furniture building, simple house construction, poultry, and livestock. In spite of that it had been difficult to develop a syllabus to suit the limited finances of rural areas. In the second five-year development plan 1966-1971, farm schools received more money, but lack of land, professional guidance, credit or capital, blocked the anticipated success (p. 22).

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\(^1\)Professor de Burnsen was the President of Makerere University College and was nominated head of Uganda's own first Education Commission.

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Results from a study by Wallace (1973) on occupational activities of youths in rural Buganda, a comparison of formal and informal working sectors of youths, showed that location of formal jobs was more in town, but also available in rural areas. Workers in the informal sector required only basic training; formal education did not contribute to performance. It was estimated that two-thirds of the working population were in the informal sector. The neglected sector can provide some solutions to employment problems of poor countries. Wallace's data showed that this was a crucial growing sector that needed more research.

Weeks (1973) studied the range of informal occupational activities open to and utilized by rural youths in Bugisu. The proportion of youths looking for jobs rose proportionately with the level of education. Urban orientation rose according to level of education. Job pluralism was evident whereby youths mixed agriculture with wage earning jobs to maximize income. Weeks concluded that there was need to recognize the importance of the informal sector, but economists' models did not include factors operating at this level. Until more is known about rural employment, economists cannot go far in advising policy makers on how to cope with problems of unemployment in the rural area (Eicher and Byelde, 1972, p. 42). The activities Weeks studied included agriculture, trading, cottage industry, white collar, semi-skilled-unskilled, driving, and construction.

Safier and Langlands (1969) of Makerere University, Geography Department, did a study on urban planning in Uganda. Results showed
that the population growth ratio was 2-3%, but urban was 4-5%, in large capitals 6-7%. Safier and Langland recommended to concentrate on costs for urban planning from economic rather than architectural viewpoint, acceptable employment rather than ad hoc, solution to influx of rural population to urban zones versus laissez faire attitude, use of professionals on policy and semi-professionals on details about regulations. Other suggestions included relation or urban planning to national development, low-cost housing, application of sociological implications to slum clearance, local town planning boards within frames of established formula, and the relationship between urban planners and other planners.

Demographic Statistics for Development Purposes

Langlands' (1970) plea on demographic statistics for development purposes is analyzed. With very few exceptions, Uganda is not faced with problems of land shortage. Although there may be a few limited areas in which land may be coming short, there are numerous extensive areas in which more people could be sustained. There are only limited areas of Uganda where population pressures are high. On the basis of such information, Langlands makes a plea for publication of more detailed, more geographically significant data than in the past. Among other things, the need for both urban and rural statistics on population distribution should be emphasized. Better information about land areas should be made available for regional economic and educational planning. Information is needed on the relation between man and the land. Better knowledge of land carrying
potentials of rainfall, quality of soil, availability of water for
domestic and irrigation purposes is essential. Better population
data are needed on urban sectors including the small towns spread
across the country.

The Beginning of Western Education
and the Evolution of Curriculum

Traditional education

There was education prior to the establishment of the so-called
"Western Education." In the opinion of the author, this point is
often overlooked. In agreement with the author, Scanlon (1965, pp.
7-16) wrote that prior to the coming of explorers and missionaries,
economic, social, and political education was conducted through
parents and the community. Scanlon further stated that the explorers
found in Uganda the most systematic government and social order ever
reported about any African country. Senteza Kajubi in Miel and
Berman (1970, p. 9) contended that in the pre-colonial era, children
learned certain skills relevant to the community. Just to name a
few, those skills included classification of grasses and weeds,
grazing domestic animals, child rearing, local history, story tell-
ing, problem solving by way of finding answers to riddles, morals. . .
Although it had some limitations, such education was compulsory,
free to all, and produced economically productive and emotionally
stable citizens. Also see Busia (1969); and Castle (1965). There-
fore, in this study, beginnings of school education refers to the
"Western Education." It appears to the author that the beginnings
of school education were not planned.

Beginnings of formal schools

The first primary schools developed from Bible and catechist classes (Hawes, 1970, p. 179). According to Hawes the first recognizable schools started in the late years of the nineteenth century. His report added that by 1902 Catholic and protestant missionaries had established some tens of primary schools and some hundreds of village schools. The main sources agreed that until 1965 missionaries had practically the whole education of the country "in their hands" (Adams & Bjork, 1969, p. 102; Jones, 1925, p. 151; Cameron, 1970) but started it in cooperation with native chiefs. Gradually education became a transaction between missionaries and the people, Jones reported. Until recently, the extent of educational opportunity for an African correlated closely with missionary activity (Adams & Bjork, 1969, p. 55). What follows below indicates the aims of that early education.

Aims of education

The discussion under this section is based on Hawes (1970). An excerpt from a letter by Mackay, a missionary, stated that knowledge of God and ability to love God was the main aim of education offered to the converts. Curriculum for primary schools, Hawes reported, included reading, writing, singing, geography, arithmetic, scripture, and gradually English was introduced. Rural primary schools and village schools taught reading. The early pupils were trained to be
church and state leaders, teachers, clerks, storekeepers, and interpreters. Schools for sons of chiefs were in 1902 at Namilyango, 1905 Mmengo, 1906 Budo. In 1901, Stanley, the second explorer to Speke, wrote from Britain to the Buganda Regents suggesting that they should ask Britain for money to be spent on skins, ivory, rubber, carpentry, blacksmith, bricks, and masons. Missionaries of the Church Missionary Society (CMS) started an industrial center to teach carpentry, joinery, printing, bookbinding, and building. However, that center was handed over by the authority to a commercial firm belonging to Indians. Bishop Hanlon of the Milhill Fathers reported industrial training in all their twelve schools. Judging from that summary, it appears as if vocational education was taken into consideration. Nevertheless, Hawes is the same person to say that the first European missionaries to institutionalize education in Uganda taught what schools in Europe learned from 1900 to 1905. In his opinion, literacy was made a condition of baptism and parents approved of that. In other words, education was a road to Christianity. When clerks and interpreters earned wages, the community was misled that such academic education was rewarding. At this juncture what other sources said about education at that time should be in order.

Irrelevance of education

A summary of Jones' (1925)² views is presented here for

²Jones, T.J. was the Chairman of the second African Education Commission under the auspices of the Phelps-Stokes Fund, in cooperation with the International Education Board.
convenient reference. Whereas the soil was unusually fertile, practically no provision had been made for agricultural education, and this vital responsibility of agricultural education so fundamental to the welfare of the people had been left to the chance interest of missionaries. Jones (p. 163) quoted what an enthusiastic missionary on agricultural education said,

"The soil of this land is a veritable gold mine from which by cooperation of church and state an African society might be dug, which could withstand not only all that is bad and absorb all that is good . . . and so automatically lift up the whole village life around them."

Jones quoted another missionary officer of the same denomination that the industrial work started by Mackay was not followed up. The training of Africans was handed over to the control of a commercial undertaking of Indian workmen who had no intention of giving such training to Africans lest these would oust the Indians and their compatriots. Jones quoted another missionary,

"Far too little emphasis is placed on hygiene and simple agriculture, animal husbandry, and it seems a great defect that there is an almost complete absence of nature study and simple background of science. These should find a place in any foundation work on education. If only the subject were developed slowly and simply, we could still make it of immense educational value to the people even in the simplest possible scientific knowledge which may be conceived of as the necessary educational foundation upon which to build up an appropriate teaching of the subject."

Jones (p. 167) expressed his own view that the broad interpretation of education should include influences for the improvement of health, agriculture, industrial skills, home improvement, community morals and morale. Reactions by Hawes (1970) on Jones' report are discussed.
hereunder.

Hawes argued that Jones' report was faulty because in Hawes' view, the report referred to Protestant schools, but omitted Catholic schools which exhibited a considerably more practical approach. At the same time, Hawes admitted that the criticisms which Jones made in the report were valid. Hawes himself described the curriculum as disorganized, narrow, and academically unproductive.

Let us consider how another source viewed the situation of education in the British Colonies of Africa. According to another commentator, the British introduced a far too literary and academic type of schooling to their colonies (Hunter, 1963, pp. 6-9). The syllabus was biased towards white collar occupations whereas the practical needs of the colonies were rural agricultural life. However, Hunter stated that the British type of education was important at the moment Africans were seeking to attain quickly the practical skills of the West. Such education was necessary for modernizing agriculture. Catholics in East Africa concentrated on teaching practical crafts so that local communities could build their own classrooms, chapels, and grow much of their own food. This tradition of practical work is still quite strong in many schools. The system was concerned with sheer literacy at low levels for the masses and at a rather higher level for simple teachers to spread education using vernacular languages.

On the other hand, Hunter asserted that the system was irrelevant to African life. His contention was that it was impossible for such an early British system to make much of an impact. According to
him, Africans subsequently appreciated the system for their salvation from poverty and inferiority to developed nations. Agriculture came to stand for backwardness and bush. Progress started with book-learning and teachers. Clerks lead better lives (Hawes too reported this). His argument continued that nothing could have stopped Africans from seeking the towns and white collar work. The aspiring African wanted knowledge of the white man's world and of the white man's sources of power and political philosophy.

Yet Hunter said that the syllabus was unintelligently British. In his view, it was strange to see British syllabi in African universities where the countries were short of their own people to develop their own nations. The feeling expressed by Hunter was that the British tradition of education brought Africans more quickly than any other could have done, into the company of the Western educated world. His argument is that such a system gave Africans new horizons for which they longed; it gave them qualifications for entry into Western institutions, to their great benefit. On the other hand, Hunter admitted that the system did not prepare Africans to run their own society, especially that task of reforming agriculture.

Beginnings of Administration

Jones (1925, pp. 165-66) reported with regret that the colonial government had neither department nor director of education. According to Busia (1969, pp. 13-18) goals of traditional education were clear, serviced through a network of families, kinships and
community human life was the greatest value, and everything was a preparation of youth for life. African traditional education was a form of apprenticeship whereby participation engaged a child's whole personality through manual skills, communal values, and emotional development (Castle, 1965, pp. 55-59). Since education was under voluntary agencies, Jones observed that there was need to make careful and systematic survey of the existing organizations and methods. His contention was that someone should formulate policies and appoint supervisors.

The need for supervision had been expressed by the missionaries also, according to Jones. Regarding this issue, Scanlon (1965) reported that only the missionaries were concerned with social services, and that as early as the beginning of this century, the missionaries proposed a board of education and compulsory education. In conjunction with the board of education, Jones (p. 166) made some suggestions. One of them was the need to incorporate and involve a representation of the native people, because of their vital interest. Secondly, Jones suggested that the natives should be trained in educational leadership. In order to emphasize the point Jones (p. 167) described organization as chaotic. There was lack of consensus of opinion to direct school activities. Before discussing organizational and administrative developments of the subsequent years, let us analyze the impact of Jones' report.

Hawes (1970) revealed that the Jones' report influenced radical change in the Colonial Office of Education policy. That report led to the appointment of the Director of Education in Uganda (see also
Scanlon, p. 12) and other countries. An Advisory Committee on Education in the Colonies was created. Its first report, 1925, advocated principles of adaptation to environment. Suggestions included this excerpt,

"To render the individual more efficient in condition of life, promote advancement of community as a whole through improvement of agriculture, development of native industry, improvement of health, training of people in management of own affairs."

Other recommendations were about the need for establishing a thorough system of supervision, adequate facilities, and the training and retraining of teachers.

According to Hawes (1970) the early Directors of Education, for example Sykes, Jowitt, and Snoxall, were not sufficiently in touch with current trends of educational theory although they committed their hearts to Uganda. The subsequent Directors, for example Miller and Gleave, were professionally competent but did not have Uganda in their hearts.

The evolution of the syllabus

Hawes (1970) reported that the first Director of Education convened the first meeting on syllabus and textbooks July 1925. The first syllabus for primary and intermediate schools was cyclostyled early in 1926. In 1928 the first special syllabus for girls at primary and intermediate levels was issued. It was 1927-1929 when the first texts for English, Luganda, and Swahili were published. The superintendent of the Department of Agriculture, Staples, wrote a book on agriculture and a book on nature study. Owen of Makerere
University College wrote a book on hygiene. Richardson, the Assistant Chief Veterinary Officer, wrote a book on poultry. The ladies of the Church Missionary Society (CMS) compiled a special hygiene book for girls' schools. In 1930 the syllabus for Vocational Central schools followed. This included an elementary business course, native court routine and record, tax collection, training in agriculture, and carpentry with liberal practical work.

Despite these efforts, by 1934 only 16% of the school population studied in grant-aided schools; all the rest attended rural unaided schools. Only a small proportion of the schools were selected for government aid. Teachers and supervisors advocated adaptation of syllabi to life, but action stressed success in examinations. In 1935 the Director of Education conceded that the syllabi were a failure. Central Schools closed in 1937. The system of six years primary, three years junior secondary, three years secondary started in 1938. A period of lack of unanimity between missions and Education Department, and between missions prevailed. There was no more cooperation on the syllabus.

The quantity as well as the quality of teachers was another problem. In 1949, Jowitt, the then Director of Education, wrote three books for teachers in training. The same director convened a meeting of teachers and teacher educators, to write a primary school syllabus. The syllabus that was produced was adaptable to the environment, but did not relate to age and ability of children. Teachers were never able to teach the 1949, the previous, and other past syllabi due to limitation of teachers' backgrounds and lack of necessary materials.
Therefore, the 1949 syllabus never reflected the real curriculum in primary schools. Only about one-quarter of grant-aided schools had teachers, materials, and facilities to use the syllabus. In 1950, the Nuffield Foundation Commission on East and Central Africa, reaffirmed the need for rural education. Scanlon (1965, p. 12), Cameron (1970, p. 33-35), and Hawes (1970) reported on Uganda's own first Education Commission.

In 1953 Uganda appointed its first Education Commission headed by Professor de Burnsen who was then the President (principal) of Makerere University College. The findings of the de Burnsen Commission, (Scanlon, 1965, pp. 34-35) are summarized:

Curriculum was merely a list of topics instead of goals and objectives (pp. 34-35).

The junior secondary curriculum prepared children for senior entrance examination, whereas only 28% of the junior secondary school leavers continued with secondary education (pp. 41-48).

The selection for post-secondary education was based on examination and character only, yet the ratio of secondary students to teachers was 16:1 in boarding schools. The reader should note that the International Bank described this as uneconomical. The first priorities stressed by the de Burnsen Commission were rural education, and teacher education (Hawes, 1970). The recommendations of the de Burnsen Commission (Scanlon, 1965) were as follows:

1) Reorganize and expand teacher education, abolish Vernacular Teachers Colleges, and improve teachers' conditions of service.
2) Expanded junior and senior secondary schools from which to recruit teacher trainees.

3) Expand girls' education.

4) Reorganize the school system from 6-3-3- years of primary, junior secondary, and senior secondary to 6-2-3- years of primary, junior secondary, and senior secondary.

5) Develop school gardens, young farmers clubs, and school competitions in gardening.

6) Establish new primary schools.

Scanlon (p. 33) reported that these recommendations were not implemented in full, but only some of them were attended to by the authorities responsible for education at that time.

Whereas the de Burnsen Commission issued its report in 1953, discussions for an integrated school system did not take place until 1957 (Scanlon, loc. cit.). In 1958 plans were made to limit primary education, but promote secondary education. In 1959, the government issued a white paper on the state of affairs pertaining to Uganda's education. The major recommendations of that white paper were:

1) Raise the standard of living in the communities,

2) Provide more education,

3) Start preparing people to take over responsible jobs,

4) Raise literacy of the masses.

In summary, Hawes (1970) wrote that the printed syllabus for junior secondary was published in 1959, but the primary syllabus did not appear until 1960. Even then that document did not contain objectives, rather it was a preparation for further study. Despite
the 1953 and 1959 documents, the new syllabus had acquired distinctly bookish overtones. Emphasis was laid on acquisition of book knowledge, learning English, sound grasp of mathematics leading to the end of secondary examination and certificate as a passage to ranks of the new elite for the fortunate few.

Over the 70 years of primary curriculum in Uganda, never at any time was it possible for the majority of teachers to teach or even attempt to teach the content of the official syllabus. The curriculum was over-extended; other problems included quantity and quality of teachers, over-enrollment, and lack of equipment.

Each new generation of hard pressed teachers indoctrinated the next so that a self-perpetuating tradition of poor instruction was created. Not until serious attention is paid and money is spent on teacher education, will the situation begin to improve. The majority of European educators were products of an educational system dominated by the Industrial Revolution, literary and essentially urban in character. Such were the heads of Normal Schools and Teachers' Colleges in Uganda. Due to pressure of work, they had little time to re-evaluate their education philosophies.

At no time during the seventy years of curriculum evolution in Uganda did the results of rural life and vocational education appear
to match those of urban employment and literary education. The position was changing only very gradually. Although there had been an improvement in teacher education, there was much wastage in the profession. Many rural schools even now are understaffed, over-crowded, very poorly equipped, unable to teach the curriculum in the 1965 syllabus which was the first one to be written during an independent Uganda. The 1965 syllabus was not properly followed, and was oriented toward preparation for higher education. Rural life and mass education were not emphasized. Hawes concluded that change must go deeper than mere revision of syllabus. Under-trained teachers with inadequate facilities cannot innovate.

Conferences

Conferences were held to change the stress from the original syllabus to another with more dynamic concepts. Ladoslow (1961, p. 10) reported on the conference for African Heads of States held in Addis Ababa, Ethiopia, 1961. Participants agreed that education is at the heart of the development of Africa, and that education is one of the most powerful forces which might speed up development in all spheres. It was resolved that education should be related to every country's economic and social development, and that all resources should be mobilized to realize the established educational objectives. Scientific development was considered to be one of the priorities. Education was thought of as a way to bring nearer a better future for all
children and adults. Education for peace and mutual international understanding was advocated. The rest of the recommendations referred to financial needs, facilities, teachers, new curricular designs, girls' education, adult education, audiovisual materials, higher education, and educational planning.

Another conference of African Ministers of Education was held in Abijan (UNESCO, 1964). Wodajo of the Organization of African Unity (OAU) stressed scientific technology and advisory research councils per country. Addressing the delegates from forty African nations, Auron Tanoh conveyed his message that there was no way education can improve man, bring peace and love, or unity, unless all people in a nation are mobilized to fight ignorance and poverty. Selcon (UNESCO) said that education of the future generation depends on how the adults who are handling it are educated. Luyimbazi Zake (Uganda) stressed self-help projects in addition to aids. Other speakers referred to "education for humane understanding, cultural maturity, and emancipation of people . . .".

Science Education Programs for Africa (SEPA) held a conference in Kampala, Uganda (1970). Participants resolved that during the next five years, an attempt should be made to develop instructional materials, evaluate all schemes, develop science manpower personnel for each country, and establish an administrative secretariiate for SEPA to facilitate communication.

Judging by the literature above, so far, the reader might agree with Senteza Kajubi (in Miel & Berman, 1970) that school and community clashed; instead of planting African education into African soil, the
two were divorced from each other. One of the needs reiterated was improvement of teacher education.

**Teacher education**

By 1961, the 42 teachers colleges had been consolidated into 26, probably as a result of the de Burnsen Commission (Cameron, 1970, p. 71). According to this source, however, the syllabus was still traditional (p. 73). The Institute of Education was established at Makerere University College, Kampala, Uganda in 1949 to coordinate teacher education for the whole of East Africa, but up to 1958, it had not accomplished the goal (p. 142). A new National Institute of Education with its own director and building, was established for Uganda separately in 1958 to link the University and the Ministry of Education, coordinate teacher education and curriculum in collaboration with the Central Inspectorate. The figures below are extracted from Cameron (p. 142) to illustrate the situation in 1965.

<table>
<thead>
<tr>
<th>Number of teachers colleges</th>
<th>28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government founded colleges</td>
<td>4</td>
</tr>
<tr>
<td>Total number of students</td>
<td>4,008</td>
</tr>
<tr>
<td>Total faculty</td>
<td>270</td>
</tr>
<tr>
<td>Faculty with degrees (at least B.A.)</td>
<td>59</td>
</tr>
<tr>
<td>Faculty, non-degree holders</td>
<td>211</td>
</tr>
</tbody>
</table>

Teacher education for national development and leadership development was the theme for the University of East Africa (UEA) annual conference 1970 held in Kampala, Uganda. Another organization, the East Africa Teacher Education Conference (EATEC) 1970, met in Uganda to debate reality, relevance, responsibility, African child study,
and development plans on teacher education. A new organization, the Association for Teacher Education in Africa (ATEA) held the 1971 annual conference in Uganda. The main issue was an increasing concern and search for relevance to bring teacher education in line with new ideas, values, and the realities of African problems and aspirations. The first focus at that conference was new teacher education Foundation Studies/Principles of Education/Foundation of Education. The second focus was to explore new ways and means to revitalize professional studies of teacher education curriculum. Such curriculum was envisaged to be more relevant, more functional, more effective, and for development of modern nations of Africa.

The Afro-Anglo-American (AAA) Program in Teacher Education (June, 1961) and the Teacher Education for East Africa (TEEA) were amalgamated to form the Association for Teacher Education in Africa (ATEA) (July, 1969). The main purpose was to strengthen teacher education and research in Africa. Other objectives were to assess curriculum, develop guidelines to curriculum planning, and initiate large scale cooperation and continuous curriculum development in Africa. It was recommended that teacher education should involve participation in social community activities, adult education to be part of teacher education curriculum, agriculture and health education to be included, and teachers to serve on adult education committees.

Kasasa (1973) reported that the English teacher education curriculum had syllabus objectives incompatible with tutors' objectives, and that student objectives were not stated in behavioral performance terms. Evaluation procedures used by teachers colleges did not
clarify the criteria for assessing objectives and activities in the syllabus. This author deduces from Senteza Kajubi (in Miel & Berman, 1970, pp. 8-18) that sociological and psychological foundations were lacking in the education for non-industrialized nations of the world.

**Developmental phases of the school system**

The de Burnsen Commission (1953) recommended a switch from the (1936) 6-3-3- years or primary, junior secondary and senior secondary to the 6-2-3- years respectively. In 1961, the 6-2-3 system was implemented (Scanlon, op. cit.). Then in 1968, the 6-2-3 system was switched to the 7^- years of primary and secondary respectively (Weeks, 1967, p. 16). Further information from Weeks showed that by 1967, concentration was on higher and middle level manpower development, but that little consideration was given to possible relationships between an expanded primary school system and future social, economic, and political change. According to the source, there had been little drive for universal primary education. Despite the adoption of the 7^- system in 1967, choices in educational planning were similar to those conservative ones of the past (p. 18). Cameron (1970, pp. 1-2) could describe the planning as hazardous, and reasonable prediction haphazard, although services were improving very rapidly.

Regarding decentralization of control, Cameron reported that each post-primary institution, except the university, had a board of

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2 Data indicating how the change would affect the system were not available.
governors. The cabinet Minister of Education appoints the members of the boards of governors. Each board of governors consists of representatives for the foundation body (mission/government founders of the institution), local community, teachers' organizations, the Ministry of Education, and the principal as secretary to the board of governors. The Minister of Education sets the duties and conditions under which boards operate. According to the Education Act, 1970, the Minister may at anytime specify/alter the details of duties, authority, operations, powers, and discussions of the board of governors. Each primary school has a management committee which operates according to the established procedure.

Selected statistical data

Some data were selected to illustrate statistically the educational progress. There was a ratio of 2:1 pupils to every place available in primary grade 1 (Ministry of Education Report, July 1962; Scanlon, 1965, p. 15). At junior secondary level the ratio was 14:1 pupils to every place available. Therefore, priority was given to secondary education from which to recruit teacher trainees since there was a scarcity of junior secondary teachers (Scanlon, op. cit., p. 15). Post secondary institutions had vacancies in 1962, and it was not until 1967 that those places became too few for the demand. The systems of 6-3-3, 6-2-3, 7-4 became questionable as to which was the

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4There were no experimental or research data as the basis of the changes.
best for social and economic development (Weeks, p. 19, 24).

Fewer than 50% of school age children were in school by the end of the colonial government in 1962 (Weeks, 1967). Literacy in Uganda is about 69% to 97% in some areas; 82% and over 90% in others, but very low in others; the average is about 75% (Williams, 1966; Cameron, 1970).

Enrollment in primary grade one increased by an equivalent of 23% between 1962 and 1963 (Weeks, 1967). Population growth (Cameron, 1970, p. 1) was estimated to double every five years. Policy formation is difficult because of sudden changes. A country in such a situation would have to run very fast to remain in the same place. Despite the data, the statistics were risky and random, according to Cameron.

In 1965 about 17% of school age children completed eight years of education. The number of primary grade seven leavers trebled between 1965 and 1967 (Weeks, 1967). About 33% of secondary school leavers joined Higher School Certificate (HSC) or "A" level, and the increase of secondary school leavers was about 22% in 1965. The number of secondary schools increased from 21 to 24 in 1960 and to 66 in 1965. Secondary school teachers were 70% expatriates in 1959 according to Scanlon. Evans (1971) reported that results of his study showed that expatriate teachers did not know enough about local needs in order to guide students.

The financing of education

Schools were started by missionaries because government financial
support was not available. The token grants in aid to schools raised friction among missionaries (Jones, 1925). The grants indicated minimal interest in education by government for example (Cameron, op. cit., p. 24).

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1917-1918</td>
<td>$1,250</td>
</tr>
<tr>
<td>1948</td>
<td>410,087</td>
</tr>
<tr>
<td>1950</td>
<td>715,000</td>
</tr>
<tr>
<td>1960</td>
<td>5,000,000</td>
</tr>
</tbody>
</table>

The financing of education was left to the initiative of local colonial officers and the willingness of the colonial population to raise money (Adams & Bjork, 1969, pp. 40-50). The data below indicate that many schools did not receive aid, Scanlon (pp. 35-39). In 1962 aided schools were as follows:

**TABLE 3**

**AIDED AND UNAIDED SCHOOLS BY DENOMINATION**

<table>
<thead>
<tr>
<th>Denomination</th>
<th>Aided</th>
<th>Unaided</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic</td>
<td>1,139</td>
<td>1,761</td>
<td>2,900</td>
</tr>
<tr>
<td>Protestant</td>
<td>936</td>
<td>1,661</td>
<td>2,597</td>
</tr>
<tr>
<td>Muslim</td>
<td>154</td>
<td>87</td>
<td>241</td>
</tr>
<tr>
<td>Total</td>
<td>2,229</td>
<td>3,509</td>
<td>5,730</td>
</tr>
<tr>
<td>Percent</td>
<td>38.8</td>
<td>61.2</td>
<td>100</td>
</tr>
</tbody>
</table>

In some areas schools operated below capacity whereas children walked long distances to attend denominational schools, sometimes where

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teachers were not equipped to teach large classes. According to Weeks (1967, p. 6, 18) the colonial government spent 7.5% of the revenue on education in 1949 as compared to 2% of the revenue which was spent on education in 1963-1964 under the independent Uganda. It was alleged, Weeks wrote, that the colonial government paid 80% of the cost and each secondary school student paid 20% fees. Weeks suggested a loan system whereby students would pay later with interest at 10% (also see Foster, 1964, on Ghana). According to Weeks, the information given to him was that loans had been tried previously in Uganda, but proved unsuccessful. Hawes (1970) put it differently. In his view, due to a financial crisis, very few schools received aid (see Table 3).

Figure 3 was based on the Education Act Amendment 1970, but did not include the reorganization of 1973. The following explanation attempts to show the situation from 1970 until the reshuffle of 1973.

The Minister of Education, as a member of the cabinet, occupied a political position. His duty should be to report to parliament all educational affairs of the nation, and to implement the national education policy approved by parliament. His Permanent Secretary, as the chief civil servant, should be expected to do all the briefing to the Minister. The Under Secretary, Principal Assistant Secretary, and Assistant Secretaries perform duties assigned by the Permanent Secretary. People in the above positions as well as people in the finance and establishment divisions might be transferred to similar divisions of other ministries. The rest of the positions described below should be held by professional educators.
The Chief Education Officer (CEO) according to the Education Act, 1970, ought to be the head of the professional team of the entire Ministry of Education. The Ministry is divided into two main streams, one being called Schools and Colleges, the other the Central Inspectorate. The Assistant Chief Education Officer (ACEO) aids the CEO to coordinate activities of the divisions under Schools and Colleges. Each division is headed by a Senior Education Officer (SEO), namely the SEO (secondary), SEO (primary), SEO (Teachers Colleges), and SEO (planning). The Higher Education Officer (HEO) heads the division responsible for scholarships and bursaries.

The Senior Accountant (SAcc) is the head of the salaries and finance division. There is an Education Officer for Career Guidance (EOCG) and a Senior Education Officer Teachers Service Commission (SEOTSC). Some of these divisions are expanded below.

The SEO (secondary) is responsible for the administration of secondary schools. Technical, Commercial, and Rural Trade Schools or Colleges are administered by the SEO (Technical). District Education Officers (DEO) administer primary education in each district, and are responsible to the SEO (primary). Each DEO has a team of four to six Assistant Education Officers (AEO). Principals of primary schools (head teachers) report to DEO. Teachers Colleges are under the SEO (Teachers Colleges). The SEO (Planning) is in charge of the Planning Division which collects data and prepares statistical reports. The Central Inspectorate is described in the next paragraph.

The Chief Inspector of Schools (CIS) is the head of the
Figure 3. Organization of the Ministry of Education

Minister of Education
- Secretary
  - Permanent Secretary
  - Undersecretary

SCHOOLS AND COLLEGES
- Chief Education Officer (CEO)
  - Assistant Chief Education Officer (ACEO)
    - Senior Accountant
    - EDO (Establishment)
    - SDO (Secondary)
    - Primary
    - Teachers College
    - Tech., Comm., Trade Schools
    - EDO (TSC)
    - Career

THE INSTITUTIONS
- Chief Inspector of Schools (CIS)
  - Assistant Chief Inspector of Schools (ACIS)
    - SIS (Senior Inspector of Schools)
    - TIS (Technical Inspector of Schools)
    - CEDC (Director Curriculum Development Center)
    - SENI (Regional Inspector of Schools)
    - EOR (Examination Secretary)
    - EOC (Director Language Unit)

EDO (Senior Education Officer)
ED (Education Officers)
EDO (District Education Officers)
ACDO (Assistant Education Officer)
**Figure 3.1. Schools and Colleges Wing: Summary of Roles by Division**

<table>
<thead>
<tr>
<th>S Acc</th>
<th>NEO</th>
<th>SEO (PL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountants</td>
<td>Scholarships Committee</td>
<td>Primary</td>
</tr>
<tr>
<td>Senior Executive Officers</td>
<td>Abroad</td>
<td>Secondary</td>
</tr>
<tr>
<td>Executive Officers</td>
<td></td>
<td>Post-Secondary</td>
</tr>
<tr>
<td>Assistant Executive Officers</td>
<td>East Africa</td>
<td>Long &amp; Short-Term</td>
</tr>
</tbody>
</table>

**SEO (S)**

- Staff List
- Grants & Salaries,
  - Equipment & Facilities
- Boards of Governors,
  - Internal Administration

**SEO (Pr)**

- Policy
- Staff List of DEO,
  - Equipment & Facilities
- Provincial Commissioners of Education

**SEO (T)**

- Staff List, Board of Governors,
  - Internal Administration
- Grants & Salaries,
  - Equipment & Facilities

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Inspectorate, helped by the Assistant Chief Inspector of Schools (ACIS). Curricula, examinations, evaluation, all academic and professional expertise are the concern of the Inspectorate. The CIS and his team play a professional advisory role to the Ministry. Under the 1970 Education Act, the CIS is responsible to the CEO, but prior to that change, the CIS was directly responsible to the Minister.

The main divisions of the Inspectorate include Secondary, Teachers Colleges, Primary, Technical, Examinations, Educational Television (ETV), School Radio Broadcasting, the Language Unit, the Curriculum Development Center, and Regional Inspectorates. The SIS (secondary) is the leader of subject specialists responsible for secondary curriculum. The SIS (Teachers Colleges) is the leader of subject specialists responsible for teacher education. The SIS (Technical) is in charge of subject specialists responsible for technical, commercial and rural trade education. The SIS (primary) is the leader of the team responsible for primary curriculum. The Senior Examination Secretary (SES) is in charge of all examinations; primary, secondary, technical, commercial, and Higher School Certificate (HSC).

The Director of Educational Television (DETV) heads the team of educators and technicians in that division. The School Radio Broadcasting (SRB) division has a leader. There are a few subject specialists at large; namely, Art, Music, Physical Education, and School Meals.

Each Regional Inspectorate is headed by the Regional Inspector of Schools (RIS) whose rank is equivalent to that of SIS. The RIS heads a team of two to four general inspectors of primary schools. In 1970 an Assistant Inspector of Schools (AIS) was attached to each
team of the DEO, with the sole duty to inspect schools.

The power, authority, status, and role of each of the above positions is stated in the Education Act, 1970. An inspector of schools, for example, may inspect or audit any school in the country with or without prior notice. Anyone who obstructs his job is liable to conviction and/or fine of 2,000 shillings ($286). The Inspectorate consists of selected subject specialists who are heavily engaged with curricula, methodology, examinations, evaluation, teacher education and in-service education.

Other educational services at the district level are dealt with by the District Education Committee (DEC) consisting of a chairman and nine members. They are all appointed by the Minister of Education, but are residents of the respective district. The DEC assists in the educational planning of local districts; the DEO is secretary to the DEC. The duties of the DEC are stated from time to time by the Minister of Education. The DEO is responsible for all educational services approved by the DEC and implementation of the national policy within the district.

The syllabi are the responsibility of the inspectorate in collaboration with the National Institute of Education at Makerere University. During the colonial period the syllabus for each subject used to be a one-man affair. Currently, there are subject panels for each subject at primary, secondary, technical/commercial, HSC, and teachers college. Each panel comprises inspectors of schools, teacher educators, faculty at the National Institute of Education, representative from the Faculty of Education of Makerere University, and
practicing teachers. The syllabus contains minimum learning activities, time allocation, subject matter with some unscheduled time for local needs which classroom teachers may find suitable.

A National Curriculum Council was formed in 1969. It comprises chairmen of the various subject panels, selected representatives of various walks of life at district, regional, institutional, and professional levels.

A Language Unit, with its own director and specialists, located ten miles from the Ministry, was established about 1969. A Curriculum Development Center with its own director, specialists, and location at Kyambogo, about four miles from the Ministry, was established in 1973.

Figure 4 was designed to depict the reorganization that took place in 1973. More districts and regions were established. Theoretically, local needs would receive more attention as a result of the reorganization. On the other hand, the reorganization made the system more complex. Presumably, the more complex an organization is the greater the need for better leadership. Duties would have to be re-allocated and specified. To assess the merit and product of the system, evaluation and research should be used to determine effectiveness and efficiency.

Examinations

Attempts to educate Africans were undermined by the use of external examinations on a non-African curriculum composed and marked abroad (Adams & Bjork, 1969). Results from a research study by Somerset (1968) were analyzed. Students who did the Overseas School
Certificate Examinations (CSC) in 1964 were traced four years back when they did the Uganda Junior Secondary Leaving Examinations (JSLE) in 1960. JSLE and CSC scores were matched for 881 candidates, about 97% of the students that year.

Out of a sample of 765 students, the correlation coefficient indicated only a moderate relationship between the two examinations. Students who were just good enough at JSLE were highly successful at CSC. Somerset argued that it was likely that many students with equally good academic potential were excluded from secondary education by basing selection on the JSLE. It was estimated that if such students had been identified, CSC graduates with good passes to continue to the university would have increased by at least 30%.

Somerset analyzed the relationships among various CSC subjects to find out what intellectual skills contributed most to success in the examination. Three groups were found relevant, namely, the numerical sciences (mathematics, physics, chemistry), the descriptive sciences (biology, geography, health science), and the non-science group (English literature, Bible knowledge, history). The JSLE mathematics was found to be a good predictor of CSC performance in the numerical science group. JSLE English Comprehension was found to be a good predictor of CSC performance in the non-science subjects. None of the JSLE papers had satisfactory correlation with any of the descriptive science group. Somerset concluded that JSLE should include: general science, more English comprehension than traditional grammar, twice as much weight on both mathematics and English comprehension as on language and essay.
The final analysis revealed that the average mark obtained by different junior secondary schools in the JSLE varied widely. The variations in examination performance were found to be largely due to differences in the quality of school. Therefore, the pupils' score in the CSC depended on the quality of junior secondary school they attended. Students from low-quality schools hardly succeeded in making up the handicap resulting from their inferior primary and junior secondary education when they entered senior secondary schools. Results imply that junior secondary schools were imbalanced: effects of inferior early education were largely irreversible, and that students should receive good education at all levels. Primary and junior secondary education in Uganda is inferior to secondary education. Investment in primary education should improve the quality of secondary education.

School leavers

In this study, "school leavers" refers to streams of youths who are academically capable but for whom neither further education nor employment is available. These are youths who are eliminated by conditions beyond their control. Approximately 80% of students who complete primary education in Uganda fall in this category. Such school leavers are one of the major problems facing the nation, according to Sentesa Kajubi in (Miel & Berman, 1970, p. 13; Kasasa, 1972). Hawes (1970) described the situation as a great wastage, and Cameron (1970, p. 145) presented the diagram shown below (Figure 5) to depict the wastage. Two extreme views were mentioned by Weeks.
(1967, p. 17), one of which was that the more school leavers the better. The results were alleged to be a more dynamic society, increased validity of selection for higher education to the best candidates, and greater contributions to the total development of the country. The other view was that primary school leavers should be regulated according to further opportunities available.

Only 15% of primary school leavers received post-primary education in 1967 (Kasasa, 1971). During the period 1968-1970, each year, school leavers admitted into post-primary institutions did not reach 20% of the qualified candidates. In 1970, secondary places available were not enough even for students who scored 90% and above from the primary leaving examination. In other words, all post-primary institutions together could not provide for all the "A" students. Government encouraged private secondary schools in the hope of minimizing the demand for secondary education. Such schools were estimated to be about 400. A special inspector of schools was appointed to render professional consultation to private schools. Those schools received token financial aid from the government. Still all government and private secondary institutions could not absorb all primary leavers.

Private schools are in three categories: namely, profit-making, non-profit-making (missionary), and self-help parents' schools (Weeks, 1967, p. 7). Those schools lack quality staff, texts and other desirable facilities (Kasasa, 1971). Another snag is a lack of statistics on those institutions (Weeks, 1967).

The Ankole and Bunyoro experiments (Kasasa, 1971; Carr, 1971) deserve attention. The purpose of the experiments was to turn
school leavers into agents of agricultural change. The Nyakasaka experiment in Ankole 1963-1971 consisted of 118 youths placed in a new environment without prior inhabitants and where agriculture had not been started before. There were no tea growers in the area by 1963, but by 1971 there were over 1,000 registered tea growers. During that period, production of peas increased from 7,000 shillings ($1,000) to 6,000,000 shillings ($85,714). Using equivalent methods as at Nyakasaka, 400 school leavers were settled at Wambabya in Bunyoro. Technical knowledge, planting materials, and instructions were given to each farmer on his farm. Those two experiments by missionaries indicated that primary school leavers might accept farming as an occupation, if given imaginative extension services, leadership, and training. The conclusion might be that the integration of primary school leavers into rural community development will take place only if primary education is more closely geared to such integration and political decisions on the distribution of wealth and the allocation of social services are geared more to the benefit of self employed farmers and less to the employed person and urban sector (Carr, 1971).

Summary

Related literature on historical educational development was reviewed. Environmental conditions were recommended for consideration as a context of curriculum planning, development and supervision. Historical factors, politics, economy, land use, population and other demographic data were discussed. The need for more information was
expressed regarding: occupational activities, rural and urban development, and other demographic data.

Although with limitations, there was free, compulsory and clear practical education during the pre-colonial era. Western education was introduced by and its growth correlated to activities of British and French christian missionaries. The first schools developed from Bible and catechist meetings. Education was not related to other needs of the people, and leadership was lacking.

A review of the evaluation of syllabi revealed that curriculum was stagnant for a long period of years at certain stages of its evolution. None of the syllabi was ever fully implemented due to many limitations. School and community clashed, teacher education required priority attention and action. The educational system was shifted from 6-3-3, to 6-2-3, then to 7-0-4 years of primary, junior, and secondary respectively, but not based on any experimentation or research. Statistics were scarce, and authenticity of those available was questionable. However, only a small minority of students had the opportunity to use formal education as a means of development. Government financial aid was not forthcoming during colonial times. Since independence, proceedings of many educational conferences indicated the dire need for curriculum change.

The structure of the Ministry of Education was described. Research on examinations revealed that CSC grades correlated with the quality of pre-secondary schools attended by an individual. Pre-secondary schools were inferior in quality to secondary schools. Investment in primary education would improve the quality of secondary
education. The current examination system did a disservice to individuals and to society. There was great wastage of talents, school leavers became a national problem, but given leadership and training farming might be acceptable as a profession.
CHAPTER III
PRESENTATION OF THE MODEL

Chapter III was designed to present the assumptions pertaining to the model, a rationale of the model, the model itself, and an elaboration on each set of the model.

Assumptions and Criteria Which Should Apply to the Model

1. A conceptual visual model as a frame of reference would facilitate the identification of sets of a system concerned with the process of curriculum planning, development and supervision.

2. A system with a theoretical framework used as a basis for the process of curriculum planning, development and supervision, should identify the activities and their inter-relationships in the sets.

3. The more cooperatively educational matters of a nation are handled, the more people would know about and contribute toward the goals.

4. The more the involvement of people in delineating the goals of education, the more accurately the educational system would reflect the goals of the people of the nation.

5. If the goals were cooperatively articulated from the theory of the system, then more people would know about the type of person the system would produce, and would plan accordingly.

6. When goals are broken down into specific behavioral objectives, this would increase research and operationalized evaluation.
If so, then learning might be more meaningful to students, and instruction more meaningful to both students and teachers.

7. Stating the minimum performance or behavioral objectives in advance should affect selection of type, quality, and quantity of instructional activities.

8. Goals and objectives would be more effectively accomplished if curriculum development were incorporated as an on-going, changing, and interacting process.

9. The various methodologies/instructional strategies used, to meet individual differences, should be a function of related learning activities and the learner.

10. If research were an integral part of the process of curriculum planning, development and supervision, there would be some empirical data upon which to justify the changes made in curriculum.

11. By specifying evaluation procedures in advance, at every stage of the process of curriculum development and supervision, on a continuous basis with testing and measurement as just part of evaluation, decisions on attainment of objectives would result in high validity and reliability of evaluation.

12. The more formative evaluation, summative evaluation, and evaluation of evaluation are applied in the process of curriculum planning and development, the more objective and relevant to goals and objectives curriculum would be.

13. Predetermined plans for the implementation of the curriculum should facilitate the operationalization of dissemination.

14. Effectiveness and efficiency of the system would improve
significantly if policy and decisions were based on empirical evi-
dence to measure growth, rather than decisions based on discussion
and other non-scientific bases.

15. The degree of interaction or interdependence of sets in
the system on the process of curriculum development and supervision
would correlate directly with positive or negative attitudes toward
the curriculum.

16. A systems approach would have permeated the process of cur-
riculum development and supervision according to the proposed model
if the functions in each set were compared to the pre-planned model.

17. Improvement and increase of quality and quantity of pro-
ductivity would correlate with leadership style applied to activities
of each component of set one of the model.

Rationale for the Model

The significance and use of the study as stated in Chapter I
provided the rationale for the entire study. In this section the
rationale for the designed model is elaborated.

Models

Curriculum specialists should understand the rationale of models.

Some of the views from various sources are summarized:

1. Models are needed on differing data and differing sets of
values on decisions.

2. Models facilitate development of comprehensive curriculum
design by describing what curriculum should look like, how
it should be used.
3. They link subject matter and cognitive style of learning.

4. They describe, explain and simplify what is to be done at any level of curriculum.

5. They show sets of the model as parts of total curriculum design.

6. Model building is an activity of curriculum theorists on selection and definition of elements of the system and their interrelationships.

7. Models direct development of curriculum theory.

8. They represent generalized forms of leadership relationships.

9. They represent abstract sets of constructs and suggest experiments as a means of achieving important knowledge.

10. They help yield definite answers to a host of subsidiary questions.

11. Models mark the beginning of a more consistent and analytic approach to educational planning.

12. They enable more effective allocation of scarce resources.

13. They stimulate discussion and thought at policy and operation level.

14. They serve to describe organization, formulate new organization to obtain predictable performance.

Further information could be found from the references footnoted below.

Systems theory

Among other reasons, systems theory was recommended because of

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its help in identifying phenomena, building models, and providing a framework within which decisions could be made.

A system

One of the theses of the study is to view the process of curriculum development as a system. If curriculum is an instructional system, there is need to recognize its dynamic, interdependent, multivariate nature. Data from selected sources showed that a curriculum represented the core of a complex set of interacting subsystems functioning together smoothly if curriculum were to have maximum impact on students. Systems thinking might help planners see things afresh and ask new questions to discover what was necessary to know.

A curriculum system should be an operational model for both decision-making and action. Its main functions would appear to produce, implement, develop, and evaluate the effectiveness of a curriculum. All the processes and activities necessary to maintain and improve the product of a curriculum system might be referred to as curriculum engineering. In order to explain the interrelationships among various subsystems the language of set relationship is used. All sets of a system should aim at improving students' learning.

Systems approach

In designing the model a systems approach was recommended for

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the process of curriculum planning, development and supervision. Data from available literature\(^7\) showed that some of the advantages of a systems approach would appear to be: 1) use of models for identifying the current state of the system, 2) identifying alternative strategies and solutions to problems, 3) facilitating choice among alternatives to form ordered priorities, 4) planning and setting operationalizable goals and objectives, 5) implementing selected solution strategy, 6) evaluating the results, 7) feeding results back into the system, and 8) modifying the process as needs arise.

If a systems approach were to be applied to curriculum certain concepts should be delineated. Imperatively, all social consequences of the educational system should be examined. Needs and their associated problems would have to be identified in advance. Relations among input, process and content, and product should be placed into proper perspective. By so doing, educators were likely to make useful, systematic, organized change based on empirical data and realistic rationale. Whatever was worthwhile and useful should be maintained. Meanwhile, new avenues should be identified in order to reach every student. The approach ought to be a problem-solving tool, a paradigm, an application of logical, orderly, systematic, self-correcting and valid planned change. Some of the ideas discussed above are illustrated in Figure 6.

Figure 6. An Example of a Systems Approach

- Identify Problem
- Analyze Problem
- Formulate Alternative Solution Strategies & Select One
- Implement Selected Solution Strategy
- Evaluation

- Analyze The Mission
- Analyze The Functions
- Analyze The Tasks
- Analyze The Methods & Materials

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Systems analysis

In carrying out what was discussed under systems approach, the procedure used is generally known as systems analysis. Data from selected sources revealed that systems analysis helped to improve quality of curriculum by reflecting a rational attempt to illuminate the arenas in which decisions would be needed. A few examples should be cited: 1) facilitating large scale evaluation of educational systems by analyzing input, 2) analyzing content and process: activities, methodology, materials, and how well those were operated, 3) analyzing output: curriculum merit, attitudes of students, commitment of participants, effectiveness of the system, and what should be done, 4) matching curriculum to human and material resources, 5) translating problems into generalizable terms, 6) diagnosing and developing better articulated future objectives, and 7) checking all components of a system.

The cooperative approach

In designing the model for the study, a cooperative approach was envisioned as one of the theses to be developed.

Curricula planned through cooperative procedures would come from interests, needs, problems, and demands of students and society. The probability would tend to be high that participants would attach

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personal meaning to such curriculum. Students and teachers would be encouraged and motivated to work toward such goals and objectives. Assuming that that was true, then a cooperative approach would be a quick way to change attitudes, perceptions and behavior.

During team work, specialists should act as consultants, make suggestions, but should never dictate to other participants. Allegedly, without involvement, curriculum might become less meaningful, reluctantly accepted, or unacceptable. Cooperative approach would encourage continuous self examination and evaluation which are of vital importance to progress. Cooperative procedures could serve as in-service education to increase responsibility and commitment among educators. Just to mention one case, needed skills in leadership for curriculum development are encouraged in a cooperative approach. Through cooperative effort curriculum would tend to change along with social goals, values and needs. Further advantages predicted comprise effective learning, favorable behavioral change, awareness of professional and more critical views on public education. The entire structure of education could be affected if a cooperative approach were adopted. The approach would appear to be an effective process for coping with future demands. Changes arrived at through this approach would be consistent with current research and theory. In addition to that, more and better decision makers could be developed through the cooperative approach. The foregoing views on systems theory, models, a system, systems approach, systems analysis, and cooperative approach were intended to give a rationale for the model presented in this chapter.

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In building a rationale for a cooperative approach, various sources were reviewed\(^9\). First of all, educators should realize that curriculum development does not mean a collection of subjects. Curriculum change does not consist of reviewing old courses, adding new ones, and changing textbooks. Writers of textbooks should not dictate what curriculum should be. Similarly, curriculum should not be controlled by experts far removed from schools. Syllabi should become guides not prescriptions.

The Model

The designed model Figure 7 is presented below in style "A", and "B" Figure 8. However, both represent the same system, but viewed differently so as to emphasize the key concepts. Like any other system, the model was designed to consist of sets, subsets, and subsets of subsets. The major sets of the model are: components served by the system, theory/foundations/sources of curriculum, formative evaluation, goals of education, objectives, instructional activities, methodology, instructional materials and educational technology, summative evaluation, research, implementation strategies, and policy/alternatives/recycling and retraining.

According to the design of the model, the sets are meant to interact and are interdependent with each other. In particular, formative evaluation permeates each and every set in the model. One of the key principles of the model is the two-way communication system

for providing necessary feedback continuously. Interdependence among sets, which is another key phenomenon of the model, is illustrated by double-headed arrows. The dotted line represents the flow of information to and from one set to another if need arises. The sets are not water-tight compartments; instead they are open and flexible.

A school system functions within and as part of a community and society. The model was designed so that the process of curriculum planning and development should consider external influences. Social values and tradition, political process and institutions, existing educational structures and policies, financial support and limitations, altogether constitute the external influences. Those influences surround the school system as the atmosphere surrounds the earth. The process of curriculum planning, development and supervision, at any level of the school system, should take social forces into consideration.

Figure 8 was designed to illustrate a bird's eye view of the model. A diagramatic summary of the interactions among the various sets of the model is presented in Figure 9. Examples of interactions at the second and third level, Appendix A, were tabulated. The various combinations of variables, Appendix A, would appear to have potential for research purposes.
Figure 8. A Bird's Eye View of the Model.
Figure 9. A Diagramatic Summary of the Interactions Among the Sets of the System Within the Total Environment

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In the remaining sections of the chapter, each set of the model is elaborated diagramatically. A brief rationale for each set supplements the diagrams.

Components (Set 1)

The collaboration envisaged should consist of components which comprehensively should represent various walks of life in society. The list provided below is just an example, it was not meant to be exhaustive. An illustrative summary was designed in Figure 10.

Students
Parents
Teacher(s)
Units within a department of an institution, e.g., school, college, university
Departmental groups
Subject groups
Interdisciplinary units within an institution
An educational institution as a unit
Leaders of educational institutions
Institution-community groups
Interaction among personnel from various levels of institutions
Zones within school districts
District level subject subunits
District level subject units
District level interdisciplinary units
District education committees
School management committees
Boards of Governors
Inter district units
Regional units
Professional organizations
Commercial publishers
Business and industry
Multi-ministry groups
Special centers, e.g., curriculum development center, language unit
Special curriculum committees, e.g., subject panels, national curriculum council
Teacher educators
Subject specialists
Research and evaluation specialists
Testing and measurement specialists
General consultants
Divisions within the Ministry of Education
Figure 10. Components (Who Should Make Decisions On Curriculum?)

10.1 Non-Educators

Educational Agencies
Community Agencies
Districts
Regions
Society & World

10.2 Non-Educationists

Institutions
& Social Agencies

10.3

Curriculum

Non-Educationists
Social Agencies
Educationists
Other
National Curriculum Council
Educational Institutions
Ministry of Health
Natural Resources
Culture & Community Development
Economic Planning
Cooperatives
Commerce & Industry
Labor
Ministry of Education
Ministry of Agriculture
Ministry of Sozialisierung
Figure 10 and the list submitted above indicate that Set 1 of the model was designed to include various components served by the educational system. At least every segment should be comprehensively represented, and actively participate in curriculum concerns. Educating people of a nation is too important a responsibility to be left in the hands of a few people employed by and associated with the Ministry of Education. Instead of competition based upon narrow vested interests, the rule of the game should be constructive collaboration.

**Foundations of curriculum (Set 2)**

Subsequent to a cooperative approach implied in Set 1 the second set was designed to delineate theory of curriculum. In Figure 11 the foundations/bases/sources of curriculum are presented. Some of the assumptions which were formulated for Set 2 included those to the effect that curriculum was affected by the degree of knowledge, diffusion and use of theory. If that were true, then the rationale for each set of the model should be derived from Set 2 which deals with theory. In order to understand, determine, and plan the qualitative and quantitative terms of curriculum, all people who are components of the system should analyze those factors which influence curriculum. The quality of curriculum was thought to be determined by the presence or absence of theoretical framework. Most theorists\(^\text{10}\) agreed that

\(^{10}\) Hass et al. (1974, p. xv, xix, 56-106, 111, 159, 161, 206); Firth & Kimpston (1973); Doll (1974); Skea & Hagen (1971); Frost & Rowland (1969); Bruner (1961, 1966, 1971); Dewey (1938); Gower (1970); Krathwohl, Bloom & Massia (1964); Taba (1962); Vanderberg (1969); Bloom, Engelhart, First, Hill & Krathwohl (Eds.,) (1956); Ausbel (1968); Ausbel & Robinson (1969); Bigge (1971); Bugelski (1972); Combs, Avila & Purkey (1971); Gagne (1970); Skinner (1971); Travers (1967); Rogers (1969); and Piaget (1936, 1947).
The Foundations of Curriculum

Curriculum as a Function of the Foundations

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social forces, human development, the nature of learning, and the nature of knowledge or history, philosophy, psychology, sociology and anthropology of education form the bases/sources/foundations of curriculum.

Formative evaluation (Set 3)

Continuous assessment (formative evaluation) on every set of the model was designed at the stage of Set 3. Plans and procedures of formative evaluation should be designed in advance and operationally. On-going improvement of curriculum through formative evaluation would improve the product of programs. Deficiencies and successes should be discovered even at an intermediate stage. Curriculum planners should use the feedback to judge content, sequence and related factors, that are intrinsic, according to Scriven (1967). If interim effects were judged, Scriven called such formative evaluation pay-off. At this stage an evaluator should concentrate on intents and observed contingencies on antecedents, transactions, and outcomes. His data could be used as a basis for guiding the development of the current or future programs.

Goals (Set 4)

Goals/broad and general aims of education and/or curriculum were designed to be dealt with in Set 4. With a reasonable degree of consensus, components in Set 1 should develop goals on the basis of theory in Set 2. Long range aims should state the type of person the program should produce. Curriculum, instruction, school
organization, and all educational endeavors should reflect the
goals determined in advance. There was agreement in the literature\textsuperscript{11} that goals are needed to facilitate the planning of objectives. When formulating goals the factors which should be considered include societal needs, interests, and ability of individual students in a changing society. Once goals were formulated, a list of priority needs should be compiled.

Goals of education in a country should reflect a philosophy of that society on life. Goals should be derived from needs and the society should know what its youths should become. Some of the concepts regarding goals were illustrated in Figure 12. Bell (1971) illustrated some of the steps toward the delineation of goals (see Appendix B).

**Objectives (Set 5)**

Specific short-range aims, written operationally or in measurable, testable and observable terms were classified as objectives. Phrased differently, objectives should include the specific outcomes of curriculum, instruction, and the educational system. The terms performance objectives and behavioral objectives are used interchangeably in this study.

Objectives were meant to fulfill established goals through the selected disciplines. Lacking specific objectives, curriculum

\textsuperscript{11}Firth & Kimpston (1973, p. 6); Keel & Hagen (1971, p. 35); Frost & Rowland (1969, p. 226); Atkin (Worthen & Sanders, 1973, p. 238); Popham (1969); Goodlad, Stoephasius & Klein (1966, p. 91); Richmond (1971, p. 174).
Figure 12

12.1 Research
Development
New Knowledge

Foundations
Theory
Philosophy
Learning Process
Human Development
History of Education
Sociological/Anthropological Disciplines

Evaluation
Needs
Assessment

The Sources of the Goals

12.2

Foundations

New Knowledge From Research & Development

Results From Needs Assessment

The Ideal Goals as the Intersection Set of the Sources

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planners, teachers and evaluators should not make scientifically professional judgments on various variables. Appropriate objectives should be shared by students, teachers, curriculum planners and evaluators. Instructional activities, methodology, and materials were considered derivatives of objectives. Objectives by disciplines should reflect foundations of curriculum shown in Figure 11. If planning, development and evaluation of knowledge, skills and experiences were to be done empirically, objectives should be required. Defining objectives operationally was suggested as criteria for curriculum, instruction, evaluation and research. Objectives could help to specify procedures for maximizing instructional relevance. Figure 13 was designed to show some concepts related to objectives.

**Instructional activities/instructional objectives (Set 6)**

Instructional activities for the learning/teaching process were designed to be dealt with in Set 6. According to the model, instructional activities should be derived from the pre-planned behavioral objectives. Activities selected in any discipline should be in harmony with the performance objectives, goals and curriculum foundations.

The index of instructional activities should relate to conditions under which appropriateness to characteristics of students and the milieu under which students functioned. Instructional activities should be based on objectives and criterion referenced tests. All instructional activities should be specified, ordered or sequenced.
Figure 13: Objectives

The Sources of Objectives

13.1

The Ideal Objectives as the Intersection Set of the Sources
### Figure 13 (continued)

#### 13.2 Subject by Cognitive Domain Hierarchy

<table>
<thead>
<tr>
<th>Topic</th>
<th>Re</th>
<th>Cl</th>
<th>Comp</th>
<th>Appl</th>
<th>Anal</th>
<th>Synth</th>
<th>Eval</th>
</tr>
</thead>
</table>

#### 13.3 Disciplines by Domains

<table>
<thead>
<tr>
<th>Disciplines</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cognitive</td>
</tr>
<tr>
<td></td>
<td>Affective</td>
</tr>
<tr>
<td></td>
<td>Psychomotor</td>
</tr>
</tbody>
</table>

- Mathematics
- Science
- Cultural Arts
- Humanities
- Social Sciences

#### 13.4 Taxonomy of Educational Objectives

Affective

Cognitive

Psychomotor

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within the boundaries of objectives. Specifying instructional activities and conditions should be of great benefit to evaluation and research enterprises. Sources of instructional activities were illustrated in Figure 14. Useful sources on objectives included those footnoted below12.

Methodology (Set 7)

Methodology/instructional procedures, were placed in Set 7 because their foundation would appear to lie in objectives and instructional activities. Methodology might be defined as procedures used to implement curriculum operationally, and should be of chief concern in education. Only the most appropriate methodology should be selected for use, and on the basis of curriculum foundations. By creating and maintaining an environment conducive to learning, a teacher becomes a stimulator. As a facilitator, the teacher would have to motivate students by using discovery and inquiry approach. Before individualization, an ample environment should be created. Other methodologies available in the literature include expository teaching, and guided discovery. Curriculum planners would find it useful to know the general principles of various methodologies and situations under which particular types would be most effective. Total commitment to one and only one method would appear inadequate.

12Firth and Kimpston (1973, p. 18); Baker (1969, p. 354); Stake (1967); Baker and Schultz (1967).
Figure 14. Instructional Activities

The Ideal Instructional Activities as the Intersection Set of Sources

Goals & Objectives

Foundations
The Learner
i.e., Human Development
Learning Process
Disciplines
Philosophy
& Theory
Sociology
Anthropology
History of Education

Evaluation
Research

Sources of Instructional Activities

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Useful sources on methodology included those shown below. Some principles on methodology were illustrated in Figure 15. Interesting materials might be more effective than uninteresting ones. On the other hand, redundant multi-channel communication might not be significantly better than single-channel communication, Travers (1967), Severine (1967).

**Instructional materials (Set 8)**

Instructional materials/educational technology was placed in Set 8. Sources of educational technology, as shown in Figure 16, should be foundations of curriculum, goals, objectives, instructional activities, and methodology. Objectives, activities and methodology would necessitate provision for greater amount of supplies. Personnel, space, facilities, audiovisuals, multi-sensory materials, textbooks and library should accommodate special needs. Despite the limitations, filmstrips, films, transparencies, color slides, pictures, lamination, dry-mounting, bulletin boards, flannel boards, overlays, tapes, kits, projectors, learning resource centers, programmed materials, videotapes, individualized materials, radio and television

---

13Sources on the inquiry approach included: Ausbel (1963, p. 5); Bruner (1961, pp. 21-327, pp. 101-113); Cronbach (1962, pp. 72-92); Gagne (1965, pp. 135-150); Glasser in Shulman & Keisler (Eds.), (1966, pp. 13-26); Suchman (1960, pp. 42-471; 1962); Suchman in Klausmeir & Ham (Eds.), (1966) and Worthen (1968, pp. 1-13). Creativity was emphasized by Frost & Rowland (1969, p. 198); Fromm, Hilgard, Maslow, May & Rogers in Anderson (Ed.), (1968); Terrace (1965, a & b); Hillman (1967, pp. 3-13); Mosteller (1960); Thomas (1965, pp. 12-14); Mackinnon (1962); Guilford (1950, pp. 444-454) and Getzels (1962).
15.1 Research & Development
   Evaluation

   Foundations of Curriculum

   Goals
   Objectives
   Instructional Activities

Sources of Methodology

15.2 Evaluation & Research
   Needs Assessment
   Foundations

   Goals
   Objectives
   Instructional Activities

The Ideal Methodology as the Intersection Set of Sources
should be considered. Materials should be built into curriculum by disciplines and grade level. Apart from commercially produced materials, teacher/pupil-made materials should be encouraged. Resources should include personnel from school neighborhoods. In developing resources, efforts of individual classroom teachers should be supplemented by activities from school staff as a team. Mobile bookshops and workshops would have to be inaugurated as part of the system. Educational technology should be used to motivate and stimulate students by broadening experiences and facilitating learning. School buildings should be designed to encourage the production and use of a wide variety of instructional materials, and to provide suitable storage facilities.

While individual teachers should make their own local materials, if some of the resources were provided at system-wide level, needed improvement might occur faster. Quantity, quality, evaluation, and research on materials could be an agent for change. Whenever necessary, materials would have to be tried and revised. Research on materials had better be generalizable to more than one subject, and to more than one situation.

If materials were associated to objectives, product results would be improved. If a student was warned what to concentrate upon in given practice materials, and given corrective feedback about the accuracy of his response, performance would improve. If criterion reference, instruction, and materials were significantly correlated, performance would significantly be enhanced. Materials should be designed to provide the learner with opportunity to practice behaviors.
relevant to pre-planned objectives. Materials should be flexible to accommodate self-pacing according to ability. Programmed materials as supplements to the teacher might assist low ability students, and teachers on complex matters, La Giapa (1968). Figure 16 was designed to show some concepts on materials. Further information about materials would be obtained by reviewing the sources shown below.\textsuperscript{14}

**Summative evaluation (Set 9)**

Summative evaluation, that is, intrinsic (final judgment of materials) or pay-off (final judgment of effects) (Scriven, 1967) was designed for Set 9. Its purpose is to indicate whether or not intended antecedents, transactions, and outcomes of curriculum complied with the pre-planned standards.

An educational system should have well functioning evaluation programs that provide a dynamic baseline of information. Reliance upon ad hoc evaluation could be an ineffective and inefficient means of providing information for decision-making (Stufflebeam, 1971). The type of change needed and quality of information available would determine the type of evaluation to be done. The primary emphasis of evaluation should be on the congruence between behavioral performance and pre-stated objectives. Educators should use evaluation as a continuous information-management process for program improvement as well as program-assessment purposes. As a practice,

\textsuperscript{14}Popham (1966, 1967, 1969); Neidt (1967); Tiemann (1968); Johnson (1968); Nelson (1966); Gotkin et al. (1967); Anderson (1967); Nagel (1968); Galfenger (1968).
Figure 16. Instructional Materials (Educational Technology)

16.1 Development

Research & Development
Evaluation

Foundations of Curriculum

Components

Goals
Objectives
Instructional Activities
Methodology

Sources of Instructional Materials and Resources

16.2

Instructional Activities

Foundations

Goals Objectives
Research & Evaluation

Methodology & Components

The Ideal Instructional Materials and Resources as the Intersection Set of Sources

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evaluation must be evaluated, and evaluation of objectives should precede evaluation of programs. The criteria for evaluating evaluation should include: internal validity, external validity, relevance, objectivity, reliability, importance, scope, credibility, timeliness, pervasiveness, and efficiency, Stufflebeam et al. (1971).

When reporting on objectives evaluators should indicate their relative importance in operational terms. The logic of connections between what was intended and what was provided should form the focus of evaluation. In that way evaluation could provide educators with essential information to improve education. While not a panacea, evaluation could have a profound impact on the field of education. Adequate assessment of existing and innovative programs could be a vital force in directing social change by improving lives and environment of a community.

Worthen and Sanders (1973) formulated a single generalizable model with three categories of decision settings. The classes were: high grasp of information versus small change to be made, low grasp of information versus small change to be made, and low grasp of information versus large change to be made. Stufflebeam (1971) identified four types of decisions to be made, namely, planning, structuring, implementing, and recycling. In his view the three major steps in evaluation were: delineating, obtaining, and providing. According to him the four types of evaluation were content, input, process, and product (CIPP). His set of generalizable steps for developing evaluation design consisted of: design defined, focussing the evaluation, collection of information, reporting of information,
and administration of evaluation.

Evaluation as a disciplined inquiry should focus on collecting specific information relevant to a specific problem in specific programs. As a process expected to facilitate needs assessment, evaluation should compare intended outcomes with the actual outcomes of programs. Intended outcomes should be thoroughly evaluated. Assessment of alternative plans for attaining specified objectives should be among the functions of evaluation. Evaluation processes could contribute to curriculum planning, prediction of success, improvement of programs, and analysis of needs. Many questions about selection, adoption, support, worth of materials and activities could be answered through evaluation. New data or new knowledge could be described with respect to scales of value applied in evaluation. Precisely, evaluation should be a decision oriented inquiry by nature. Massive, lasting changes in education could not be safely made except on the basis of deep objective inquiry on the worth of context, input, process, product and social utility.

Although research and evaluation are related inquiry techniques (Worthen & Sanders, 1973), evaluative processes appear to emphasize immediate value questions with less interest in generalizability across time. Evaluation tends to draw heavily from philosophical inquiry, but little from historical inquiry. Curriculum evaluators should first identify goals and objectives by using input from various reference groups. Then one could determine whether or not goals, objectives were appropriate for the reference groups. An evaluator collects information, analyzes, interprets, judges the worth, and
communicates the judgment to pre-determined audiences, in the form of recommendations. Authorities responsible for making alternative decisions on curriculum use such data to formulate policy proposals.

The criteria for judging the quality of schools should be the extent to which the school achieved the objectives set in advance. Evaluation is for improvement, rather than criticism. Through evaluation more precise measures could be obtained for decisions on growth, change of: philosophy, goals, objectives, activities, methodology, materials, further evaluation, research, implementation, and policy.

Evaluators should be trained professionally on the theories provided by Worthen and Sanders (1973), Stufflebeam (1969), Scriven (1967) and other sources.

Research (Set 10)

Research, depicted here in Set 10, is an integral part of curriculum planning, development and supervision. An educational system should have a division devoted to research. Presumably the better the quality and the more the quantity of research, the more the system will formulate and attain relevant goals and objectives.

Curriculum research represents one of the most potentially influential areas of education activities. According to Platt (1964),

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Smith and Tyler (1942); Metfessels and Michael (1967); Womer (1970); Hammond (1969); Stufflebeam (1968); Stake and Denny (1969); Caro (1971); Stake (1970); Tukey (1960); Cronbach and Suppes (1969); Provus (1969).
curriculum research should use strong inference which was a systematic use of alternative explanations of available data. Inference should include the performance of successive experiments to exclude as many of the alternatives as possible. Regarding methodology on research, Baker (1969) suggested tightly controlled educational experiments in a natural environment. Her recommendations on methodology of research included the use of multiple hypotheses in experimental design which would permit the testing of several hypotheses simultaneously.

The need and urgency of developing and using educational research at national level in Uganda was discussed by Waddimba (June, 1974). His paper, Uganda Foundation for Educational Leadership Evaluation and Research (UFEIER), concentrated on the need for establishing a national foundation to deal with educational research in Uganda. In another paper, University Research Administration Policy for Uganda, Waddimba (December, 1974) discussed various ideas which would be germane under this section of the study. The National Research Council, National Academy of Sciences, U.S.A. (1974) made recommendations on research for improving agriculture in Africa. Some of their suggestions had been already raised by Waddimba in the context of education. The rationale for Set 10 on research should comprise philosophy or theory, demand, national and international activities, definition, role, scope, organization, financial aid, training, means, dissemination, checklist, and policy on educational research. Figure 17 could be applied both to evaluation (formative and summative), and to research.

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Implementation (Set II)

Set II, implementation, is illustrated by Figure 18 and 19. Procedures, methods, or the manner by which a program or curriculum should be adopted by a school system, was described as implementation. Schedules, sequence of steps, resources and required efforts for implementation should be planned. Phases, methods, tasks and other aspects of implementation should be considered at classroom, institution, district, regional, and national levels. Meantime, strategies on implementation should deal with each set, combination of sets, and the model as a whole.

Phases of implementation might include distribution, search, adoption, presentation, and utilization. Resource teachers could act as distribution agents through in-service inquiry group discussions. Search committees in homes, communities, and society at large could hold dialogues about what and hows of the issues. Discoveries, failures, experiences, difficulties, skills needed to adopt the model would require a channel of communication. Many adoption institutes would be needed and should include decision-makers, teacher, students and other components. Those institutes should discuss and analyze what alternatives would be feasible.

At the presentations, specialists, peers, and mixed groups would have to diagnose, review, evaluate, make feedback suggestions. Students' comments would require more attention than in the past. Learning should be the crucial objective of change. Students should be guided to discover, explore the relevance by internalizing and self-evaluation. Anyone at any level should act as collaborator,
Figure 18

Research & Development
Evaluation

Goals
Objectives
Instructional Activities
Methodology
Components

Foundations of Curriculum

The Influences on Implementation

18.1

Who Does What

When & How

With What

Roles/Schedules/Resources/Strategies on Implementation

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Figure 18 (continued)

18.2

Who

Does

What

With

What

How and When

The Ideal Implementation Strategies as the Intersection Set of the Forces that Exert Influence

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Figure 19. Tactical Program Design

An Example of Implementation Strategy
(Adopted from Bell et al. 1971, p. 18)
not source of everything. Committee activities should be extended beyond district headquarters to local communities and homes. Views of parents on child growth, children's attitudes and values should be compiled into newsletters. Media should be used to reach parents on how to help children learn how to learn.

Lack of implementation strategies might be one of the many reasons why previous curriculum and syllabi never succeeded. Teacher involvement and commitment should be a necessity, because of its influence to the likelihood of curriculum implementation. Even at the implementation stage, curriculum, curriculum planning and development should never be static. Figure 20 was designed to illustrate the point.

Policy (Set 12)

Subject to continual review and revision, an educational system should have a policy (Set 12) on curriculum planning, development and supervision based on data from all sets of the model (curriculum system). Figure 21 was designed to illustrate the sources which influence policy. In formulating policy, more attention should be directed to the external influences.

Summary

The model, Figure 6, and its key concepts were presented. The assumptions formulated about the model were listed. Contents of the rationale for the model consisted of: systems theory, a system, systems approach, systems analysis, and cooperative approach. Figures

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Curriculum at the Stage of Institutionalization but Continuing with Planning, Development and Supervision (Showing Some of the Interactions, Fig. 20)
Figure 21

21.1

Evaluation

Research & Development

Goals
Objectives
Instructional Activities
Methodology
Materials & Resources
Implementation Components

Foundations of Curriculum

Sources that Influence Policy
Sources that Influence Policy

21.2

Research &
Development

General Theory
Theory of Education
Philosophy of Education
Curriculum Theory
Instructional Theory

Evaluation

Theoretical and Scientific Dimensions of Policy

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were used to elaborate the respective sets of the model, and a brief rationale on each set was written.

Twelve interacting and interdependent sets constituted the entire model: components, foundations, formative evaluation, goals, objectives, instructional activities, methodology, instructional materials, summative evaluation, research, implementation and policy.

Models were considered useful for describing, explaining, illustrating, and showing relationships about phenomena related to curriculum. The process of curriculum planning, development and supervision was viewed as a system. A systems approach was recommended because its operational and logical concepts might improve curriculum process and product. Systems analysis was considered a useful technique to determine and assess needs. Systems theory could provide a framework for decision making. A cooperative approach could produce curricula relevant to individuals and to society, accelerate change, increase commitment and self-examination.

Components were designed to represent all walks of life in society. Foundations of curriculum were identified as history, philosophy, psychology, sociology of education and disciplines. Formative evaluation was considered to have potential for improving programs at an intermediate level. Goals were interpreted as long-range reflections of what citizens should become. Objectives were classified as essentials for instruction, evaluation and research. Instructional activities were expected to reflect foundations, goals, and objectives. Various theories on methodology were discussed; only the most appropriate ones should be selected per learner and
situation. Provision for instructional materials was recommended as part of curriculum to motivate, broaden and facilitate learning. Every educational system would be advised to institutionalize summative evaluation to judge the worth of curriculum. Aspects of evaluation were: criteria for evaluating evaluation, a generalizable model of evaluation, types of decisions to be made, types of evaluation, steps in designing evaluation, and training of evaluators. To improve quality of education, evidence seemed to suggest as part of curriculum process, a research division, and a national research foundation.
CHAPTER IV
THEORETICAL SUPPORT

Since theory was designated as the backbone of the entire model and the respective sets of the model, a separate chapter should be devoted to the theoretical support of the study. This chapter forms the basis of the rationale of the model, apart from the concepts discussed earlier. The major items considered are: the process of planned change, basics on educational planning, some concepts on supervision, some theoretical basics and rationales on the sets.

The Process of Planned Change

Assuming that the study would result in some kind of change, selected sources were surveyed. Data from available literature indicated that there was need for innovators to know about the process of change. People involved should be convinced that change is inevitable. Only a tremendous change in the basic direction of education could meet the needs of today's culture, according to Rogers (1969). Change was only justifiable if new problems could be solved.

If the model were to materialize, Ugandans should use some of the assumptions about change:

1) Understanding how human beings adapt themselves to change is the key to planning better education.

2) Real progress comes only from the release and free exercise of creating powers.

3) Leadership should remove obstacles to change by freeing creative people to devise and implement improvements.
4) Change in education should not lag behind change in society and vice versa.

5) Effective supervision of public education should result in change.

Knowledge of concepts about social change would facilitate the application of the model. Watson ((Ed.), 196?) stated that the concept of organization development or self-renewal was equivalent to planned change. Organization development should be directed toward developing the capabilities of an organization to attain and sustain an optimum level of performance. Social change should be a problem-solving process undertaken collaboratively by members of an organization. Functions of planned change should include the following:

1) To help an organization improve the extent to which it attains its pre-planned goals, contribute to the learning and development of students, achieve self-renewal, form an organization with end results, norms, procedures, and skills for continuous adaptation and continuous optimal fulfillment of its goals.

2) Development should be viewed as being more than in-service training.

3) The operations of the organizations to be changed should be determined by members as a consequence from analyses and diagnoses of their operations.

4) Methods of how the organization would operate effectively should be determined by members.

5) Members should participate in determining the rate of change, amount of effort required, pressures of the tasks, and time allocations.

6) Consultants used should be selected on the basis of expertness, not position.

7) The process of change should require specific steps:

a) Team problem solving by identifying ineffective areas, diagnosing barriers to effectiveness, determining development needs; and by
b) developing objectives and planning sequence of procedures.

Buchanan (1964)\(^{16}\) made the following suggestions:

1) Team development was more effective than individual stimulation in unleashing and channeling motivations and encouraging inventive thinking.

2) Change process should be concerned with changing forces within individuals and forces within organizational situations.

3) Interpersonal relationships and roles should link individuals into functional teams or else components would direct energy into inappropriate self-centered attempts.

4) Effectiveness of improvement was enhanced under efforts planned,
   a) by members,
   b) in response to analyses of their organization,
   c) under mutual trust and respect and where feedback on effectiveness was available.

Thelen in Watson (1967, p. 37) suggested the following procedure for change:

1) Identify the problem and the most crucial factor to increasing adaptiveness.

2) Construct and conduct a force-field analysis for each factor.

3) On the basis of the analysis decide tentatively on what needs to be done, sequence of targets, and communications with change agents.

4) Specify in writing the sequence of actions, policy involved, other policies involved and why they are rejected, and consequences at each stage as evidence of success.

\(^{16}\) Also see: Mann (1967); Gross, McEachern & Mason (1968); Dalton (1959); Sherif (1954); Guest (1962); Shephard and Blake (1962); Argyris (1962); Deutch and Kraus (1962); Alexander, Kepner and Tregoe (1962).
5) Specify conditions needed, who must be involved, how, in what actions, role and chain of communication.

6) Revise plan through evaluation and decide on next targets.

7) Repeat the cycle.

8) Specify and provide training needed by personnel involved as the needs arise.

9) Provide periodic intervals of joint consultations of all components.

10) Write up the final document.

Effort would be made to make people realize what Miles and Lake (Watson, 1967, pp. 81-86) said, that sound improvements in educational quality would not materialize until people who are the components of the system understood how school systems plan and carry out change effectively. Miles and Lake suggested that strategies for change should aim at:

1) Growth and development toward improved problem-solving effectiveness, greater potential for action, and greater capacity for adaptation and change.

2) Concurrent change at all levels of the system's components including the top.

3) Improvement in learning as the criterion for success in the long run.

4) Effectiveness of problem-solving at all levels of components, high self-sustained motivation of components to accomplish goals and objectives should be the short-term criteria of success.

5) Effective inter-component communication.

6) Climate and procedures based upon sound current theories.

17 The word component was used as collective reference to contents of Set l of the model Figure 7. See also the list in Set l in Chapter III.
7) Reward systems which facilitate cooperative effort, where influence is based on actual competence and knowledge rather than through organization's status only.

According to Miles and Lake, the major steps in the change strategy would seem to encompass:

1) Clarifying the theory, goals, objectives, amount and type of effort required, relationships among components, responsibility per component, methods of data collection and evaluation, schedule of events and implementation.

2) Collecting information on and from components, by interviews, questionnaires, observation and measurement instruments.

3) Analyzing, interpreting and using data to formulate statements on discrepancies.

4) Using data to decide what changes per component and set to improve team problem-solving effectiveness, by
   i) identifying problem, increasing participation per component on each set of system, to gain community support, forum, and discovery methods of instruction,
   ii) diagnosing cause of problem,
   iii) all strategy and objectives, what to change, and decision roles,
   iv) inventing alternatives, estimating costs, and deciding which one to apply,
   v) planning how to implement program, who, what, how, when, and where,
   vi) planning final evaluation cooperatively, what to evaluate, methods, instruments, analysis and interpretation,
   vii) planning research.

5) Institutionalizing program.

6) Evaluating and researching.

7) Feedback results into the system, disseminating, making modifications where necessary or withdraw program, then repeating the cycle.

The focus of the rationale should be on self-study emphasis, self-corrective action, increase in motivation for change, problem
solving, increased collaboration, change-supportive climate, and change-supportive organization.

Brickell (1961, p. 12) expressed some views which would be relevant to the application of the model designed for the study. In his view, the process of local educational change was determined by relationship between two influential groups: internal (profession), and external (public). If change were to materialize, advocates of innovations should seek conviction and initiative of educational leaders. Educational leaders would have more tools of change-agents than teachers. One classroom teacher might change sequence of content, apply own methods, but would lack tools which diffuse change in the whole system. Change would be delayed unless suspicions of practitioners about innovations were cleared first. Apart from speeches, meetings, articles in professional journals and research reports, approved programs should be demonstrated. If teachers were expected to implement the change, their demand for participation in decision-making, and their demand to receive all the help necessary would deserve appropriate attention. Any plans to accelerate organization change should consider agencies outside schools.

Watson in Buchanan (1967, pp. 10-25) wrote that if change were to be accomplished with minimal stress, resistance must be reduced. His advice was that at each stage of innovation the anticipated nature of resistance would have to be analyzed. On the other hand, resistance would be inevitable if change were based on wrong questions. Whatever answers would accrue from such circumstances would be worthless. Results from Klein's study in Watson (op. cit. pp. 26),
on dynamics of resistance to change, especially the role of defend-
ers, made him to conclude that resistance on the basis of substan-
tiated objective competence would be constructive. Innovators would
have to remember that in almost any social change, some individual's
life situation would be impaired. Consequently, there will be some
resistance to change occurring when an individual's livelihood appears
to be adversely affected. At times, maintenance of integrity (sense
of self-esteem, competence, autonomy . . .) could be the cause of
resistance. Resistance to change agents might result from magnitude,
rapidity, accuracy . . . of change. Gaps in knowledge, lack of tech-
nical expertise might be used as an excuse for dissent. Other agents
might argue that collaborative approach would be costly, time-consum-
ing, irritating, and frustrating. However, lack of collaboration
could breed mistrust. Where mistrust exists, opposition to change
would intensify. At any rate, innovation should begin when an individ-
ual, or individuals perceived that a genuine problem exists.

Apparently, anyone trying to introduce social change should se-
cure enough local initiative and participation. Some assumptions
are specified; resistance might be less if:

1) components feel that the program belongs to them.
2) program has full support of top officials of the system.
3) participants view the change as reducing rather than in-
creasing current burdens.
4) program corresponds to values of participants.
5) program is of interest to participant.
6) participants feel that their security and autonomy is not
threatened.

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7) participants were involved in diagnosing the problem and feel its importance.

8) the program was adopted by consensus decision.

9) advocates empathize with defenders and resolve conflict.

10) provision was made for feedback.

11) participants experience acceptance, support, trust and confidence in their interpersonal relations.

12) the program is kept open to revision and reconsideration.

13) change gradually becomes characteristics of components of organization.

Mention should be made that group process might have potential as an approach to accelerate change. Group process has capability for change to be realized in learning ability, leadership, interpersonal communications, organizational climate, and releasing capacities of participants (Rogers, 1969). Shaffer and Galinsky (1974, p. 294) recommended T-group and Tavistock for systematic learning of group process since both were related to jobs in complex organizational structures. On the other hand, theme-centered method was commended for leading various task and community groups.

One other point that would deserve attention in the application of the model is that knowledge utilization should be part of change in educational systems (Havelock & Benne in Watson, op. cit., p. 47). As a system, utilization of knowledge should be a two-way flow of information to and from the consumer. Consumers should be trained in utilizing knowledge. Specific goals, objectives and fulfillment of them would form the control structure in utilizing knowledge. Within any utilization structure, provisions should be made to ensure adaptability to new knowledge and circumstances, to keep abreast

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of changing needs of consumers. Utilization systems should be open ones, flexible enough to changes in knowledge, technology, and communications. Utilization was described as an equivalent to gaining information and ordering it so that it could be put to use to fulfill needs. Factors considered in knowledge utilization included motivational, interpersonal, and technical. Motivation stems from a need to know; interpersonal factors are characterized by mutual trust, self-esteem, self-identity, group identity, group maintenance, and group esteem. Technical factors are concerned about how to use knowledge, or preparation, transmission, and screening messages.

Finally, attention should be directed to the fact that the model should not be the source of change. As Thelen said in Watson (1967, p. 37) change should arise from assimilating and rationalizing the appropriate spirits, attitudes and values within people's way of life. Change should not come from sheer emotions or legislation. Any change in education should be accompanied by learning; new performance might not necessarily constitute change.

Sample Basics on Educational Planning

Before the implementation of the model, the following assumption might be logical. The assumption is that knowledge of the process of planned change and knowledge of educational planning should mutually supplement each other. With regard to educational planning, six basics were selected:

1) Education and economic growth,

2) Social functions and goals of education,
3) Social objectives in education,
4) Manpower requirements and educational organization,
5) Planning model to be used, and
6) Sources of educational planning.

Each one of the samples should be discussed.

**Education and economic growth**

Economists, educators, and government officials from 21 countries discussed organizational implications on the link between educating and economic growth (Organization for Economic Cooperation and Development (OECD), 1963). The discussion in this section was based on the proceedings of OECD (1963). If education were to make optimum contribution to economic progress, government and educational structures should adapt to each other, (King, OECD). The aims of national education policy and the organization principles deriving therefrom were summarized by Gregoire and Roger (pp. 81-106). Education was described as a means of influencing social evolution and a machinery for transmission of values and knowledge (Erder, OECD). A sound educational system must take account of occupational need, but go beyond, and must be responsive to popular demand without subjecting itself to the vagaries of popular politics. The needs of research and education respectively must be in the interest of both. The development of education should depend on that of research and vice versa. Education and science policies should be carried out simultaneously. The general direction of education and research should be dealt with by an organization at government level. Golstein (p. 89)
emphasized the importance of a sufficiently general education to avoid excessive specialization which would hinder mobility of manpower. Personnel responsible for education, and those for manpower, should work together. Technical and vocational education should relate to manpower requirements. Vaizey expressed strongly that expenditure on education was expenditure for economic growth.

Regarding national education policy and its concomitant organizational formulae, it was agreed upon that education being an end in itself, though related to other areas, educational policy should not be subordinated to other aspects of national policy. In formulating and implementing an educational policy, there should be provision for continuous cooperation between policy-makers and practitioners (p. 92). A nation should decide upon who should make policy, on what data source, and what role should components of the system play. While interdependence should be encouraged, the Ministry of Education should have effective control over the policy. Vaizey supported coordination between the Ministry of Labor and Ministry of Education. An inter-ministerial advisory committee was suggested. Those responsible for various elements of education policy should continuously cooperate to discuss, not only to brief one another on what was happening (p. 98). What per cent of national annual budget should go to education should be decided in advance, although subject to amendment. Lack of coordination and qualified planners might result in planning on the basis of the continuation of past routine experience with all the inherited defects. Educators should become familiar with economic realities, and those negotiating with educators should understand the general goals of education and
requirements of current theories of the teaching profession. Exchange of ideas among policy makers and practitioners, educators and economists, education and labor, all of those and researchers together, might seem indispensable.

Social functions and goals of education

Earlier, a statement was made that education should be considered in terms of the social milieu. Social forces were listed among the foundations of curriculum. Under this section discussion should deal with school as an incorporative or integrative institution. Innovators should realize what Streed (1969, pp. 1-15) called educational change in the mass society. Mass society (Kornhauser, 1959) was described as massive scale incorporation into society of members at the periphery in producing a heightened awareness of the educational system as a basic integrative element of society.

Streed's argument was that as values of society changed, social worth of education needed reassessment. Just to mention a few, Uganda changed through pre-colonial, colonial, independence, first revolution, second revolution, and currently the economic war. Among others, problems which emerged included students' needs, mass literacy, curriculum relevance, shortage of teachers, and limitations of resources. Citizens should be encouraged to ask some questions: What sort of educational system could best teach all groups? What curricula are most relevant? How should better teacher education be developed? How should educational leaders be trained? What organizational changes in the school system are necessary? Should the country choose specialized or general education? What changes are needed
in the evaluation procedures? What kind of research should receive priority? What theoretical models should be used? Should piece-meal procedures continue or reconstruction? What innovative experiments should be launched? What sociological organizations should facilitate change? Should subject specialists work separately or cooperatively? How should social and behavioral scientists work with educationists? The list could continue indefinitely; however, the point at issue is that many questions continue to deserve attention.

**Social objectives in education**

Leila's summary review (Organization for Economic Cooperation and Development) (OECD, 1963, pp. 15-27) forms a basic source for the consideration of social objectives in educational planning. Equality of educational opportunity was defined as equal opportunity to acquire academic ability for youngsters of all social classes. Husén reported that selective secondary schools caused socially biased wastage and loss of talents. Since free education was not yet available in Uganda, how should selection be avoided or better approached? Little and Westergard quoted data showing that selective secondary and higher education in England were unequally available to middle and working class children of the same measured ability. Ruiter on the Netherlands, reported a situation similar to that of England. Anderson (1947) reported that in America, equalization in education between manual and non-manual social classes came when participation by strata was approaching 100%. Project Talent (1964) showed similar data. Anderson concluded that America was no exception to the rule that substantial room in selective schools was made

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for manual strata only after the demand of the non-manual strata had been satisfied, except that no demand in selective school was made by the working class. At least, there was an alternative, but without an alternative what would be the solution to the problem? In Puerto Rico, education from high school to university was reported to be 80%; however, equalization was confined to the middle class. In Uganda, should statistics just report figures without analysis who was included and who was not? Supposing poverty hindered able students from further education, what would be the alternative? Should the point be ignored simply because even the rich and able student would not have adequate spaces where to go? How should the relation of home background to students' success at school be investigated? If there was a correlation, what should be done?

Participants supposed that in trying to give equal opportunity, when the near monopoly of the upper middle classes was broken, the lower middle classes were the first ones who grasped a disproportionate share of the new places available. The data indicated that social differentiations did not decline as selective schools expanded their intake. Structure of school systems was reported to have an effect on equalization of opportunity. Reports alleged that European secondary education segregated high academic performers at the age of 10 to 11 into a separate stream leading to the university. The high performers came disproportionately from the upper social strata. Higher School Certificate (HSC) or university preparatory schools continued to be severely selective both academically and socially, after the point of entry. In British Grammar schools, even after
equalization at entry, wastage showed heavy social class bias. American comprehensive schools up to the end of secondary level were intended to lessen the social class bias. The European dual system combined ability selection, social selection, content selection, and all amounted to class culture.

In her study of American high schools, Ramsey (OECD) reported that ability test performance was associated with the social composition of the schools. American high schools were class-segregated due to the local character of recruitment. Social structure of schools reflected occupational structure of the community. High schools represented communities, not the entire social structure.

Coleman (1966), and Douglas (1964) found that teachers affected children's ability somehow; school quality affected little; home affected the children the most. Kjell Härnquist (1945) reported that studies on structure of school systems in Sweden showed that comprehensive schools better helped all children for academic higher education.

The consensus of the OECD conference was that many traditional working-class values were non-conducive to the development of academic ability. Practical and theoretical aptitudes should go together rather than being mutually exclusive in an individual. The flexibility demanded by rapid social change was best served through general education which was intellectual in content. United States had achieved relative diffusion of education and relative equal participation by accepting the comprehensive system, but equalization was a good deal less than anticipated (Anderson, OECD). In the
United States and Europe, expansion of educational opportunity had not led to automatically more participation between social strata. Demands of a higher strata were met before further expansion produced a lessening of class differences. On the structure of school systems, increased accessibility of selective schools to rural populations increased the participation rate. Children from educationally weak families profited from attending schools with children from educationally strong homes. Children from educationally strong homes lost nothing by being mixed with those from weaker homes. On social class subculture and educability, modern society needed all intellectual children, schools should compensate for socially and educationally weak homes.

**Manpower requirements and educational organization**

Goldstein (1966) wrote about manpower requirements and educational organization, indicating that the educational system was to provide the work force with adequate skills essential for economic growth, especially in a developing country (p. 37). An educational system should look well to the future and carefully aim at fulfilling manpower requirements of a growing economy. By relating education to economic growth, other ministries would ensure adequate financial support for education. Cooperation would be easier since other agencies would consider education to be too important to be left to educators alone.

General education was expected to contribute to the development of competence in learning and adaptability which helps workers to advance skills continually and keep abreast with changes and learn
new skills to qualify for new occupations. Skill in learning, scientific background, mathematics, and technology were recognized as key priorities. General education might be the way whereby attitudes of workers could be geared toward contributing to employer, employee, and society.

Educational systems need to know the economic information available on trends of 1) population, 2) economy, 3) markets for various products and services, 4) technological changes, 5) change in occupational patterns of various economic sectors, 6) inflows and outflows due to training, 7) deaths, 8) requirements, and 9) number of people to be trained in each occupation per year.

**Which planning model to use**

Previously, the use of models was discussed. What kind of model should be used in educational planning would be another question altogether. Bowles (1969, pp. 176-214) compared four models on educational policy using an economic evaluation. His analysis showed the linear programming model as the best, the Tinbergen was the second best. Nevertheless, his conclusion was that a combination of approaches was preferable to any single method. Linear programming, Tinbergen, or manpower requirements should all be amalgamated or tried. Precise knowledge of relationships of teacher quantity, quality, and school facilities should be used in choosing a planning technique.

**Some Concepts of Supervision**

Planned change and educational planning should require another
correlate called supervision. In Chapter I supervision was defined; in Chapter II lack of supervision was described as disadvantageous. To adopt the model, knowledge of and use of supervision would be necessary. Under this section, a few selected concepts about supervision are discussed.

Supervision is a cooperative leadership process based on behavioral sciences for the purpose of humanizing education and self-actualization of all school inhabitants.18

Sergiovanni and Starratt (1971, p. 24) supported a thesis that the productivity of an organization correlates with increased encouragement of the human growth of its participants. Their thesis would appear to mean that commitment to the human growth of teachers and students through satisfying and fulfilling experiences in the educational process, was essential to the supervisory role. The implication would seem to be that supervisory personnel should employ styles most conducive to human development. Human development should be developed through a human curriculum which should lead to human maturity.

Humanizing education should focus upon self-actualization of students. Supervisors should achieve that goal by humanizing the organization which in turn should focus on self-actualization of

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18A review of literature included: Franseith (1951); Wiles (1955; 1967); Burton & Bruckner (1955); Boardman, Douglas & Bent (1953); Meichoier (1950); Leeper (1969); Negley & Evans (1970); Jennings (1950); Carter et al. (1951); Lewin (1943, 1944); Chowdry & Newcomb (1952); Sterling & Rosenthal (1950); Horowitz (1950); Sherif (1935); Merel (1949); Hemphill (1949); Thibaut (1950); Maier & Solem (1952); Hare (1952, pp. 261-67); Leavitt & Mueller (1951, pp. 401-410) and Preston & Heintz (1949, pp. 345-355).
teachers. Consequently, the type of administration and supervision would affect schools positively, neutrally, or negatively. The extent to which school organization became human organization would enhance the success of school (maximizing intellectual, social and emotional potential).

Supervision as a process should lead to self-actualization of all school inhabitants. Education and supervision should contribute toward that goal. The process of supervision should consist of attitudes, efforts and behaviors of supervisors working with and through others to achieve school goals and objectives. Its concern should go beyond improvement of instruction to human improvement through organization. Whereas administration would stress provision of materials, facilities and general operation to maintain the organization, supervision would be concerned with improving learning environment. Both would appear to be coordinate, correlative, complementary, mutually shared functions in the operation of educational systems. Their common purpose would appear to be the provision of any and all conditions favorable to learning. Philosophy and behavioral sciences would appear to be some of the bases of good supervision. Supervision should amount to what school personnel do with people and things to maintain and improve operation of schools to achieve goals of schools (Ayer, 1954; Harris, 1963).

Sergiovanni and Starratt suggest that a fundamental concern of supervision should be whether schools use people to accomplish organizational goals and objectives, or whether people use schools to accomplish human ends. Supervisors should extend the human dimension in schools. Concerns of supervisors should be: appropriateness
of school goals and objectives, the welfare and growth of school inhabitants, and self-actualization of people intellectually-socially-and emotionally. School should serve its inhabitants rather than the traditional pattern which required the individual to serve the school. Emphasis should shift from mere organization and survival to dynamic growth, development of participants to attain the ends.

Supervisors would have to guard against what Broudy, et al. (1964) observed that special interest groups should not forget the instrumental function of education, the education of the whole person. Education should not be reduced to the status of merely an instrument of momentary economic and political policy. What a country should be, the role people should play, would depend on educational strategy. Resources of society should be exploited to enhance the excellence and significance of all citizens. Curriculum should meet individual and societal needs, educators should take a lead and cater for both goals. Educators might lose their control unless they go beyond patching old curriculum and shifting around the physical and administrative furniture of schooling. However, forced curriculum decisions might ultimately create discords which eventually overshadow whatever good might have been done. Diversity and flexibility of curriculum should be differentiated from fragmentation. Diversity of needs, interests, ability, and opportunity must have a link of commonality. No amount of specialized training would guarantee jobs since society should be in mobility. Learning activities should encourage individual interpretation rather than replication.

A review of literature indicated that perceptions of supervision

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varied, Ebel (1969, pp. 1442-1446). The theory of supervision according to Ebel should be discussed. Leadership, communication, human relations, and group process should be the sources of theory on supervision. Leadership should be provided through:

1) Improved sensitivity on feelings of others,
2) Improved accuracy in estimating group opinion on important issues,
3) Setting higher goals for oneself and frequent interaction with others,
4) Less authoritarianism,
5) Being a good leader and a good follower,
6) Alternating as a leader and as a follower,
7) Accepting membership and being accepted as a member of the group,
8) Taking initiative (National Training Laboratory in Group Development, 1953).

By using theories on group process, supervision should improve group unity by:

1) Helping staff develop common purposes and values,
2) Changing perceptions through group thoughts rather than individual ones,
3) Faculty planning and evaluation instead of activities initiated, directed, and evaluated by the administrator,
4) Changing ideology or cultural habits by dealing with groups rather than individuals.

Supervisors' opportunity to exert leadership and common values depends on interaction within group, which means that communication is vital to supervision. Supervisors who wish to improve communication should:

1) Improve skill as discussion leader,
2) Improve physical environment that affected improvement of communication,

3) Improve skill, knowledge and experience in group process or group leadership,

4) Decrease social stratification or status lines.

Humanizing education should, among other things, encourage participation in decision making. Supervisors and innovators should be advised to note: 1) That Sugg (1955) found out that principals who used participation made greater variety of curriculum changes than the autocratic principals, 2) Participatory leadership made more change in attitudes than directing leadership, 3) Group discussion made more behavior changes than lecture methods, according to Coch and French (1948, pp. 512-532); Levine and Butler (1952, pp. 29-33).

Like any other educational activity, supervision should be evaluated on the basis of a variety of criticisms. Some of these are: 1) group conferences, 2) classroom visitation, 3) individual conferences, 4) examination of textbooks and lesson preparation books, 5) study of students' exercise books and written papers, 6) professional reading, 7) teachers' rating of supervisors, 8) teachers' satisfaction with the supervision, 9) participation in professional organizations, 10) participation in professional conferences, 11) participation on committees, 12) preparation of bulletins, 13) research and experiments, 14) faculty meetings, 15) demonstration lessons, 16) written evaluation on teachers, and 17) source of ideas for teachers, students, parents, and educational leaders.

Many sources reviewed advocated that supervisors should be trained because the process has become professional. Among other requirements, courses should include: 1) Thorough knowledge of curriculum
and instruction, 2) Knowledge of skills in group operation and organization, 3) Skills in leading discussion groups, 4) Activities to increase empathy, 5) Increase of communication between supervisors and teachers, 6) Development of counseling skills and self-analysis, 7) Changing work patterns of supervisors through discussion rather than lecture.

Theory

Data from a review of literature stressed the role of theory in curriculum planning and development. Broudy in Leeper (1966, p. 15-26) wrote that a theory of education was the unifying principle which rationally wove together goals, objectives, life outcomes, school outcomes, curriculum design, and other innovations. Theory was the only defensible basis for educational decisions. According to Broudy, many school systems did not have a systematic way of introducing innovations in education. School systems were too far from having an equivalent to a consumer's guide for curriculum directors, supervisors, parent/teacher associations, administrators, boards of governors, and management committees.

Lack of unified theory of education was one of the causes of failure in current establishments. A unified theory of education should consider: 1) the present and projected kinds of knowledge and personality required for citizens, 2) specific uses of schooling (see Broudy, Smith & Burnett, 1964), 3) the latest developments in learning and educational technology, 4) provision for general and special education for differences in ability.

While doing their best, educational establishment should not

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always think for the common person. Instead, common people should have an opportunity to think for themselves. Therefore, the establishment should have the willingness, readiness, and ability to develop a theoretical framework for the educative enterprise. Consideration of larger and broader issues like a unified theory of education, should no longer be postponed.

On the search for priorities, Keel and Hagen (1971, pp. 35-36) said that establishing priorities was not only desirable, but also an absolute must. The first priority was how to determine priority needs. However, priorities would depend on theory of education in a school system. Part of the theory should be a philosophy of education. Consequently, philosophy should be the measuring stick of priorities. A philosophy should be a general frame of reference for everything done about education.

Keel and Hagen further said that a philosophy of education was the focus of curriculum change. Since that was the case, all components of a system should participate in developing a philosophy. A philosophical statement in western cultures usually includes at least a statement to the effect that the major goal of elementary education should provide experiences for a child to achieve to the maximum of one's capacity, a healthy sense of values reflected in: 1) intellectual, 2) social, 3) emotional, 4) aesthetic, 5) spiritual, 6) political, and 7) physical areas. A child should be equipped with basic 1) knowledge, 2) skills, and 3) experiences, to assist the student perform constructively for oneself and society. A positive self image should be established through: 1) experimental acceptance and
appreciation of all, 2) establishing realistic goals for oneself, 3) understanding reasons and consequences of success and failure, 4) knowledge of feelings, 5) ability to make decisions and self-evaluation, and 6) knowledge of ethos and values.

Socialization could be learned through: 1) participation, 2) sharing ideas and materials, and 3) leadership experiences. Physical well-being could be developed through proper diets, activities in physical education, and performance arts. Students should learn their relation to heritage and environment. Proficiency should be developed through basic skills of mathematics, science, speech, writing, evaluation, formation of decisions, identifying problems and suggesting solutions, hypothesizing, interpreting, analyzing, understanding societal changes and necessary adaptation, Keel and Hagen (loc. cit.).

Philosophy would appear to: 1) stimulate activity, 2) provide common goals upon which to re-examine and evaluate activities, behaviors and practices, 3) provide a basis for curriculum, 4) relate theory and practice during everyday learning/teaching situations. A general philosophy should not hinder anyone of the components of the system from developing supplementary individualization, personalization and humanization of education.

Synthesis of educational theory

In his attempt to synthesize educational theory, Beauchamp (1968, pp. 31-50) reviewed literature using: 1) theory and practice, 2) theory and philosophy, 3) theory in school administration,

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4) instructional theory, and 5) educational theory, as illustrations.

On the basis of his data, Beauchamp drew some conclusions which should be useful.

Theory and practice were related, but not the same. Practicality was built around clusters of specific events. Theory evolved from generalizations, laws, axioms, and theorems explaining specific events and relationships among them. The relationship between theory and practice was found to be reciprocal, Gowin (1963). Theory might direct practice, but theories were tested and modified by research which emanated from practice.

Theory and philosophy were found to be evidently related, but not conterminous domains. Two kinds of theories were identified: 1) prescriptive theory (related to philosophy), 2) descriptive theory (related to sciences). Many theories were developed within the general area of philosophy on concepts of: 1) education as transmission of social heritage, 2) education as individual development, 3) education as a product, and 4) education as a process.

Instructional theory was found to be using vigorous research rules of behavioral scientists to build theory on instruction. (Also see Bruner, 1963; Beauchamp, 1968, p. 41). Macdonald (1963) urged for clarification of terms such as curriculum, instruction, teaching. Macdonald and Leeper, (Eds.), (1965) commended controlled research as a means for producing generalizations about instruction. According to Beauchamp, the examples cited above were excellent illustrations of steps in theory building. Association for Supervision and Curriculum Development (1966) recommended classroom
research as a means of building theory on instruction. Bruner (1966); Gordon (1967); Gage, (Ed.) (1963) would be useful additional sources about theory building on instruction.

Prescriptive (philosophic) theorizing and descriptive (scientific) theorizing were both deemed necessary in educational theory, (see Broudy, op. cit., p. 24) and unified theory. Some sources argued whether or not education was a profession (renders service), a discipline (adds to its own knowledge), Walton and Kuethe, (Eds.) (1963). Beauchamp summarized his findings that regardless of the label, education was mature enough to become an organized field of study. Clear headed thinkers were encouraged to stretch for more rational explanation of what education should do.

Synthesis of curriculum theory

In his book entitled Curriculum Theory, Beauchamp (1968) postulated that public school curriculum should not grow by an additive process arising from social pressures. Explicit rationales for operations of schools were urgently needed lest chaos would prevail. Time was deemed overdue for development of theory in education not to ignore procedures of science. Curriculum theory was considered a sub-theory of educational theory. Theories on design, procedures, content, should emerge from curriculum theory. Concepts on curriculum as a system, curriculum as a field of study, and instruction as part of curriculum.

Education should be treated as a behavioral science and look to original sources for most of its content and processes.

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Authorities agree that theory should be defined. Beauchamp found out that the common factors in theory definition were description, explanation, prediction, and unification.

Any theory was found to consist of: 1) commonly used terms with accepted meanings, 2) terms operationally defined and basic to the set of phenomena being explained, 3) essential theoretical terms like facts, definitions, propositions, postulates, hypotheses, deductions, assumptions, generalizations, laws, axioms, or theorems. Any statement of theory should fulfill the primary functions of explanation, and prediction of relationships.

Theorizing was thought to consist of: 1) definition of technical terms and constructs, 2) classification of known and assumed information, 3) making and testing prediction through research, 4) developing models, and 5) sub-theory formation. Careful definition of terms for clarity and consistency was considered an essential ingredient of theory building. Usually, definition was about general terms, basic concepts, and theoretical terms. Unification as a theory building activity was a means of organizing and integrating what was known about the discipline. That would give meaning to a series of events and help to group facts and generalizations. Making

19 Parsons (1959, p. 371); Logan and Olmstead (1954, p. 4); Brodbeck in Gage (Ed.), (1963, pp. 44-45); Hall and Lindsey (1957, pp. 10-11); O'Connor (1957, p. 75); Rose (1953); Feigl (1951, p. 182); Abel (1952); Travers (1964, p. 16); Kerlinger (1965, p. 11); Goladarc and Getzels (1955); Halpin (1958; 1966); Campbell and Grey (1957, pp. 363-364); Dewey (1916, p. 383); Black (1952; 1966); Belth (1965); Kerlinger (1965; (Ed.), 1973); and Gowin (1963).
inferences should include making hypotheses, formulating postulates, theorems, laws, generalizations, and deductions. The work of theorists was found to be characterized by inference, prediction, and research. Reliability of the prediction from theory was found to be the test of any theory. A theory should foster new relationships and conditions for understanding. Models were considered good aids in theory building. Sub-theory development was the characteristic of mature comprehensive theories.

There should be theory of curriculum in addition to theory of education. Curriculum should aim at cognitive, affective, and psychomotor capacities of individual students, Hollister in Leeper (1966, pp. 27-44). Assimilation, differentiation and integration should be major functions in curriculum. Analytical and differentiation techniques would help individuals analyze complex human problems which beset society. Differentiation would train in tolerance of ambiguity and prepare students for frustrations. Process thinking would teach students creativity and problem solving.

Developments in curriculum theory

Apart from knowing the nature and value of various aspects of theory, information about developments in curriculum theory might enlighten curriculum enthusiasts that more should be done now than in the past. Beauchamp (1968, pp. 55-76) discovered that too few curriculum workers had responded to the need for thoughtful theoretical work on a field of curriculum theory. Herrick and Tyler (1950) signalled the land mark in curriculum theory. Beauchamp (1961) was
the first single volume on curriculum theory. Beauchamp (1963) was the first scientific approach to theory building in curriculum. Smith (1963) was the pioneer on the role of philosophy in the development of scientific curriculum theory. Macdonald (1964) introduced the systems approach. Beauchamp (1965) discussed curriculum research as a field of study. Faix (1966) introduced classification as part of curriculum theory. Maccia (1965) introduced curriculum theory as having several dimensions: classification, design, values, and operations. Prymier (1967) introduced the three phases of what was planned, what occurred, and evaluation. Judging by the evidence available, developments in curriculum theory would appear to be scarce and pioneering works were recent. More contributions would enrich the field where much still remained to be desired.

Beauchamp emphasized his point of view that curriculum and concepts should be defined. The most theory building activities should be: 1) definition of technical terms, 2) classification of knowledge, 3) inferences and predictions from research data, 4) sub-theory building, and 5) model building. Inference and prediction were of the highest order in the work of a theorizer. Mauritz (1967, pp. 127-140) compiled some definitions related to what has been discussed above.

Values in curriculum theory

Whether or not values should be part of curriculum has become a touchy issue. There appears to be confusion between discussion on values and imposition of values. At one extreme, occasionally,
certain school systems are allegedly accused of providing valueless education. Somewhere along a continuum, defenders might reply that education without values would be impossible. At another point on the continuum, some people might still be posing the question, should curriculum include or not include value theories?

Beauchamp (1968, p. 158) stated that values were acquired didactically and by enculturation. The general purpose of having value theories was to provide a set of guidelines for the meaning and ground of value judgments. According to Beauchamp, schools could not escape responsibility on values of students. His argument was that all choices in school subjects were value laden. Value theories and values derived therefore were instrumental in judging the work of curriculum theorists. As an example, the Krathwohl, Bloom and Masia (1964), Taxonomy of Educational Objectives, The Affective Domain, was cited as concerned with values.

Raths, Harmin and Simon (1966) argued that children's problems were caused by values. The thesis was that values represented something important in human existence. Choosing, prizing, and behaving were considered the intelligent process of arriving at values. Apparently persons with unclear values might lack direction for their lives, lack criteria for choosing what to do with their leisure time, energy, and their very being. In other words, values would appear to give direction to life. The three processes upon which values appeared to be based were: choosing, prizing, and action.

Choosing: 1. freely
2. from alternatives
3. after thoughtful consideration of the consequences of each alternative

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Prizing: 4. cherishing, being happy with the choice  
5. willing to affirm the choice publicly  

Acting: 6. doing something with the choice made  
7. repeated in some pattern of life  

Value indicators were listed as: goals and purposes, aspirations, feelings, interests, beliefs and convictions, activities, attitudes, and worries. The development of values was considered to be a personal and lifelong process. The process of valuing was thought to be more important than specific values. The clarifying response (pp. 51-82) was considered an honest attempt to help students look at life and encourage them to think about life in an atmosphere where positive acceptance existed. An honest respect for students was the basic need to implement the clarifying response. Teachers would have to listen to value indicators and help children use the valuing process by applying the clarifying response. Value theory should aim at developing students' independence and self-responsibility. Rogers (1969, pp. 238-248) in his book, Freedom To Learn, discussed a modern approach to the valuing process.

Curriculum as a subject of study

Using the preceding discussion as a basis, the field of curriculum is undeniably complex. Any aspect of education that would appear to be complex should qualify as a subject of study.

One of the challenges might be the question of relevance. Van Til (1974) suggested field trips and participation of students in planning and implementing a curriculum that would express and
deserve their own time and concern. Metcalf and Hunt in Van Til (op. cit., p. 266) said that to make curriculum relevant, students should examine their own basic assumptions about society and its improvement. Wilhelms (op. cit., p. 297) stated that a relevant curriculum was one directed to individual and societal needs, also see Phi Delta Kappan (March, 1970, pp. 368-371). Goodlad in Leeper (1966, p. 4) wrote that curriculum should not be picked from ready-make curriculum guides here and there. Skeel and Hagen (1971, p. 8) contended that to make curriculum relevant students must become active inquirers in their own education, make decisions, and free to express personal feelings of everyday life experiences.

Another challenge might be isolation versus wholistic approach. Firth and Kimpston (op. cit., p. 7) did not advise pulling out bits and pieces in isolation, but suggested an integrated whole of interdependent operation. Goodlad in Leeper (op. cit., p. 1) stated that the concern was more with the total curriculum, not its bits and pieces. According to Goodlad, the separate subject approach (discipline centered approach) created some immediately visible problems (p. 2). Balance was needed between learner and materials, and among subjects. The time had come to rise above parochial considerations in the creation of cooperative approach to curriculum study and improvement (p. 8).

A third challenge stems from the fact that curriculum is not a static phenomenon. Koopman (1966, p. 36) emphasized that there were no good static programs in education. As society changed, schools
and curriculum should change. Examples from Chapter II, evolution of curriculum, should be used to illustrate a static curriculum. Other examples should be selected from Chapter III, dynamics, interactions, and interdependence as opposed to static relationships.

Foundations/Bases/Sources of Curriculum

Foundations/bases/sources or forces which influence curriculum were recognized to be: 1) Social forces, 2) Human development, 3) Learning process, 4) Disciplines (nature of knowledge), 5) History of education, and 6) Philosophy of education.

History of education

Taylor (1973) defined history as the body of recorded and ascertainable facts about the past. In other words, history meant both the past and study of the past.

Historical inquiry is part of disciplined inquiry. Firth and Kimpston (1973, p. 12) wrote that a clear understanding of the past might clarify the future. Curriculum should grow out of the past, present and the future. While educating for the present and future, the past should be put into consideration. Meantime, past, present and future should not be isolated from other foundations of curriculum. Without a comparative study of the history of education in a nation and in other nations, educators would be doomed to repeat instead of avoiding certain mistakes. Innovators would miss instead of using certain experiences. Curriculum based upon the present, without the past nor the future, might look like being on a highway.
journey with no original starting point and no destination.

Research by Simon on the history of education (Taylor, 1973, pp. 121-153) revealed that imperfect knowledge of educational history had had an adverse effect on the planning of curriculum, formulation of policy, and administration of educational agencies. Simon stated that an understanding of the nature of education and its direction should necessitate an historical approach. Lack of firm discussion on historical events marked a deterioration in the precision and relevance of educational thinking as a guide to policy making. The historical approach is essential to understanding any field. However, some historical accounts on education lack depth and breadth.

Research by Sloan (Kerlinger, 1973, pp. 239-269) revealed that a comprehensive survey of the literature on the historiography of a nation's education in international and comparative perspective would be valuable. In a review on history of curriculum by Bellack (1969, pp. 283-292), conclusions were made that curriculum would not prosper as a subject of study without critical examination of past ways of thinking about the field. Kliebard (1968, p. 69) was cited to have suggested dialogue between historians, curriculum theorists and educational practitioners.

Historians of education and curriculum should assess the educational forms at different stages of social development: what ideas prevailed, how modifications were made, what needs were met or not met, and how current ideas developed. Ideas should be related to their environment: how ideas were generated and communicated, what their effects were . . . and what social changes were due to
education, who promoted what idea, why, what did leaders think and what did followers think, what actually happened and at what point.

Philosophy of education

Philosophy was touched during the discussion on theory, but a few supplementary views would be useful. Smith (1967, pp. 33-48) challenged the lumping of the views of philosophers into: 1) idealism/rationalism (application of motivation for instruction), 2) realism (objective, hierarchial inquiry plus reinforcement), and 3) pragmatism (collaborative approach between teacher and student). Smith's view was that philosophy was one of the foundational disciplines for education. Its role was to supply values for education. Broudy (loc. cit.) argued that philosophy gave deeper aids to categorize problems of curriculum than customs, laws, tradition, or commitment.

Peters and White in Taylor (1973, pp. 93-112) re-studied the philosophers' contribution to educational research. Their results led to some conclusions that philosophy 1) was concerned with meanings and interrelationships of concepts on education; 2) helped to clarify and improve the sub-theories employed by specialists from other foundations of education; 3) helped to link together different types of inquiry on educational issues; 4) helped toward the development of educational goals; 5) helped toward the nature and justification of procedures; 6) improved rigorous thinking about educational concepts; 7) helped to clarify aims of research on teacher education courses; 8) helped educational researchers clarifying terms.
like those of Piaget—conservation, conception, and perception; 9) had a constructive role to play in the development of policy based on research.

Sociology of education/social forces

To enlighten all components why sociology of education was included among the foundations of curriculum, answers should be provided to the question: What is the study of social forces concerned with? To answer the question, social forces, social environment and supervision, social system, authority and power should be discussed.

Regarding social forces, Firth and Kimpston (1973, p. 6) suggested that school should respond to social upheavals. The reason behind their point was that environment forces had a direct bearing on curriculum (p. 13). Social events: political, economic, pressure groups, cultural milieu were the causes of environmental forces. Hass, et al. (1974, p. xviii) saw as a major consideration in all curriculum planning, social forces reflected in: 1) social goals, 2) cultural uniformity and diversity, 3) social pressures, and 4) social change. Present forces and their possible future trends should be regularly examined as a major element in curriculum and instruction. Since social forces were constantly changing, curriculum should change with them. Curriculum planners should be students of society. Frost and Rowland (1969, pp. 3-55) presented an argument that curriculum efficiency should be judged by the criteria of social utility. Policy making, organization of the system, all matters concerning committees would be termed political. Anything related

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to finance could fall under economics. Attitudes and related issues would fall under social values. Koopman (1966) wrote that curriculum should reflect nature of society. The Elementary Secondary Education Act (1965) Title III; Educational Opportunity Act (1963) both from the United States, expected curriculum to be used to fight poverty and discrimination.

About the sociological environment for supervision, Sergiovanni and Starratt (1971, p. 25) realized that the best intentions and the most rational plans had little chance of success if environmental milieu was ignored, misjudged, or uncomprehended. If supervisors were to increase the effectiveness of schools, supervisory behaviors should be congruent with the social milieu. Comprehension of authority systems, compliance systems, status systems, and power interactions were considered crucial. The basic needs for all organizations could be found in Parson (1960, pp. 19-96), Sergiovanni and Starratt (op. cit., p. 281), and Parson in Halpin (Ed.), (1958).

With reference to social systems, Getzels and Guba (1958, pp. 423-441) developed the most widely recognized and perhaps the most useful framework for studying and understanding administrative and supervisory behavior. Administration was viewed as a social process in a social system examined structurally, functionally, and operationally. The process operates structurally (series of subordinate-superordinate relationships), functionally (hierarchy of relationships as a basis for allocating the integrating roles, personnel, facilities in relation to goals), and operationally (administrative process as person to person interaction). A social system comprises
interdependent and interacting dimensions. Effectiveness constitutes achievement of organizational goals and efficiency implies achievement of individual needs. Achievement of school goals depends on meaningful, individual needs satisfaction.

An understanding of the nature of authority, its origins, forms, operational feasibility, and its acceptance was found to be fundamental to administrative and supervisory action. Authority forms could be entrepreneurial (one man affair), hierarchial (by positions), bureaucratic (rules and regulations), or professional ability. Formal authority was identified as bureaucratic; functional authority was based upon professional experience and human relations. Successful accomplishment of given ends determined professional authority. Peabody's study (1962) revealed that teachers seemed to value authority of competence over authority of person, position, or legitimacy.

French and Raven (1960, p. 612) dealt with reward power, coercive power, legitimate power, referent power, and expert power. Bachman et al., in Tannenbaum (Ed.), (1968, p. 234) used those bases for a comparative study. His results showed: 1) Legitimate power rated one of the two most important bases of power although not a consistent factor in organizational effectiveness, nor related significantly to total amount of control; 2) Expert power was the other very important basis of power, strongly and consistently correlated with performance and satisfaction. Of all bases, expert power was the most positively related to total amount of control; 3) Referent power was of intermediate importance as a reason for complying with
a supervisor's wishes, but in most cases positively correlated with criteria of organizational effectiveness; 4) Reward power was also of intermediate importance, but correlation with organizational effectiveness and with total control was not consistent; 5) Coercive power was clearly the least prominent reason for compliance, negatively related to criteria of effectiveness and in two cases negatively related to total amount of control.

Bachman, Smith, and Slesinger in Tannenbaum (op. cit., p. 213) used the same bases in another study. Total control, performance, and satisfaction were all relatively high where leadership was rated on expert power and referent power. Conversely, leadership based on coercive power and legitimate power was less effective.

Sergiovanni and Starratt (op. cit., p. 69) said that status systems could be reasonably legitimate. Sanard in White (Ed.), (1964) asserted that systems of status arose from the differential needs, interests, and capabilities of individuals. His discussion was based on five topical divisions: 1) the differences in the ability of individuals, 2) the difficulties in doing various kinds of work, 3) the differences in the importance of various kinds of work, 4) the desire for formal status as an organizational tool, 5) the need for protection of the integrity of a person. If exaggerated, those status systems could breed dysfunctional aspects: 1) distort the evaluation of an individual, 2) restrict unduly the circulation of elite, 3) distort the system of distribution, 4) exaggerate administration to the detriment of leadership and morale, 5) exalt the symbolic function beyond the level of sustainment, 6) limit the

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adaptability of an organization. Symptoms of dysfunctional aspects could be: 1) lack of flexibility, 2) low responsiveness, 3) infrequent or one-way communication pattern, 4) low organizational commitment, 5) teacher and student dissatisfaction, and 6) low adaptiveness. According to Sergiovanni and Starratt, the dilemma was whether the human organization controlled the status system or vice versa.

A study by Musgrove in Taylor (1973, pp. 154-171) on research about the sociology of the school and teaching, revealed that sociologists were concerned with continuity and change of institutions. The main interest was in the: 1) structure, function, and interrelatedness, to preserve unity of the system; 2) examination of changes in educational goals and provisions for changes in the: family, church, political parties, school, legal system, economy, conflicts, social activities, social relationships of people, and the way people behaved toward one another because of their positions in the social system; 3) use of comparative approach toward understanding educational systems: schools with schools, and schools with other social organizations; 4) social background and educability, for teachers to see if home circumstances exerted powerful influence on students' performance and prospects, and to see if improved teaching would reduce wastage of ability caused by lack of interest and stimulation at home; 5) sociological research to help teachers develop insight into personal relationships: pupils' perception of school and home effectiveness, perceptions of teachers, parents, administrators, if conflict would lead to low morale and reduced effectiveness, or lead to reorganization, or reformulation of tasks and redefinition.
goals; 6) new perspectives for task allocations, influence of internal and external pressure groups, nature of head teachers' authority, accessibility, curriculum decision making process, pupil involvement, staff participation; 7) subcultures and how they affect pupil participation, why pupils thought schools were for, why parents and teachers thought schools were for.

Swift in Taylor (loc. cit.) studied sociology and educational research. His conclusions were that sociological research on education had: 1) made educators more aware of the importance of social factors in the development of abilities; 2) made relationship of educational institutions to societal institutions clearer; 3) revealed that the greater part of educational research depended on an integration of sociology and psychology; 4) recommended inter-disciplinary cooperation; 5) showed that social research without theory was impossible, atheoretical correlation should be minimized. Theory was declared an essential element in all knowledge about human behavior.

Psychology of education

Webster's New World Dictionary (1970, p. 1147) defined psychology as 1) "the science dealing with the mind and with mental and emotional processes; also the science of human and animal behavior."

In this section, human development, nature of the learning process, theories in educational psychology, psychology and educational research should be discussed.

Hass, et al. (1974) contended that human development was one of
the bases of curriculum. Knowledge of human development should help curriculum planners to provide for both age and individual differences among learners. The study of child and adolescent development was regarded as one of the basic sciences underlying education.

The human development approach to curriculum and instruction should include human growth and the study of the learners. Infancy, childhood, early adolescence, middle adolescence, and late adolescence were the suggested stages. Other suggested aspects of development to guide curriculum were: 1) biological basis of individual development, 2) physical maturation, 3) intellectual development and achievement, 4) emotional growth and development, and 5) cultural pressures. Havighurst and Piaget theorized on biological, physiological and cultural aspects of development. Ausbel theorized on human development and growth: readiness based on maturation and learning, organization and cognitive development. Curriculum should match development stages which vary among people and situations.

The objectives of learning human development were: 1) to analyze curriculum relationship to human development research and theories, 2) to suggest improvement and changes in curriculum based on human development research and theories, 3) to plan instruction according to human development stages, individual needs and development, Hass et al. (op. cit., p. 57).

Concerning the nature of learning or learning process, Hass and colleagues stated that an understanding of how learning occurred in human beings was of central importance for planning curriculum and instruction. Curriculum planners should understand each of the
theories on curriculum and instruction because each requires different approach. The stimulus-response group includes all theories about conditioning or reinforcement. Stimulus-response, behaviorism, association, connectionism, conditioning, reward, and reinforcement, belong to the same general category. The gist of those theories is that learning takes place through transfer. Students should see the relevance, but rewards should vary from instance to instance and from learner to learner.

Field theories included the perceptual and gestalt. Supporters of such theories dealt with the meaningfulness of the whole, the importance of generalizations/principles/and organization in learning. Starting with the whole down to the particulars of learning was their viewpoint.

Freudian theories included awareness, identification, and imitation. After presenting the theories, a logical conclusion would appear to state that if curriculum and instruction were to meet individual differences, all theories should be known and applied depending on which one best suited the individual student.

Out of the theories, some concepts related to curriculum were identified: 1) children learn through identification with others; 2) children learn through discovery; 3) empathy, openness, trust in human relationships would facilitate learning; 4) learning should take into account the cultural milieu; 5) students would learn more if teachers knew the students; 6) transfer of learning was more likely to occur if teachers incorporated knowledge from the community and environment.
Objectives for learning theories about the nature of learning or the learning process as a basis for curriculum and instruction should be: 1) to relate curriculum and instruction to the process of learning; 2) to suggest changes and improvements in curriculum and instruction on the basis of the learning process²⁰.

Rogers (1969, pp. 157-164) expressed his theoretical assumptions on how persons should learn: 1) human beings have a natural potentiality for learning, 2) significant learning takes place when the subject matter is perceived by students as relevant to personal purposes, 3) learning which involves a change in the perception of oneself is threatening and tends to be resisted, 4) external threats should be minimized if learnings which are threatening to the self are to be more easily assimilated, 5) when threat to the self is minimized, the individual makes use of the opportunities to learn in order to enhance oneself, 6) much significant learning is acquired through doing, 7) learning is facilitated when the student participates responsibly in the learning process by choosing his own directions, helps to discover his own learning resources, formulates his own problems, decides his own course of action, and lives up to his choices, 8) participative learning is by far more effective than passive learning, 9) self initiated learning which involves the whole person of the learner: cognitive, affective, and psychomotor, is the

²⁰McNeil (1969); Ausbel and Robinson (1969); Bigge (1971); Bugelski (1972); Combs, Avila and Purkey (1971); Gagne (1970); Skinner (1971); and Travers (1967) should be consulted for further information about the nature of the learning process.
most durable, 10) independence, creativity, and self-reliance are all facilitated when self-evaluation is basic and evaluation by others is of secondary importance, 11) the most socially useful learning is one about the process of learning, as a continuing openness to experience and incorporation into oneself the process of change.

Combs in Frazier (1963, p. 10) said that learning should become the discovery of personal meaning. Its variables were beliefs, feelings, understandings, convictions, doubts, fears, likes, and dislikes of students. Sergiovanni and Starratt (1971, pp. 254-258) emphasized that teachers should know all that was possible to find out about students. The challenge to teachers was that about one-quarter of curriculum was taught, the rest was neglected. Schools and curriculum should provide an atmosphere conducive to personal growth through internalization and integration.

After their study about the psychologists contribution to educational research, Nisbet and Entwistle in Taylor (1973, pp. 113-120) arrived at the following conclusions:

1) A thorough knowledge of psychology was an essential element in the training of educational researchers.

2) Psychologists widened the area of inquiry in educational research by contributing skills and concepts useful for interpreting data.

3) At the level of concepts and theories, psychology provided the language, vocabulary, and grammar to handle educational problems and discussion.

4) Most of the philosophers' and sociologists' thinking on education was based upon psychological concepts.

5) All aspects of educational innovations were expected to be firmly based on experimental findings which in turn rested upon procedures borrowed from psychological inquiry.

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6) Those who acquired the vocabulary of social sciences, without training in psychology, were liable to be influenced by unstated assumptions in the concepts such as discovery, creativity, and intelligence.

7) Psychology of education was concerned with helping teachers define terminologies and analyze their interpretations more clearly.

Smith (1967, p. 36) concluded that psychology was considered the main foundational discipline for education. Teachers got their supply of theory, facts, tools to facilitate scientific practices, and the backbone for teacher education, through the study of psychology. Butler and Charles (1968, pp. 12-15) made the conclusions that educational psychology should help prospective teachers to: 1) understand the fundamental facts about human growth and development, 2) learning, 3) personality and adjustment, 4) measurement and evaluation, 5) methods or techniques of educational psychology, 6) improve one's own learning as applied to oneself personally, 7) appreciate and understand educational research as an intelligent consumer, 8) become in the immediate environment an educational symbol, a figure with whom students could identify and compare themselves.

Discipline/the nature of knowledge

As far as foundations of curriculum were concerned, apart from the history, philosophy, sociology, and psychology, educational innovators should know the nature of various disciplines.

Disciplines consist of organized fields of knowledge. The sequence of facts, concepts, and generalizations by discipline should be examined while planning curriculum and instruction. One theory stated that since knowledge changed and increased constantly,
curriculum planners should not expect students to know everything, but at least should learn how to acquire knowledge. Bruner's theory (1960; 1971) in advocating the relevance of education to man and environment, saw the needs of the learner as the starting point of selecting knowledge. The third group of theorists combined the two stated previously, to formulate an inter-disciplinary multi-disciplinary, problem approach, and/or structure of knowledge approach.

By studying the various views on the nature of disciplines, curriculum planners would be more able to decide: 1) What content per discipline should be taught; 2) How to plan for different disciplines; 3) How to provide for the individual differences. The objectives of studying the nature of disciplines were to help curriculum planners 1) analyze goals, objectives, activities, methodology, and materials according to the nature of each discipline; 2) suggest improvements in curriculum and instruction on the basis of theories about the nature of each discipline.

Taylor (1973, pp. 191-210) reviewed knowledge and research upon which some conclusions could be drawn:

1) Educational research on the nature of knowledge (disciplines) was a systematic attempt to understand and improve what was to be taught.

2) Research on knowledge should include courses, content, and their organization in curriculum.

3) Examination questions should be analyzed to find out their relation to theories about knowledge over a specific period,

4) Literature by intellectuals should be analyzed to determine whether or not their views correspond to theories about knowledge.

5) Research should be done to find out how research knowledge

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influences content in curriculum and/or how many teachers had access to research journal articles on knowledge.

Summary

In Chapter IV a theoretical support for the model on the process of curriculum planning, development and supervision was developed. The main topics discussed included: 1) The process of planned social organization change, 2) Sample basics of educational planning: education and economic growth, social functions and goals of education, social objectives in education, planning models, sources on educational planning, manpower requirements and educational organization, 3) Some concepts on supervision, 4) Theory: synthesis of educational theory, synthesis of curriculum theory, developments in curriculum theory, values in curriculum theory, and 5) Theories on foundations of curriculum: history of education, philosophy of education, sociology of education, psychology of education, and disciplines.

Items about planned social organization change included: 1) How human beings change, 2) How to sustain and improve an organization for social change, 3) Involvement of members of an organization in determining change, 4) Interpersonal relations, 5) Specifying the change strategy, 6) Inter-component communication, 7) Using data in the change process, 8) Removing resistance to change, 9) Securing local support, and 10) Using group process to facilitate change.

Social functions and goals of education were expected to match and change simultaneously through general education. An international comparative study on social objectives in education was
suggested. An inter-agency/inter-ministerial machinery was recommended to supply manpower requirement data to all elements of the school system. Provision of resources on educational planning to personnel in that division was recognized.

Supervision was described as a cooperative leadership process for humanizing curriculum and self-actualizing all school inhabitants. Philosophy, human relations, leadership, group process, communication and behavioral sciences were considered the sources of theory on supervision. Another suggestion was that supervisors should be trained and the criteria upon which to evaluate supervision should be articulated.

Theory was described as the unifying principle which rationally wove together goals, objectives, life outcomes, school outcomes, curriculum design, and all innovations. Lack of a unifying theory was considered the cause of failure of many establishments. In synthesizing educational theory, similarities and differences between theory and practice, theory and philosophy were delineated. To avoid chaos in education, curriculum theory should be formulated explicitly in forms of rationales. Components of the theorizing process were outlined. The value clarifying process was recommended to be incorporated into curricula. On the other hand, curriculum was identified as a subject of study.

To avoid previous mistakes and to use past experiences, history of education on the past linked with the present and future was included among the foundations of curriculum. Imperfect knowledge of history of education was found to have had adverse affects on
curriculum. Content of history of education was expected to deal with what ideas developed, when, how, why, by whom, how they were communicated, and what their effects were.

Students of curriculum were advised to study philosophical theories: idealism/rationalism, realism, pragmatism so as to supply values, meaning and interrelationships to education, clarifying theory and goals. Regarding sociology, schools were urged to respond to social forces such as politics, economics, pressure groups, cultural milieu, environment, social goals and social change. Content for sociology of education was thought to comprise social systems, power, institutions, authority and subcultures.

In order to provide for individual differences a study of psychology of education was recommended. Content should include the learning process and various phases of human development: mental and biological. The theories of stimulus-response, field, and Freudianism were discussed and their effects on instruction were elaborated. With regard to the study of disciplines/nature of knowledge/subject matter fields, conclusions were drawn to the effect that curriculum specialists would be able to select what to teach to different individuals, stages and circumstances if structure and nature of disciplines were known.
CHAPTER V
APPLICATION OF THE MODEL

Designing the model might as well be described as half the battle, because there is still the hurdle of putting the model to use. Many questions arise at this juncture, for example: Who should be responsible for the application of the model: What would be the commendable procedure? Several other questions could be raised. There might be or there might not be answers to some of the questions. In any case, no answer(s) to any question(s) would be the only answer(s) for all occasions. In Chapter V, application of each set of the model, and application of the entire model will be discussed.

Components: A Cooperative Approach

Since a cooperative approach was proposed in Chapter III, a list of components was compiled, and diagramatic illustrations were drawn, measures should be taken to implement those ideas. Channels would have to be established to communicate the proposal to the components. A circular should be issued from the Ministry of Education to all other ministries asking each ministry to disseminate the message to various levels of their ministries all over the country. All schools and colleges should receive a copy of the circular through the established procedure. Similarly, all district and regional divisions of the Ministry of Education should receive copies. An appropriate official of the Ministry should follow-up this diffusion.
and publicity.

Quite a variety of other means might help in publicizing the concept of cooperative approach. A simple two to four page newsletter issued by the Ministry of Education on a regular basis should outline current activities in various districts. Officials should carry with them a two-page handout about who should do what and how, and pass around those leaflets wherever the officials go on duty up-country. Wall charts and posters hung-up in public places and buildings might help in spreading ideas. Car bumpers could be sold and stuck on vehicles all over the country. District Education Officers could translate some leaflets into local languages. Head teachers could carry piles to their respective schools. Each teacher and child would be advised to take leaflets to neighbors. Head teachers would be encouraged to start and maintain school/community dialogue. Proceedings of meetings should be recorded in precise form. Dialogue minute book, visitors book, staff meeting minute books should be open to officials for data collecting.

Top officials from the Ministry of Education could hold a press conference to inaugurate a mass media campaign. Newspapers would be requested to spare a regular column entitled "Education." Radio and television would be asked to include news items on education everyday during news periods on the air. Radio and television would be asked to sponsor discussion by panels from different districts on education, once a week on a specified day and time. Seminars, conferences, meetings, and workshops would become regular features in every district. At any type of conference in the country, a
message should be read to the audience reminding them about their rights on involvement in education.

Organization and procedure would be dictated by complexity of tasks and the extent of involvement or cooperation envisaged. Orientation and briefing, at various levels, on a continuous basis in ever widening circles, will be an absolute necessity. Presumably, the more specific the training of curriculum committees the better the material produced. In-service education would be as important for curriculum committees as for teachers and educational leaders. Depending on past experience of participants, the kind of task and process being investigated, and the measure of effectiveness, groups would be expected to produce more and better solutions to problems than individuals.

Theory

If theory was placed second to people who form the components served by the system and if theory was designated as the quality control factor of the entire model its role ought to be unique. Knowledge of, use, and dissemination of theory would have to receive utmost attention in the application of the model. Various media of communication and a cooperative approach would have to be applied in delineating theory.

A survey should be carried out to collect, present, analyze, interpret data on the current situation pertaining to theory in the educational system. Ideas from the model and the findings from the survey should be compared. A statement would be made on the
implications of the discrepancy. Gradually, informal and formal, homogeneous and heterogeneous discussions, meetings, lectures, seminars, conferences, workshops, press news items would be initiated. Many of the procedures suggested under components would be used to draw input from all components of the system on theory of education, curriculum, instruction, each set of the model, and the whole model. The University and Ministry of Education jointly and in cooperation with all schools, colleges, institutions, agencies, ministries... would hold symposia. Proceedings would be published, publicized, and criticized with the widest diffusion possible in all languages and areas for feedback. After ample time to all people concerned to react, a document would be compiled.

During the process described above, attention of all components would be drawn toward the need for a unified theory. Uganda should develop a unified theory and philosophy of education, curriculum and instruction. Then all components of the school system, community and society should plan and develop curriculum within the established frame of reference. Precisely, people should participate, contribute, modify, and carry out that philosophy. Courses would have to be developed at college and university level to teach the various concepts on theory as part of curriculum. The value clarifying process should be part of the content of those courses.

Curriculum as a Subject of Study

To implement the model effectively, the system would require specialists in the discipline of curriculum and instruction. Ideally,
curriculum should become a subject of study in Uganda. During the transitional period, and even all along, in-service programs would have to be organized. Teachers colleges should offer curriculum courses. The National Institute of Education at Makerere University, together with the Ministry of Education and Curriculum Development Center, should offer curriculum courses for tutors. The Faculty of Education at the university should offer undergraduate and graduate curriculum courses. Inspectors of schools, education officers, head teachers, principals, heads of departments in schools and colleges should receive professional training in curriculum; in other words, all teachers, other educators, and educational leaders at all levels. Courses of study should include foundations, research, evaluation, theory, development, leadership, supervision, and the process of group work.

Whatever course content might be selected, participants and instructors should bear in mind that the goal and objective should be to improve learning/teaching. Some of the issues which should receive attention might be how to: 1) correlate and balance up subjects, 2) improve learning how to learn, 3) stress process but also cover facts, 4) develop discovery, inquiry, and problem solving, 5) examine society, 6) develop specialized programs, 7) institutionalize evaluation and research, 8) select skills, knowledge and experiences for fruitfully satisfying life, 9) develop school/community curricula, 10) develop local instructional materials.

If advanced students were to be selected to train and qualify as curriculum specialists, the criteria should be knowledge, skills,
and experience on the ideals of each set of the model and each item discussed throughout the study. Qualities of curriculum specialists would be keeping up to date with current theory and practice, cultivating academic/professional/scholarly habits, using and sharing those qualities for improving curriculum and instruction.21

Educational Planning

Unless educational planning was based on effectiveness and efficiency, unless personnel in the planning division of the Ministry of Education had the competency acquired through professional training, curriculum planners would find it difficult to put the model in practice. A program of educational leadership should be started at Makerere University. One of the courses in that program should be educational planning. The country should have educational leaders with a specialization in educational planning.

Social functions and goals of education

Problems which require urgent attention are numerous; those mentioned in the study were just examples. Regarding teacher education, decisions should be sought on how to increase professional affiliation, professional communication, graduate courses, leadership training, and teacher/parent closer communication. Many more

21Resources for training curriculum specialists would include: Lawler (1959, Chapter VIII); Association for Supervision and Curriculum Development (ASCD), (1963, p. 8, 1965); Lippitt in Leeper (Ed.), (ASCD, 1966, pp. 43-59); Doll (1974); Hass, et al. (1974).
questions still needed answers: how to obtain special funds for new experimental programs out of routine; out-of-school education; local community leadership and relationship of school and community. Nytrand (1968), Mayer (1961, 1963, 1967) discussed some of the problems raised above. Schools should broaden their goals. If schools were to function as meaningful incorporative institutions, a balance between academic and vocational education would seem to be a reasonable conclusion.

Social objectives in education

Should Uganda decide to adopt the proposed model, change agents should ceaselessly search for ideas on social objectives in education. A comparative study of happenings from other nations might teach certain lessons and raise points for serious thought. Different countries should be surveyed by way of literature to explore problems and what solutions were offered. Whereas there are no national norms according to measured ability of all school children, ways and means should be devised to increase access to education for all children.

Manpower requirements and educational organization

Within the educational system, provision should be made for vocation and career guidance. Either colleges in Uganda should offer courses for teachers, or the Career Guidance personnel in the Ministry of Education should be expanded to offer in-service courses for teachers. Teacher education programs should include Counseling and Personnel courses. Counseling by professionals in that field would be

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beyond current situations in Uganda. Expanded counseling services are badly needed in schools.

There should be ways to get the information and make the policy decisions: 1) Ministry of Education should employ an economic/industrial/labor researcher, and establish an advisory committee consisting of other ministries, industry, trade unions, and professional societies; 2) Ministry of Labor should provide projections of manpower requirements, skill requirements of occupations to the Ministry of Education; 3) Ministry of Economic Planning should provide projections of manpower requirements to Ministry of Education; 4) Professional organizations should provide manpower requirements and skill requirements in their respective professions to the Ministry of Education; 5) An inter-ministry, inter-agencies advisory council should provide the Ministry of Education with manpower requirements and skill requirements. Occasionally, both brainstorming and formal planning sessions should be held jointly.

Principles for devising machinery to ensure that education met manpower requirements would have to be developed:

1) Personnel who should participate in the exercise should be determined by responsibilities and should involve chief executives and the legislature.

2) There should be constant interplay between Ministry of Education, other ministries, other agencies, to determine goals and policies.

3) The purpose of the machinery would be to promote relations, continuity, to review and revise content and evaluation, through permanent organs of ministries and agencies.

4) Planning should cover the whole system, not segments.

5) Research by economists, behavioral and social scientists
should be used, and career guidance personnel should seek advisory consultations of talents from other sources on programs and people to be produced.

6) Those agencies should be involved early enough in decision-making and planning.

7) Checks should be maintained on biases of individual agencies on broad goals, not narrow-minded kinds.

8) Wide public discussion and acceptance of programs should be striven for.

9) Top educational authorities should take an interest and establish systematic/continuous evaluation on effectiveness of various sectors of the system.

History of Education

In addition to comparative studies on history of education

internationally specific local examples in Uganda should be examined:

1) History of the spread of education by area; 2) History of examinations such as primary grade four, six, junior secondary three, primary eight, primary seven, Overseas Cambridge School Certificate, teachers college exams, technical . . . ; 3) History of voluntary agencies; 4) History of education secretaries, school supervisors, fathers in charge; 5) History of management committees and boards of governors; 6) Legislation, education bills such as 1965, 1970; 7) Expansion within the Ministry of Education; 8) History of teacher education grade I, grade II, grade III, grade IV, grade V, diplomates; 9) History of higher education--Makerere Entrance, higher school certificate, mature entry; 10) History of education by level--primary, secondary, post secondary; 11) History of vocational education--technical, commercial, agricultural, veterinary, forestry, fisheries; 12) How education has affected social, economic,
political changes; 13) History of local education authorities; 14) History of separate disciplines in Uganda—mathematics (metric), science (Makerere Center), new mathematics in Uganda, Entebbe Mathematics; 15) Traditional education by area; 16) Informal agencies—Boy Scouts, Girl Guides, YCA, YMCA, YWCA; 17) Study of subject panels; 18) Professional organizations; 19) Biographies of important local educationists; 20) History of the East Africans Examination Council; 21) History of some institutions—Makerere College to Makerere University, Kampala Technical Institute (KTI) to Kampala Technical College (KTC), Kyambogo Government Teacher Training College to National Teachers College, seminaries, convents, theological colleges; 22) Special programs—domestic science to home economics, dress making; 23) Educational conflicts of the past; 24) Contribution of Teacher Educators for East Africa (TEEA); 25) Comparative study of educational landmarks—pre-colonial, colonial, first republic, second republic, economic war; 26) Literacy campaigns; 27) Extramural to continuing education; 28) The press and education.

The History of Education Quarterly, Winter 1972, Winter 1973, Spring 1973, would be a useful source for bibliography related to Africa, and at international level. Other foundations of curriculum: philosophy, psychology, sociology and disciplines should be intensified in the teacher education programs. Ugandan psychologists would be encouraged to study and write about Ugandan children. Social psychologists, sociologists and anthropologists should be urged to study and publish their studies about Uganda. Through publications by Ugandan specialists in various disciplines, knowledge of different

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subjects should be disseminated in the country. Teachers, teacher educators, and educational leaders would be urged to use their knowledge of foundations of curriculum during everyday life experiences.

Goals

Through improved knowledge and application of theory, foundations and curriculum, similar campaigns like those suggested for application of goals. Under application of goals, curriculum in Uganda should take into consideration land, people and economy, rural transformation or rural development, certain findings on primary, secondary, and teacher education.

Rural development

Indire and Hanson (1971, pp. 2-9) made observations on supply and demand of secondary teachers in Kenya which might be relevant to Uganda. First, if technology were to improve, farmers themselves would have to improve through general education and specific training. Second, there was a need to invest in rural development which would generate employment of educated people. Third, the government should realize that the well-being of the populace would depend on the development of rural areas. Fourth, measures should be taken to minimize forces which drained local communities of their potential modernizers because of job opportunities. Fifth, strategies are needed to employ the youth in rural areas for the youth's own and
communities' benefit. Sixth, curriculum planners should ensure that
the system prepared the youth to earn a living within local communi-
ties, not only urban areas. Seventh, a clear commitment is needed
through a national development plan giving priority to rural devel-
opment and providing a more equitable distribution of national income
between rural and urban areas. Eighth, the capacity of the govern-
ment to provide needed education would be affected by sound economic
situation and priority list in education.

Maleche's (Sept. 25-Oct. 1, 1966) list of problems which hindered
rural development included: 1) basic beliefs, attitudes and conserva-
tive customs, 2) misplaced and inflated aspirations, 3) depressed
rural conditions, 4) scarcity of research data to guide planning,
5) lack of national plan for rural transformation ideology. Maleche
suggested three solutions: 1) an integrative, flexible, and in-
novative educational system, 2) up-to-date statistics, 3) research
and effective leadership. His list of priorities for solution of
the problem included the formulation and execution of a realistic
national policy for rural development designed to: 1) enhance rural
productivity, 2) create employment, 3) develop education and train-
ing opportunities, 4) offer experimental research on land reform,
5) use cooperative farming, processing, and marketing, 6) widen ex-
tension services, 7) improve inter-departmental communication, and
8) provide leadership training.

After his research on rural development in Africa, Bachelor
(Dec., 1973, pp. 173-183) suggested that: 1) Programs should be
designed for specific communities; 2) Rural development should
include all possible factors which influenced lives in communities: aspirations, morals, spiritual affairs, earning a living, health, homes, education, transportation; 3) The philosophy should put people on their own farms; 4) Development should be initiated by local people working together with paid and voluntary extension workers; 5) Programs of what was to be done should include prevention of diseases, nutrition, marketing, cooperatives, organized tractor hiring facilities, poultry, credit loans, well drilling, distributing pesticides, equipment, seeds, and building bridges; 6) Procedures should specify: whom the project would help, effect on employment, needs and problems, relevance, involvement of local people, roles and relations of community, district, and federal agencies.

The effect of these policies should be to build strong personal relations and mutual trust as a springboard leading to the acceptance of innovations. Increased contact with farmers would ensure better human and animal health, improve agriculture, and local industry. Locally initiated practicing farmers working as volunteers could teach fellow community members by discussion to improve local needs. Community work on wells/bridges/sanitation improvement of homes and village crafts would improve the quality of rural life. School learners could spread literacy, and there could be coordination of formal and informal resettlement.

Wallace (1973, pp. 133-178) studied a sample of 181 youths in an experimental group and 243 in a control group, all between 13 and 25 years, in a village 17 miles from Kampala City. His results showed that informal jobs were the basic, often unnoticed fabric of
African economic life: small farmers, fishermen, traders, tailors, builders, butchers, and transportation. Experience of secondary education was a critical factor for getting formal jobs, 95 out of 100 possible chances. Number of years spent in formal schools increased chances of getting formal employment, 95 out of 100 possible chances. Extra formal qualifications were a great help in getting formal jobs.

On the other hand, Simon (1971) found out that informal education was crucial in performing most jobs. People with formal education got 22% of formal and informal jobs. People with informal education got 78% of both formal and informal jobs.

At the 53rd Annual Forum, the American Country Life Association (ACLA) at Western Michigan University, December 1974, alternative models for rural development were discussed. A speaker from the Kellogg Foundation listed their concerns as: 1) agricultural adjustment centers at universities, 2) rural leadership programs at universities, 3) health education, and agriculture for rural areas, 4) continuing education centers with cooperative education, 5) sewage and water projects, 6) post-secondary institutions to have departments of rural education and sociology of rural development, 7) human resources development, 8) countryside projects and policy councils to identify problems, 9) university projects for students employed to work with rural people.

The generalizations made at the conference were:

1) Most colleges of education did not teach rural education, whereas the need was there.

2) Agricultural colleges did not concern themselves with rural development, whereas they should.
3) Most agricultural colleges were not equipped for rural development or solving problems of the people.

4) Organizational rigidity of agricultural colleges did not cater to rural development.

The conference identified the main principles to which attention should be directed: 1) Economics was crucial; 2) Population participation in rural development projects was essential; 3) Training in rural development was important; 4) Leadership was the most basic factor.

Regarding community development, Robinson (1967, pp. 31-33) made some recommendations for future action in Africa. Community development should include: 1) modernization, 2) individual needs of participants, 3) economic incentives, not only moral, 4) environment of local people in decision making, 5) self-interest for economic profit, 6) allocation of government resources according to self-help criteria of local communities.

Harbinson (1971) identified some categories related to community education or non-formal education for: 1) unskilled and semi-skilled workers in employment such as agricultural extension services, farmers' training centers, rural community development centers, on-the-job training, trade unions, apprenticeships, internships; 2) those not related to employment such as adult literacy programs, nutrition and health clinics, home-making classes, family planning; 3) facilitating access to employment such as youth programs; 4) unique functions or multi-purpose and inter-agency training such as village polytechnics as supplements, not substitute or alternative to formal education; 5) non-formal education as a factor to improve
formal education such as rural service workers who jointly counsel parents and their children attending school; 6) Ministry of Education, colleges, university, government projects for community education. An example of goals and objectives for a university community school development center could be found in Appendix C.

Secondary education

About goals and objectives for secondary education, Hanson (1971, pp. 21-23) argued that since very few secondary school leavers could continue with further education or get direct employment, curriculum should increase vocational preparation. Secondary teacher education programs and planning should balance up the number of science and arts trainees. External aid should be devoted to innovative programs rather than toward expansion of the current schools. Special programs for secondary school educational leaders were badly needed. New programs on community education should be designed to link secondary education to society. More secondary teachers should be involved in curriculum planning and decision making. Arrangements for experimental secondary schools should receive more attention. Attitude toward content, emphasis, and methods in examinations should shift from traditional to other forms of evaluation. More attention had better be directed to day-secondary schools with curriculum more related to the community. Research, career and vocational guidance and articulated goals about what sort of person secondary education should produce would deserve priority considerations.

At an international conference on education in Geneva, the International Bureau of Education (IBE) discussed the goals of secondary
education (UNESCO Chronicle, Nov., 1973, pp. 392-397). Officials from 93 governments included 22 ministers and 12 deputy ministers of education. Participants resolved that the goals should include:

1) meeting the needs of an individual and contributing to his whole personality, 2) providing guidance and preparation for individuals who would participate in economic and social life through general education, and 3) ensuring equality of opportunity.

Teacher education

Hanson (op. cit., pp. 17-21) made some suggestions toward the improvement of teacher education, which were summarized:

1) Quality of teacher education should be a priority item in order to facilitate educational change;

2) Steps should be taken to improve instruction and create an environment conducive to learning;

3) Teachers colleges should take priority over secondary schools;

4) There should be more flexible, but quality part-time graduate programs to improve standards of teacher educators;

5) More innovative in-service programs should be instituted for tutors;

6) Since many secondary leavers were available, entry standards to teachers colleges should require good secondary school leavers.

Duties for the National Institute of Education, the Faculty of Education, at the University, and the Ministry of Education, should be more specified, interrelated, but avoid duplication. Teachers colleges should be assigned new specific functions. After improving standards of tutors, in-service education for primary teachers should
be transferred to teachers colleges. Colleges should then become area centers for improving pre-service and in-service teacher education. The National Institute of Education should devote more time to tutors, research, evaluation, experimentation, and educational leadership in-service programs. The Central Inspectorate should concentrate more on innovations, research, evaluation, and in-service education for head teachers of primary schools, head masters of secondary schools and principals of teachers colleges. Secondary teachers should go to the National Teachers College at Kyambogo for in-service education. Pre-service degree programs and graduate programs in research, evaluation, and educational leadership should be offered by the Faculty of Education at the university. B. Ed., B.A., and B. Sc. programs for teachers should be designed so that no post graduate Diploma in Education should be required. Tutors in colleges should spend more time on innovative programs at college and demonstration schools. College tutors and principals should be appointed to boards of governors of other colleges to improve the effectiveness and efficiency of the boards. Teachers and head masters from secondary schools should be appointed to boards of other secondary schools. Teachers college board of governors should have personnel from secondary schools, and vice versa.

Teacher education programs should incorporate new courses on national development, the contribution of various agencies to educational change, the place of education in national development, more intensive foundation studies, community education, rural education, educational research, educational evaluation, curriculum development,
communication theory, and more teaching practice. Demonstration schools should be used more often for pilot projects and demonstrations by college tutors and selected teachers to visiting teachers from other schools.

Local and external financial aid should be sought to establish research and evaluation centers at the Ministry of Education, Makerere University, and at one teachers college per region. Inter-communication should be established through professional organizations. New organizations should be started: Uganda Association for Supervision and Curriculum Development (UASCD), Uganda Association for Educational Research (UAER), Uganda Association for Educational Evaluation (UAEE), and Uganda Association for Educational Leaders (UAEL). Those organizations should publish journals, textbooks, teachers guides, hold conferences, seminars, workshops, and carry out research.

Hanson and Henderson (1971) reported on supply and demand of secondary level teachers in Uganda. With some modifications, recommendations from the report could be summarized as follows:

1) Give prestige to teachers colleges to attract more qualified staff;

2) Recruitment for grade V tutors' course at Makerere National Institute of Education should depend on statistical needs of tutors in colleges according to subjects;

3) More tutors than secondary teachers should attend graduate programs;

4) More B.A., B.Ed., B.Sc., with special preparation for teacher education, should be recruited in teachers colleges than in secondary schools;

5) Evenly mix and distribute grade V and tutors with degrees to all colleges;

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6) Increase the enrollment of tutor trainees at the National Institute of Education and hold enrollment at the National Teachers College constant;

7) Expansion of teachers colleges should be boosted and that at secondary education held constant;

8) When building new houses, tutors should take priority over secondary teachers;

9) Colleges should be larger units, well equipped, with better qualified staff, but less in number than that in the smaller colleges;

10) Old small colleges should be turned into secondary schools or vocational institutions;

11) External aid to secondary schools should be frozen and diverted to teachers colleges;

12) Enrollment to secondary schools should be held constant while that for colleges was increased;

13) Enrollment from primary seven to grade 11 colleges should be held constant while more secondary leavers were recruited to grade III colleges.

A project should be organized similar to that of Liberia, (Fillerton, 1973). A new program was designed to train teachers equipped to act as community leaders in rural environments. Part of the program offered in-service education for inspectors of schools, education officers, teacher educators, teachers, and headmasters. Rural development techniques, primary curriculum, new materials and methods, were geared to rural development. Liberia's situation was equivalent to the one in Uganda described in Chapter II. The Liberian government made the improvement of primary education a first priority. An overall plan on rural development was considered to be the foundation of building a viable economy. UNESCO experts worked jointly with Liberian nationals to turn 200 rural schools into centers for adult education and community action programs. Activities occurred
after school hours when pupils had returned home. Manual arts, home economics, demonstration farms, school gardens, and fish ponds constituted part of the content of the program.

Selection of schools was based upon accessibility by road. Students were recruited after passing a selection examination. The course lasted three years, and the curriculum included ordinary teachers courses, but geared to rural development, plus specific courses in rural education. Candidates did not pay tuition but each one received $10 pocket money per month and was bonded to work two to five years for the government after graduation. Some of the objectives were to break barriers between school and community, how to recognize and work with leaders in the community, basics in group dynamics, and human relations. United Nations Educational Scientific Cultural Organization (UNESCO), United Nations Development Plan (UNDP), CARE, and the Liberian government sponsored the program jointly. Equivalent programs were organized in Cameron, Botswana and Togo.

During previous discussions on components and foundations methods were outlined regarding application. That procedure, in addition to specific suggestions on goals, should be followed.

Objectives

Objectives were defined in Chapter I, and their rationale was presented in Chapter III. To facilitate the application of objectives, a sound knowledge of the rationales on components, theory, foundations, goals, would be necessary. In particular, a thorough understanding of goals of education and the nature of various disciplines should be
prerequisite to the application of objectives.

Pre-service teacher education courses about the process of curriculum development should train students in the techniques of writing objectives. Tutors in colleges and subject panel members should attend in-service programs at the National Institute of Education. Principals of teachers colleges should receive more advance preparation because of their supervisory responsibilities at the college level. Secondary school headmasters and heads of departments would have to undergo training. Personnel from the Central Inspectorate Ministry of Education should be thoroughly trained. In turn, the Central Inspectorate should organize in-service programs for education officers, assistant education officers, assistant inspectors of schools from all districts. Teachers colleges should cooperate with personnel from the Office of the District Education Officer (DEO) to organize in-service programs for head teachers and teachers in every district. Each district should have zones or centers where teams of head teachers working together with selected teachers should train more teachers. At the school level, there should be one or two people to help other members of staff in an advisory capacity. Lesson preparation notebooks should indicate both goals and objectives per subject. Subject panels would be required to prepare curriculum guides for teachers. The Curriculum Development Center should play a unique role in all matters related to curriculum. Especially with regard to development of literature and resources, the Curriculum Development Center would be challenged to be innovative.
Instructional Activities

Instruction was defined in Chapter I as an interaction between learner and teacher. Activities should be directed toward choice of subject matter content, concepts, processes, and principles for the student, teacher, or both. All activities should reflect theory of education, curriculum, foundations, goals, and objectives. As a common practice, theory, foundations, goals, and objectives should be a prerequisite to the selection of instructional activities. Teacher guides would be needed to exemplify the formulation, construction, and selection of instructional activities along the suggestions made above and in the rationale on that particular set of the model. The suggestions made earlier about the application of goals and objectives should be employed for the application of instructional activities either simultaneously or separately. Many alternatives at varying levels should be available to students so that individual differences could be satisfied.

Instructional Materials

Subject specialists, curriculum planners, teacher educators, librarians, the Ministry of Education, and the Audiovisual Center should pool efforts to improve quantity, quality, availability and use of instructional materials. The educational technology of more imaginative and advanced nature should become a major field of study rather than the traditional supplementary course. A general program should be designed for all teacher trainees at any level. Another specialized program should be offered at grade V level as a major
of equivalent status to the traditional majors at the Institute of Education. Local and mass production should be considered. Educators and commercial firms within the country should negotiate and collaborate about mass production. Lesson preparation notes, curriculum guides, syllabi, and school budgets should include instructional materials. Resource centers should be established at each school, college, district education office, and at the Ministry of Education. Some kind of loan system should be established to enable institutions to purchase materials on credit. Local problems regarding security, storage, and maintenance should receive national attention and action.

Methodology

Rather than stressing a single set of methodologies based upon a specific item in a particular syllabus, more effort should be devoted to theory of methodology. Prior to methodology, a thorough understanding of theory, goals, objectives, and instructional activities would be necessary. Effectiveness of methodology would seem to depend on knowledge and application of theories about foundations, goals, objectives, and activities.

Evaluation and Research

Effort should be made through interaction between the University and the Ministry of Education to institutionalize evaluation and research. After the preliminary discussions based on the rationale provided in Chapter III, a decision should be made on how to institutionalize the two processes. A needs assessment would have to be
carried out.

A great deal of cooperative planning would have to be done. The role of evaluation and evaluators, research and researchers should be specified. New programs should be designed to train students at the university in evaluation and research. A graduate program should be established at the university to train a small cadre of specialists in evaluation and research. Funds should be found locally and externally to set up at least a Department of Evaluation and Research either within the Ministry of Education, or a center at the university, if not both. Another alternative would be to establish a separate, multi-institutional Research and Evaluation Center equivalent to the Language Unit or Curriculum Development Center which already were operating.

Application of the Entire Model

Application of almost all separate sets of the model was discussed in the previous sections of the chapter. The remaining part should deal with the application of the entire model.

Key personnel at the University and in the Ministry of Education should be contacted and the model should be introduced to them. A few introductory and informal meetings would be necessary. Then small groups, both at the University and in the ministry, should hold discussion sessions about the matter. Subject panels and the Curriculum Development Center would have to examine the model. Similar discussions would be necessary at secondary schools and teachers colleges. More meetings should be held by personnel of the District
Education Offices, Regional Education Offices, and Regional Inspectorates. Professional organizations would act in equivalent manner.

At a larger scale, seminars should be organized for more open and joint interaction. All interested parties should be invited to the public conferences. Reaction would be encouraged at sub-district, district, regional, and national level. After seeking as much input as possible, a steering committee should compile a document to be submitted to the Ministry of Education. High ranking officials of the Ministry should prepare a more refined document to be submitted to the Minister of Education. The Minister would give copies to other ministries for dissemination and input. After an appropriate number of inter-ministerial meetings, the proceedings should be integrated into a report to the Minister of Education. After that stage, the Minister of Education should take any further action necessary to ensure that action is taken since he is responsible to the system and to society.

Considering that all top level protocols outside the Ministry of Education were appropriately covered, the whole affair should be returned to the Minister of Education for implementation. At that juncture, a policy statement should be issued and official dissemination and implementation should follow.

Planned Social Organization Change

The success of the model would depend on the first task of gaining support from components of the system. Any leader should be acutely aware of the people with whom one works. Planners should
attempt to gain enough support and acceptance. Innovators should decide upon the best method of enlisting more support from other people. As a prerequisite to successful change, forces would have to be mobilized to counteract resistance to change. Ability and skills should be developed by educational leaders to create conditions of mutual support. There should be a specific strategy for change. Components should cooperatively formulate, apply, evaluate, disseminate and research on planned change. Planned change should be acknowledged as a self-renewal mechanism. Its advantage is to provide ability to continually identify and adapt to its changing internal and external environment. Attainment of goals and objectives should be optimized through those procedures.

Summary

Chapter V dealt with the application of each set of the model as well as the entire model. A multi-media campaign was suggested among ways and means of disseminating the concepts on each set and the entire model to the components of the school system and society. Knowledge and application of theory would receive the utmost attention. A survey would be carried out on the status of theory so that a unified theory and philosophy could be developed with input from all components of the system and society. Curriculum courses at college and university level would include theory building and value clarifying processes.

Pre-service and in-service programs would be designed for general and specialized training in curriculum, educational planning

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and educational leadership. Vocation and career guidance would be provided through an inter-agency machinery on manpower requirements. Comparative studies: local, national and international would be part of history of education content. Goals of education would be clarified on the basis of theory and foundations of curriculum with special emphasis on rural development. Hindrances, solutions, and programs on rural education and development were discussed. Recommendations for informal sector of employment, and community education were outlined.

Secondary education goals would be revised so as to include vocational preparation, experimental programs, and involvement of teachers in curriculum planning. Ways and means of improving teacher education were analyzed. Duties of the Ministry of Education, Institute of Education, Faculty of Education, National Teachers College, and other teachers colleges were articulated. A new policy on teacher education was elaborated and 12 suggestions were offered.

As a custom, goals would be re-written into performance objectives based on theory, foundations, and goals. Pre-service and in-service teacher education programs should emphasize the practice. Theory, foundations, goals, and objectives would be the prerequisites to instructional activities. Methodology would have to reflect theory, foundations, goals, objectives, instructional activities. Curriculum guides, teachers' lesson preparation notes, syllabi, inspection reports would have to include instructional materials based on theory, foundations, goals, objectives, instructional activities, and methodology. Cooperation would be encouraged among curriculum
committees, Curriculum Development Center, Institute of Education, Audiovisual Center, Ministry of Education, and commercial firms. To improve quantity, quality, provision and use of materials, local and mass production was suggested. Mobile units would rotate workshops at district level.

Evaluation and research would have to be institutionalized. Roles would be specified, general and special courses offered, and centers would be established. The entire model would have to be introduced to and discussed by key personnel at the University, Ministry of Education, teachers colleges, schools, district and regional levels, and in professional organizations. Ideas would have to be diffused through snow-balling activities at workshops, conferences, seminars, symposia, and through multi-media communication and campaigns. Local support and acceptance would be sought in the campaign for planned social organization change. Specific strategy for change would be required and educational leaders would be trained in the tactics to counteract resistance to change. Change would have to be recognized as part of progress in improving education.
CHAPTER VI
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS
FOR FURTHER STUDY

Summary

Purpose, use, and significance of the study

The purpose of the study was to design a conceptual systems approach model for the process of curriculum planning, development and supervision in Uganda.

The assumption was that the study would be useful with regard to: 1) increased representation and participation by more components of the society in curriculum development, 2) increased and improved understanding and application of theory to practice through a cooperative approach, 3) increased understanding and application of foundations of curriculum, 4) revision of the goals of education and breaking them into specific behavioral objectives to enhance learning, 5) articulated instructional activities based on theory, foundations, goals, and objectives, 6) improved diversification of methodology, 7) increased and improved provision and use of educational technology, 8) institutionalization of formative evaluation to improve curriculum, 9) judging the product and merit of curriculum through summative evaluation, 9) reducing the traditional examination fever by using improved forms of evaluation, 10) institutionalization for increasing knowledge about the system, 11) specific and pre-stated implementation procedures of all programs, 12) curriculum planning, development
and supervision based on empirical data.

Curriculum was defined as all intended and planned networks of experiences individual learners had in a program of education based on theory and research as a focus of short and long range factors that had an impact on student and society. The significance of the study lies in the definition and importance attached to curriculum in the literature and its relation to the situation in Uganda.

New terms were defined. The study was based on theories that might not yet be diffused in the country. A cadre of professional educational leaders would be trained to implement the model. Despite its potential to improve education, the model would appear to be more time consuming and challenging than the traditional trial and error method.

**Historical review of the educational development in Uganda**

A review of related literature on the historical development in Uganda was presented. Environmental conditions were recommended as a content for curriculum planning, development, and supervision. Politics, economy, land use, population, and other demographic data were discussed, and the need for more information was expressed.

Despite some limitations, there was free, compulsory and practical pre-colonial education. British and French Christian missionaries introduced "Western" education. Educational growth correlated with missionary initiative and activities. The first schools developed from Bible and catechist meetings; education was irrelevant to other needs of society and leadership was lacking.
Curriculum was stagnant for years at certain stages of the evolution of the syllabi. Due to many limitations none of the syllabi was ever fully implemented. The system shifted through many phases without experimental or research data to show the need for those changes. Statistics were not only scarce, but also their authenticity was questionable. Only a small minority of students had the opportunity to optimize their potential capability. The need for change had been expressed at several conferences.

A description of the organization of the Ministry of Education was presented. Quality of pre-secondary schools attended by an individual correlated with one's grades at Cambridge School Certificate. Pre-secondary schools and teachers colleges were inferior in quality to secondary schools. Assumptions were made that investment in primary education might improve the quality of secondary education. Research data revealed that the current examination system did a disservice to individuals and to society. There was a wastage of talents, school leavers had become a national problem, but given leadership and appropriate training, the youths might accept farming as a profession. A historical summary is presented in Appendix D.

Presentation of the model

The model was presented in Chapter III and the contents were: 1) assumptions pertaining to the model, 2) rationale of the model, 3) the model itself, and 4) elaboration of each set of the model by illustrations and commentary.

Feedback from pre-planned formative evaluation was recommended.
to be used for improving intermediate quality of curriculum and final product of programs.

To determine what sort of person to produce through the school system pre-planned goals based upon theory, foundations, and needs assessment, reflecting a reasonable consensus of all components of the system on philosophy of life in society, were recommended.

There was agreement on: 1) behaviorally and operationally specified objectives based upon theory, foundations of curriculum and goals of education, 2) objectives shared by students, teachers, curriculum planners and evaluators as the criteria for scientifically objective judgment on curriculum, instruction, evaluation and research.

Instructional activities were supposed to be derived from specific performance objectives based on theory, foundations, pre-planned goals, sequenced according to disciplines so as to facilitate instruction, evaluation and research.

To create and maintain an environment conducive to learning and operationally implement the curriculum it was suggested that the most appropriate methodology had to be selected on the basis of theories of various methodologies in different situations to comply with foundations, goals, objectives, and instructional activities.

Theory, foundations, goals, objectives, instructional activities, methodology, and experimentation were considered the prerequisites of educational technology. The purpose of instructional materials was not to enrich curriculum, but rather was part of curriculum to stimulate and motivate students by broadening their experiences and facilitating learning. Various types of instructional materials were
listed; local and mass production were recommended.

Every educational system was recommended to have operationally functioning, objective related, decision oriented, summative evaluation programs to provide information for judging the worth and merit, and for improving future policy on curriculum for social change. The key points identified were: 1) criteria upon which to evaluate evaluation: internal validity, external validity, relevance, objectivity, reliability, importance, scope, credibility, timeliness, pervasiveness, and efficiency; 2) a single generalizable model with three classes of decision making: high grasp of information versus small change to be made, low grasp of information versus small change to be made, and low grasp of information versus large decision to be made; 3) four types of decisions to be made: planning, structuring, implementation, and recycling; 4) three major steps in evaluation: content, input, process and product; 6) generalizable steps for developing evaluation designs: design defined, focusing the evaluation, collection of information, reporting of information, and administration of evaluation; 7) key concepts and theories for training evaluators were listed.

Regarding research, the following recommendations were made: 1) institutionalization of research as an integral part of curriculum planning and development, 2) every educational system to have a division of research, 3) formulation and attainment of relevant goals and objectives by using research, 4) using multiple-hypotheses in experimental design as methodology for strong inferences, 5) establishing a national education research center, and a university
education research center.

Pre-planned procedures, methods, schedules, tasks, at classroom, institution, district, regional, and national level were recommended for implementation of curriculum models.

Uganda should be ready for the proposed model judging from the fact that 30% of national income could be allocated to education annually. Already there is a national Curriculum Development Center, Institute of Education, Language Unit, Audiovisual Center, and Faculty of Education, all ready for innovations.

**Theoretical support**

A theoretical support to the entire model and each set of the model was presented. Curriculum innovators should know about and apply the process of planned change. Educational planners should be trained at Makerere University. Policy makers and practitioners would have to cooperate. Educational planners and planners for manpower requirements should collaborate. An inter-ministerial coordination committee was recommended. Comprehensive schools, general education, school as an integrative unit of masses, and a comparative study of other educational systems, would help toward equity, vocational and career guidance.

A course should be offered at Makerere University on theory of supervision. Multi-media communication, through an inter-ministerial cooperative approach should be used to publicize the concept of components.

Educational theory, curriculum theory, and instructional theory

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should be taught in a course offered at the university and colleges. Curriculum specialists and other educators should be knowledgeable about the nature and role of theory. Measures would have to be taken to disseminate knowledge of and application of theory in curriculum planning to all components to seek their input. Theory, practice, philosophy were discussed in relation to similarities and differences. Steps in the process of theorization were specified. The value clarifying process and non-judgmental discrimination would help toward the question of values in curriculum. There was a suggestion to make curriculum a subject of study.

To avoid repeating mistakes, and to use past experiences, history of education should be studied at local, national and international levels. General and specifically local examples of the content of the history of education were spelled out.

Regarding philosophy of education, idealism/rationalism, realism, and pragmatism were delineated. Eight items were listed as the contribution of the philosophy of education toward curriculum.

School forces, social systems, authority and power systems, social environment and supervision, were included in the study of sociology of education. The school should respond to all aspects of social milieu. Expert power was the only one most positively correlated to effectiveness, efficiency, satisfaction, and total control. Status systems could be dysfunctional if exaggerated. Study of subcultures would be useful.

To meet individual differences of students, curriculum should take into consideration the process of learning and human development.
A study of psychological foundations of education should include: infancy, childhood, adolescence, biological development, physical maturation, intellectual and emotional growth and achievement, cultural pressures, and the stimulus-response, field and Freudian theories. Psychological foundations were recognized as the basis of teacher education.

Knowledge about the nature of disciplines, and theories about how to learn, relevance, interdisciplinary approach, would help toward the selection of what to teach.

Application of the model

Various procedures were suggested for the application of the model. Concepts on a cooperative approach would be disseminated to all components of the school system and society through a multi-media and inter-ministerial collaboration. Equivalent approach would be used to develop a unified theory and philosophy of education for the country. A survey would have to be done on knowledge and application of theory. Theory building would be part of curriculum courses in teacher education. All levels of teacher education would offer general and specialized courses and programs for curriculum as a subject of study. A pre-service program in educational planning would be offered at Makerere University. Personnel in the planning division of the Ministry of Education would attend in-service courses. An inter-ministerial machinery would be used to provide data on manpower requirements and career guidance. Studies on history of education were suggested at local, national and international level.
All foundations of curriculum would be studied as part of the curriculum courses. Foundations would be reflected in goals, objectives, instructional activities, methodology, materials, implementation and policy.

Regarding goals of education, national commitment, plan, ideology, and investment in rural development were suggested. To accelerate change and preparation of students to earn a living in local communities, educational systems would have to be innovative, incorporate research and effective leadership, and deal with attitudes, aspirations, and depressed rural conditions. Recommendations included a national plan on rural productivity, various cooperatives, community leadership training, health, transportation, equitable education, extension services, courses on rural development and community education.

Revision of secondary school curriculum should involve more teacher participation, increase vocational preparation and career guidance through new experimental community education programs, and more day-schools. Improvement of quality of teacher education was rated first priority. Details on a new policy were suggested toward specification of duties among Institute of Education, Faculty of Education, Central Inspectorate, Kyambogo National Teachers College, and the other teacher colleges. Details were spelled out regarding teacher education policy on the basis of size, recruitment, entry standards, cost, salaries, housing, and staffing.

An in-service program was suggested to train appropriate components in writing behavioral objectives based on pre-established goals.
Similar arrangements would have to be made regarding instructional activities. Rather than specific methodology based on specific items from the syllabus, theory of methodology should be emphasized. In conjunction with educational technology, suggestions included: designing a general teacher education course, a course for specialists, loan system, and mass production to supplement local individual and institutional initiative. On research and evaluation, the suggestions made were: institutionalization of research and evaluation, a general teacher education course, a program to train a cadre of specialists, and establishing national, university, and regional centers. Discussions of the entire model should be initiated at the University and Ministry of Education both separately and jointly, by each component of the system, at inter-agency public sessions, by top officials at inter-ministerial level, and by the top hierarchy of the national government.

Conclusions

Since the proposed model was meant to be applied by all people served by the school system in Uganda, there are no absolute outcomes presented by the study. However, it would appear advisable to:

1) Set up the premises for organizing needed changes.
2) Develop the broad outlines of goals.
3) Establish procedures for plan implementation.
4) Make provisions for evaluation, research and revision.

Examples for each one of these suggestions are shown below.
**Premises for organizing needed changes**

1) Develop cohesiveness and compatibility among and within divisions of the educational system.

2) The mission of schools should comprise three domains of function: academic strategies, personal capacity, and social relations.

**Definition of goals and objectives**

1) Emphasize an agricultural education balance.

2) Reformulate teacher education policy and design programs to meet quality and quantity needs.

3) Design primary education for literacy and community development.

4) Develop technological support for agriculture and industry.

5) Reconstruct goals of secondary education which are community-oriented and develop day-schools instead of boarding schools.

6) Strengthen family structure, cultural values and national unity.

**Plan development**

1) Make provisions for training a cadre of professionally capable key and support personnel for planning and development within established procedures and external influences.

2) The total environment should be educative including home, community, school and society.

3) Within curricular areas several tasks have to be carried out:
   a) Delineation of sub-goals for the area with reference to general goals.
   b) Specification of operating objectives for the area.
   c) Identification of sequenced instructional activities.
   d) The development of methodology within and across the area.
e) The development of instructional materials.
f) The development of evaluation and feedback systems.
g) The development of continuity.

Plan implementation

1) Implementation should be carried out by responsible people with social ends and human interaction in addition to academic requirements.
2) A clearing house on vocation and career guidance should be set up.
3) The curricular system, social system and technological support should be interrelated and developed concurrently.
4) The technological support should encompass a variety of media and people including librarians, audiovisual specialists and technicians.

Evaluation, research and revision

1) Every aspect and stage of planning and development should be subjected to evaluation, research and revision on a continuous basis.
2) All planning and development projects should show evaluation, research and revision strategies.
3) Special centers should be established to promote interest, knowledge and application of evaluation, research and revision.

Implications for Further Study

1) Research studies should be designed to test the assumptions formulated for the study and presented in Chapter III.
2) The interactions outlined symbolically in Appendix A would be ample choices for practice and research studies.
3) Research should be conducted to test and produce knowledge based on each set of the model and the respective rationales.
4) Psychological research on learning patterns and skills of Ugandan students should be conducted.

5) Research should test the efficiency of various media or combinations of media in promulgating the concepts of the model.

6) Task analysis should be done to explore what dimensions of vocations correlate with formal education.

7) A task force on futures for Uganda in 10 to 25 years should be set up.
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APPENDIX A

ABBREVIATIONS AND SOME INTERACTIONS
The abbreviations used and their respective meanings are presented below.

C : components
B : bases/foundations/sources of curriculum
F : formative evaluation
G : goals
O : objectives
A : instructional activities
M : methodology
T : instructional materials/educational-technology
S : summative evaluation
R : research
I : implementation
P : policy/alternatives/recycling/retraining
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### TABLE 6

**SOME INTERACTIONS AT FOURTH LEVEL**

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APPENDIX B

STEPS TOWARD THE DELINEATION OF GOALS
Needs Identification

Cluster A

Current Expectations Collected

Future Expectations Forecast

Expectations Synthesized Screened And Validated

What Ought To Be

Forecasts
Social Trends
Manpower Needs
Labor Availability
Other

Discrepancy Analysis Completed

Priority List of Needs Compiled

Institutions
Legal Bodies
Associations

Records Identified
Data Collected
Data Organized And Extrapolated

What Is

NEEDS IDENTIFICATION

Needs Assessment Procedure
(adopted from Bell et. al., 1971)
## Problem-Policy Transformation (Example)

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<th>Need</th>
<th>Problem Statements</th>
<th>Policy Objectives</th>
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<td>Students need to experience the acceptance of responsibilities and to learn to make decisions</td>
<td>1. High school students do not participate in decisions about what is to be taught or the courses in which they will enroll</td>
<td>1. The director of secondary education shall design a program of student participation to increase both the frequency and depth of student involvement in decisions about curriculum and their own courses of study</td>
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<td>2. Students do not seem to think and act rationally</td>
<td>2. The board of education will provide a program in the elementary schools of the state to develop the rational thought processes of the student and provide for an evaluation method to ascertain the changes in their behavior</td>
</tr>
<tr>
<td>3. Educational decision makers are not utilizing available knowledge about alternative forms of organization designed to place students in a position of maximum responsibility for educational outcomes</td>
<td>3. The system of higher education shall make available both pre-service and in-service training in alternate organizational and instructional practices designed to maximize student responsibility and participation in decision making</td>
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</tbody>
</table>

(adopted from Bell et. al., 1971)
<table>
<thead>
<tr>
<th>Need Statements</th>
<th>Policy Objectives</th>
<th>Program Objectives</th>
<th>Performance Requirements</th>
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</thead>
<tbody>
<tr>
<td>(Charted in preceding section)</td>
<td>1. The director of secondary education shall design a program of student participation to increase both the frequency &amp; depth of student involvement in decisions about curriculum &amp; their own courses of study</td>
<td>2. Student representatives shall be appointed to serve on the school curriculum committee</td>
<td>1. The students shall be present &amp; heard on every curriculum issue &amp; shall cast a recorded vote on each issue</td>
</tr>
<tr>
<td></td>
<td>2. The board of education will provide a program in the elementary schools of the state to develop the rational thought processes of the student &amp; provide for an evaluation method to ascertain the changes in their behavior</td>
<td>2. Students will understand cause-effect relationships</td>
<td>2. The student will be able to identify correctly the essential ingredients of a cause-effect relationship</td>
</tr>
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<td></td>
<td>3. The system of education shall make available both preservice &amp; inservice training in alternate organizational &amp; instructional practices designed to maximize student responsibility &amp; participation in decision making</td>
<td>3. Participants in the preservice &amp; inservice courses shall be capable of devising alternative administrative strategies to use conflict situations creatively</td>
<td>3. In a conflict between faculty &amp; student representatives on a curriculum committee threatens to produce an impasse, the trainee must be capable of identifying the variables to be considered in determining what action he should take, develop action alternatives &amp; effectively estimate the probable impact of each in terms of continuing student participation in real curricular decisions</td>
</tr>
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</table>

An Example of the Process of Making Policy Objectives From Problem Statements

(Bell et al.)
Policy-Program Transformation
(Cluster C)

An Example of the Process of Making Policy Objectives From Problem Statement
(Bell et al.)
Steps and Intercommunication Links in the Planning Process

1.0 Needs Identification
   - Collect Current Expectations
   - Identify Collect And Extrapolate Data
   - Forecast Future Expectations
   - Synthesize And Validate Expectations
   - Perform Discrepancy Analysis
   - Establish Priority Needs

2.0 Problem Policy Transformation
   - Define Problem
   - Analyze Problem
   - Develop Policy
   - Delineate Roles
   - Identify Performance Criteria
   - Assign Policy Objectives

3.0 Policy Program Transformation
   - Write Program Objectives
   - Develop Selection Criteria
   - Cluster Objectives By Sub-Program
   - Write Performance Objectives
   - Apply Selection Criteria
   - Select Candidate Programs

4.0 Tactical Program Design
   - Implementation Strategies
   - Design Criteria For Selection
   - Design Evaluation Component
   - Design Management Component
   - Prepare Cost/Effectiveness Estimates
   - Priority Order Of Implementing Strategies

5.0 Program Implementation
   - Auditing
   - Evaluating
   - Discrepancy Reporting

6.0 Program Monitoring
   - Strategic Planning
   - Tactical Planning
   - Control

An Example of Steps in the Planning Process (Bell et al.)
Progression from General to Specific

Priority Need (Output of Cluster A)

Problem Statements

Policy Objectives (Output of Cluster B)

Program Objectives

Performance Requirements (Output of Cluster C)

Tactical Program Design

An Example of Steps in the Planning Process (Bell et. al.)
CENTER FOR COMMUNITY SCHOOL DEVELOPMENT:
GOALS AND OBJECTIVES*

Goal I: Provide Implementation Consultant Services and Assistance for Local Communities and/or School Districts

OBJECTIVES

1. Provide consultant services and assistance by working with key people in communities where a Community Education program is non-existent. (Center Evaluation Field Questionnaire)

2. Provides consultant services and assistance by conducting visitations to school districts currently operating a Community Education program. (Center Evaluation Field Questionnaire)

3. Provides consultant services and assistance by making available speakers and programs for boards of education, administrators, teachers, P.T.A.'s, etc., interested in the Community Education concept. (Center Evaluation Field Questionnaire)

4. Provides consultant services and assistance to help the school district secure a qualified community school director and other Community Education personnel. (Center Evaluation Field Questionnaire)

5. Provides consultant services and assistance in determining the desires and needs of the community. (Center Evaluation Field Questionnaire)

6. Provides consultant services and assistance in developing the financial base for the Community Education program. (Center Evaluation Field Questionnaire)

7. Provides consultant services and assistance to other local agencies and organizations as their services relate to the overall Community Education program. (Center Evaluation Field Questionnaire)

8. Provides consultant services and assistance in developing the financial base for the Community Education program. (Center Evaluation Field Questionnaire)

*Adopted from Western Michigan University, Center for Community School Development, Kalamazoo, Michigan. (mimeographed)
9. Provides consultant services and assistance in budgeting for the Community Education program. (Center Evaluation Field Questionnaire)

10. Provides consultant services and assistance in advising local persons interested in pursuing a career in Community Education. (Center Evaluation Field Questionnaire)

11. Provides assistance in the success/expansion of Community Education within the school district by promoting and/or facilitating interaction between local Community Education personnel and other school administrators and staff. (Center Evaluation Field Questionnaire)

12. Provides assistance in the success/expansion of Community Education within the community by promoting and/or facilitating interaction between school Community Education personnel and other community agencies or leaders engaged in Community Education activities. (Center Evaluation Field Questionnaire)

13. Provides assistance in promoting Community Education in local communities by providing a communications link between local personnel and various regional, state and national leaders and agencies or organizations. (Center Evaluation Field Questionnaire)

14. Provides assistance in the success/expansion of Community Education in local communities by providing information (or the setting for information gathering) about new ideas, approaches or techniques in Community Education. (Center Evaluation Field Questionnaire)

Goal II: Provide Preservice Educational Opportunities for Community Educators, Lay Personnel, and Students

OBJECTIVES

1. Provides preservice education opportunities by designing offerings in Community Education at the graduate level. (Center Evaluation Field Questionnaire)

2. Provides preservice education opportunities by arranging internships to provide on-the-job experience for individuals preparing to be community schools personnel. (Center Evaluation Field Questionnaire)

3. Provide preservice educational opportunities through internships at the University Center for doctoral interns who wish to become University Center directors. (Internship Evaluation Format)
4. Provide preservice education opportunities through internships at the University Center and community schools in the service area for masters interns preparing for careers as Community Education leaders. (Internship Evaluation Format)

5. Provide preservice educational opportunities through the inclusion of units on Community Education in the undergraduate and graduate teacher-preparation programs. (Review of Quarterly Narrative Reports)

6. Provide preservice educational opportunities in Community Education at the undergraduate level by designing and supervising undergraduate directed (student) teaching experiences in schools with successful community school programs. (Directed Teaching Evaluation Format)

Goal III: Provide Inservice Education Opportunities for Community Educators, Lay Personnel, and Students

OBJECTIVES

1. Provides inservice opportunities through the planning and direction of graduate work for Community Education personnel. (Center Evaluation Field Questionnaire)

2. Provides inservice opportunities by conducting regular scheduled Community Education oriented graduate classes, seminars, and/or workshops, with the opportunity to earn college credit. (Field Questionnaire) (Class Evaluations)

3. Provides inservice opportunities through area short-term Community Education programs at the request of community school directors and others to meet specific training needs. (Field Questionnaire)

4. Provides inservice opportunities through off-campus Community Education classes throughout the service area. (Field Questionnaire) (Class Evaluation)

5. Provides inservice opportunities through encouraging and facilitating participation in regional, state, and national meetings, workshops, and conventions in Community Education. (Field Questionnaire)

Goal IV: Promote Research, Evaluation, and Information Dissemination in Community Education

OBJECTIVES
1. Promote research by assisting communities/school districts in local or regional Community Education studies. (Field Questionnaire)

2. Promote research by assisting individuals/groups/communities/school districts/others to apply research information to specific problem solving. (Field Questionnaire)

3. Promote research by lending assistance in the development of dissertations and theses related to Community Education. (Quarterly Report)

4. Promote research through involvement with state/regional/national research agents. (Quarterly Report)

5. Promote evaluation by providing assistance in the evaluation of local Community Education programs. (Field Questionnaire)

6. Promote evaluation by including units on evaluation in Community Education classes/workshops/other training sessions. (Class Evaluations) (Seminar Agendas)

7. Promote evaluation through the use of client/student evaluations of Center actions. (Documentation of Client/Student Evaluation Results)

8. Promote evaluation through quarterly and annual assessments of Center progress. (Quarterly and Annual Assessment Documentation)

9. Disseminate Community Education information through distributing printed materials explaining both the Community Education concept and the services available from the Center. (Quarterly Reports) (Other Documentation)

10. Disseminate Community Education information by writing, editing, publishing, and/or distributing newsletters and other materials of advice and assistance in the development of Community Education. (Copies of Materials)

11. Disseminate Community Education information by seeking television, radio, and press coverage of Community Education throughout the service area. (Quarterly Report)

12. Disseminate Community Education information through the use of audio-visual materials depicting the need for and achievements of Community Education. (Quarterly Report) (Other Documentations)

13. Disseminate Community Education information by contributing to state, regional and national publications. (Evidence of Publication)
Goal V: Promote the Community Education Concept at Western Michigan University

OBJECTIVES

1. Promote the Community Education concept through involving a maximum number of University staff in seminars and workshops, as well as in the University Center operation to make the University's approach to Community Education a multi-disciplinary approach. (Advisory Council Evaluation)

2. Promote the Community Education concept through the utilization of faculty members on the Community Education Development Center's Advisory Committee. (Advisory Council Evaluation)

3. Promote the Community Education concept through the development of Community Education units for use by the faculty at both undergraduate and graduate levels. (Advisory Council Evaluation)

4. Promote the Community Education concept by providing Community Education resource people and materials for classroom utilization by Western Michigan University Instructors. (Advisory Council Evaluation)

5. Promote the Community Education concept through the organization of in-service workshops and seminars for university faculty members. (Advisory Council Evaluation)

6. Promote the Community Education concept through service on university committees. (Quarterly Reports)

7. Promote the Community Education concept through use of the university news media. (Quarterly Reports) (Other Documentation)

Goal VI: Promote the Development of Regional Coordination/Cooperation in the Center's Greater Service Area

OBJECTIVES

1. Promote regional development by acting as liaison between C.S. Mott Foundation and Community Education leaders in the region. (Liaison Documentation) (Quarterly Reports)

2. Promote regional development by collecting and providing information about funding sources for state and regional projects. (Quarterly Reports) (Other Documentation)
3. Promote regional development by holding meetings for university/college center directors and state leaders for sharing ideas, concerns, etc. (Quarterly Report)

4. Promote regional development by holding regional workshops on Community Education. (Quarterly Report) (Workshop Evaluation)

5. Promote regional development by encouraging and facilitating publications from within the region and by acting as a storehouse for Community Education publications. (Quarterly Report) (Other Documentation)

6. Promote regional development by providing an operational base for regional research in Community Education. (Quarterly Report) (Other Documentation)

7. Promote regional development by assisting in evaluating regional programs and projects. (Quarterly Report) (Evaluation Reports)

8. Promote regional development by providing graduate degree programs in Community Education at the specialist and doctoral levels. (University Records)

9. Promote regional development by providing assistance to the institutions and agencies in the region in connection with their dissemination, training, and implementation programs. (Quarterly Report)

Goal VII: Assist in the Expansion of the Community Education Concept at State and National Levels

OBJECTIVES

1. Assist in the expansion of the concept at state and national levels by cooperating in Community Education studies, workshops and/or programs conducted on a state-wide or national bases. (Quarterly Report)

2. Assist in the expansion of the concept at state and national levels through cooperating and sharing ideas with other university centers. (Quarterly Report)

3. Assist in the expansion of the concept at state and national levels through participation in the evaluation of other College and University Community Education Dissemination Centers. (Quarterly Report)

4. Assist in the expansion of the concept at state and national levels through participation in the evaluation...
of other College and University Community Education Dissemination Centers. (Quarterly Report)

5. Assist in the expansion of the concept at state and national levels through involvement in the selection/training of state/national Community Education leaders. (Quarterly Report)

6. Assist in the expansion of the concept at state and national levels through participating in professional meetings to promote Community Education. (Quarterly Report)

7. Assist in the expansion of the concept at state and national levels through encouraging membership in professional organizations related to Community Education. (Membership Reports)
SUMMARY OF HISTORICAL FACTS

Out of the literature which was available, the following conclusions were made:

1. Uganda is predominantly an agricultural country with over 90% of the population engaged in subsistence farming.

2. Economy heavily relies on agricultural exports.

3. Whereas there is no problem of land shortage, population was on the increase and unevenly distributed.

4. There was a need to recognize the importance of the informal sector which constitutes two-thirds of the working population.

5. Urban planning and national planning should be related.

6. Demographic, rural, and urban statistics were badly needed.

7. Western education was introduced by the British and French Christian missionaries. Educational development depended on the voluntary initiative of the missionaries.

8. The first schools evolved out of Bible classes.

9. The goal of the missionaries was to spread Christianity; education was a means to achieve the original goal. However, only the missionaries shouldered some responsibility of educating the people.

10. Education was irrelevant to other needs of the people.

11. Lack of leadership and financial aid from the colonial government delayed the development of education.

12. There was no department and director of education until 1925, after Jones' report which criticized the educational system early that year.

13. There were no syllabi and textbooks until the late twenties of this century.

14. By the mid-thirties, the first syllabi were declared a failure.

15. There were no syllabi between 1935 and 1949.
16. The 1949 syllabus was implemented by one-fourth of the number of schools because of various limitations.

17. The de Burnsen Commission (1953) was Uganda's own first education commission. A government White Paper on education was issued in 1959. Both the de Burnsen Commission and the White Paper advocated practical education.

18. The first junior secondary syllabus was printed in 1959, the primary one in 1960, but both contained no objectives and were bookish.


20. The 1965 syllabus was the first one during an independent Uganda, but it was a preparation for higher education; it was never properly implemented.

21. Over the 70 years, no syllabus was ever properly implemented.

22. Many conferences were held during the first decade since independence and the need for curriculum change was repeatedly expressed.

23. The educational system shifted from 6-3-3 to 6-2-3, then to 7-0-4 years of primary, junior secondary and secondary, without experimental or research data.

24. Secondary education was expanded at the expense of primary and teacher education.

25. By independence time in 1962, 61.2% of schools were unaided.

26. The Education Act 1970 did not specify duties of the boards of governors and management committees; it was left to the Minister of Education to specify the duties from time to time.

27. The examination system did a disservice to individuals and society. There was a wastage of talents. JSLE was not correlated to the CSC, primary education was inferior to secondary education, and CSC success correlated with the quality of pre-secondary schools attended by the candidates.

28. Primary leavers had become a national priority problem, but with leadership, training, and national planning, youths might accept farming as a way of earning a living.

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APPENDIX E

EXAMPLES OF THE GRID SQUARE MAPS
FOR EDUCATIONAL DATA
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FOR EDUCATIONAL DATA

Essentially educational planners and economic planners should cooperate. The Ministry of Education Planning Division should formulate more scientific procedures for collection, tabulation, analysis, and retrieval of educational data. The grid square method proposed by Jamal (1970) would appear to have commendable relevance. Local maps should be produced by the Ministry of Education purposely designed for educational needs. The suggestions below might make a contribution:

- dot-map: Location of each primary school in Uganda
- circle-map: Location and distribution of secondary schools
- x-map: Location and distribution of Teachers Colleges
- o dot-circle map: Location/distribution of Technical/Commercial Colleges
- o x-circle map: Location/distribution of Rural Trade Schools
- e e-map: Availability of electricity within school neighborhood
- d d-map: Distance of each school from the nearest hospital, mission, trade-center, or other points
- p p-map: Population in every 2 cm. grid on a map

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