

CURRICULUM GUIDE FOR THE KWADASO AGRICULTURAL
COLLEGE, GHANA, BASED ON OPINION-SURVEY OF
SPECIFIED ASPECTS OF THE CURRICULUM

by 5408

KWAME GYAMFI

B. S., California State Polytechnic College, 1964

A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

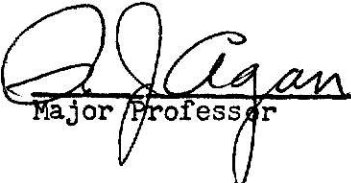
MASTER OF SCIENCE

College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1971

Approved by:


Major Professor

LD
2668
R4
1971
G9
C.2

ACKNOWLEDGMENTS

A report that was contributed to by people living on the two sides of the Atlantic has had more helpers than can be personally acknowledged. Therefore, the following acknowledgments, while directed to specific individuals, are also directed to those who, because of the limitations of time and space, must go unnamed.

Appreciation is expressed to Mr. Thomas B. Biney, Chief Agricultural Training Officer, Accra, Ghana, who, not only granted permission for the study, but played a major role in the distribution of the questionnaires to the respondents scattered throughout the eight regions of Ghana; to Dr. Raymond J. Agan, Professor of Education, Adult and Occupational Education, College of Education, for invaluable assistance in the preparation of the questionnaires and the writing of the report; and to Dr. John Roscoe, Associate Professor, Administration and Foundations of Education, College of Education, for advice and help on statistical procedure.

Finally, but nonetheless significant, special thanks are extended to the reporter's "better half," Hawa, who gave continued understanding and support throughout this study.

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	ii
LIST OF TABLES	vi
LIST OF FIGURES	vii
Section	
I. INTRODUCTION	1
BACKGROUND INFORMATION	2
Ministry of Agriculture	4
The Kwadaso Agricultural College	5
STATEMENT OF PURPOSE	6
IMPORTANCE OF STUDY	6
LIMITATIONS OF STUDY	7
DEFINITIONS OF TERMS USED	9
II. REVIEW OF SELECTED LITERATURE	11
WHAT IS THE CURRICULUM	11
CONFUSION IN CURRICULUM PLANNING	14
THE EVOLUTION OF THE CURRICULUM	19
The Religious Motive	20
The Political Motive	22
The Utilitarian Motive	23
The Motive of Mass Education	30
The Motive of Excellence in Education	30

Section	Page
THE CURRICULUM THEORISTS AND THEIR CONTRIBUTIONS	31
The McMurrays as Representative Herbartians	31
John Dewey	43
Franklin Bobbitt	47
Werret W. Charters	52
Harold Rugg	55
Hollis L. Caswell	62
PATTERNS OF CURRICULUM ORGANIZATION	71
The Subject Curriculum	71
The Related Subjects Curriculum	76
Social Processes and Life Functions Curriculum	80
The Activity Curriculum	82
III. METHOD OF PROCEDURE	87
THE SAMPLE	87
THE INSTRUMENT	88
ANALYSIS OF DATA	90
IV. FINDINGS OF THE STUDY	107
OPINIONS OF THE AGRICULTURAL ASSISTANTS	107
PATTERNS OF AGRICULTURAL ASSISTANTS' OPINIONS	107
OPINIONS OF SENIOR OFFICERS	113
V. CURRICULUM GUIDE	117
A STATEMENT OF PHILOSOPHY	117
ASSUMPTIONS	118
About the Learning Process	118

Section	Page
About the Needs of the Individual	119
About the Needs of Society	119
EDUCATIONAL OBJECTIVES	119
Guidelines for Writing Behavioural Objectives	120
OCCUPATIONAL INFORMATION	122
IMPLEMENTING THE CURRICULUM	124
Decisions about Scope	124
Decisions about Sequencing	125
Decisions about Staffing	125
Decisions about the Time Table or Scheduling	126
Decisions about Organizing Instruction	127
EVALUATION	128
VI. SUMMARY	130
BIBLIOGRAPHY	133
APPENDIX	139

LIST OF TABLES

Table	Page
1. Average Scores per Subject per Region to Question 1: "To what extent do you consider each subject you studied at Kwadaso valuable to the work you are doing now?" (5 = Very high; 4 = Above average; 3 = Average; 2 = Below average; 1 = Very little)	92
2. Analysis of Variance Summarizing the Computations from Table 1	93
3. Ordered Array of Subject-Means from Table 1 and Indi- cations of Significant Differences Among the Subject- Means at 0.05 Level. (LSD = 0.43)	94
4. Average Scores per Subject per Region to Question 2: "To what extent do you consider the quantity of material covered in each subject adequate for the work you are doing now?" (5 = Very high; 4 = Above average; 3 = Average; 2 = Below average; 1 = Very little)	95
5. Analysis of Variance Summarizing the Computations from Table 4	96
6. Ordered Array of Subject-Means from Table 4, and Indi- cations of Significant Differences Among the Subject- Means at 0.05 Level. (LSD = 0.99)	96
7. Average Scores per Subject per Region to Question 3: "To what extent did you find each subject dif- ficult?" (5 = Very high; 4 = Above average; 3 = Average; 2 = Below average; 1 = Very little)	97
8. Analysis of Variance Summarizing the Computations from Table 7. Subjects and Regions were both considered as fixed	98
9. Ordered Array of Subject-Means from Table 7, and Indi- cations of Significant Differences Among the subject- Means at 0.05 Level. (LSD = 0.34)	98
10. Average Scores per Subject per Region to Question 4: "To what extent did each subject capture and hold your interest?" (5 = Very high; 4 = Above average; 3 = Average; 2 = Below average; 1 = Very little)	99

Table	Page
11. Analysis of Variance Summarizing the Computations from Table 10. Both factors -- Subjects and Regions, were considered fixed	100
12. Ordered Array of Subject-Means from Table 10, and Indications of Significant Differences Among the Subject-Means at 0.05 Level. (LSD = 0.37)	100
13. Average Scores per Area of Training per Region to Question 5: "To what extent do you consider the training you received at Kwadaso adequate in each of the following areas?" (5 = Very high; 4 = Above average; 3 = Average; 2 = Below average; 1 = Very little)	101
14. Analysis of Variance Summarizing the Computations from Table 13. Areas and Regions were considered fixed	102
15. Ordered Array of Area-Means from Table 13, and Indications of Significant Differences Among the Area-Means at 0.05 Level. (LSD = 0.25)	102
16. Average Scores per Subject per Region to the Question: "To what extent do you consider the following subjects important to the work which the A.A's 3rd Year Learners under you are doing now?	103
17. Analysis of Variance Summarizing the Computations from Table 16. Subject and Regions were considered as fixed factors	104
18. Ordered Array of Subject-Means from Table 16, and Indications of Significant Differences Among the Subject-Means. (LSD = 0.60)	104
19. Average Scores per Area of Competency per Region to the Question: "How do you rate the A.A's/3rd Year Learners under you in the following areas of competency?" (5 = Very high; 4 = Above average; 3 = Average; 2 = Below average; 1 = Very little)	105
20. Analysis of Variance Summarizing the Computations from Table 19. Areas and Regions were considered fixed	106

LIST OF FIGURES

Figure	Page
1. The Array of the Extent to which the Agricultural Assistants considered the Subjects taught at Kwadaso Agricultural College VALUABLE to their work	108
2. The Array of the Extent to which the Agricultural Assistants considered the QUANTITY OF MATERIAL covered in the Subjects ADEQUATE for their work	109
3. The Array of the Extent to which the Agricultural Assistants found the Kwadaso subjects DIFFICULT	110
4. The Array of the Extent to which the Agricultural Assistants found the Kwadaso subjects INTERESTING	111
5. The Array of the Extent to which the Agricultural Assistants rated each Training Area as ADEQUATE	112
6. The Array of the Extent to which the Senior Officers considered the Subjects taught at Kwadaso IMPORTANT to the work assigned to their Agricultural Assistants	116

SECTION I

INTRODUCTION

At the time of this study, this investigator had previously worked for twelve years in both junior and senior positions with the Ghana Ministry of Agriculture. Seven of the twelve years had been spent in technical-supervisory capacities, and the rest in teaching at the Kwadaso Agricultural College. The information contained in the introduction, except otherwise indicated, was based upon the observations made during the twelve years preceding the study (1957-1969).

Various reports on African development, such as the Phelps-Stokes Reports on Education in Africa (1920-1; 1924) or the F.A.O. annual and special reports on African development, had recognized the importance to Ghana, or any other African nation, of education and training as the servant of almost all aspects of development. Technical and vocational education had been observed to be intimately linked to the general system of education and fundamentally dependent upon the school system.

Fergus B. Wilson of the Office of African Agricultural Education and Training, Rural Institutions and Services Division, F.A.O., Rome, speaking at a seminar held at the Ahmadu Bello University, Zaria, Nigeria on June 28, 1965, observed that agricultural education was dependent upon good foundations in the sciences and other subjects in the general school system. Likewise, the school system in countries with a predominantly rural economy, such as Ghana, could derive much of its inspiration and practical examples from agriculture and the life and occupations of the countryside. For that reason -- that dependence one upon the other -- it

had been observed that the principles underlying agricultural education and training co-incide with those of the general school system.

Background Information

It was commonplace to hear agriculture described by African economic planners as the pivot around which the social and economic development revolved. In Ghana it was the principal occupation, and the backbone of the economy. Together with fishing, forestry, and herding, agriculture occupied over 70 per cent of the male labour force, about 15 per cent in cocoa growing alone.¹ Apart from the large number of people engaged in it, agriculture provided a major portion of Ghana's foreign exchange as well as funds for recurrent and capital expenditure. For example, in 1967, the share of agriculture in value of total exports was 89 per cent.²

Before the introduction of such commercial agricultural crops as cocoa, rubber, and coffee, virtually every one grew enough to feed himself and his family. However, with a significant and growing proportion of the population occupied in raising cocoa and other commercial crops, in fishing and forestry, in mining and industry, in trade or other non-farming activities, fewer and fewer farmers grew enough to feed themselves or were isolated from the market economy. Cocoa farmers raised a portion of their food requirements, and some fishermen raised some food, but Ghanaians were fast moving towards reliance on the market for at least part of their food requirements.

A greater part of the country was suitable for agriculture, but because

¹See 1960 Ghana Census Report (Government Printer, Accra)

²F.A.O.; The State of Food and Agriculture, 1970 p. 256

large areas were unpopulated, or relatively dry, or infested with the tsetse fly, 32 per cent of the land area has been used for agriculture. Ghana was self-sufficient in staple foods, but such foodstuffs as flour, sugar, canned fish and slaughter animals were imported.

Small family farm was the common unit of production, and averaged five acres. Hiring labour for farm work was practised on cocoa and other cash-crop farms which were larger than five acres. Farm families had cultivation rights in land communally owned by kin groups. Large-scale farms were limited to the Ghana State Farm Corporation, a statutory corporation which operated oil-palm plantations and poultry farms, and Firestone and Holand Plantations Ltd., which had interests in rubber plantations.

The farmers used the traditional hoe and cutlass as their main farm tools. However, there was a trend towards the use of modern implements and towards surplus production, but since most farmers had no access to credit and urban markets, a significant advance in this direction was to wait upon further development of credit system and transportation. The terrain of the agricultural land was adaptable to machine and draft animal cultivation, but fragmentation of holdings and the presence of the tsetse fly, as well as the lack of capital with which to buy machinery made such development slow.

Fishing supplied about three-fourths of domestic needs, although production was nowhere near optimum. Altogether, some 58,000 people were engaged in the industry. Animal industry (goats, pigs, sheep, cattle, and fowls) provided a very small part of the meat marketed, and the production

and marketing of domestic dairy products was similarly undeveloped.³

Government played a major role in agriculture -- education, extension, experimentation and marketing. The Ministry of Agriculture had been largely responsible for bringing cocoa disease and insects under control, and had helped agriculture and animal husbandry through a network of agricultural stations and through a spraying programme.

Ministry of Agriculture

In 1961, following the recommendations of a special committee on Agricultural Organization, the Ministry of Agriculture was organized into four divisions: the Cocoa Division; the Division of General Agriculture, which was responsible for all annual and perennial crops (other than cocoa) and for mixed farming; the Scientific Services Division, which was responsible for applied research; and the Division of Agricultural Economics, which was responsible for matters relating to marketing, crop distribution and production forecast.⁴

Further reorganizations followed, until at the time of this report, there were ten divisions. The Scientific Services Division -- no more under the Ministry of Agriculture -- became a branch of an autonomous research institution, the Council for Industrial and Agricultural Research. The General Agricultural Division was broken down into: the Division of Crop Production, Animal Production, Agricultural Settlement, Training and Manpower, Information and Publications, Plant Quarantine, Irrigation and

³E. A. Boateng, A Geography of Ghana. (Cambridge University Press, 1966) p.80.

⁴Ministry of Agriculture, Miscellaneous Information, (Accra, 1961) p.1.

Reclamation, and Mechanization and Transport. Each had its own Chief Divisional Officer and complementary staff.

The Kwadaso Agricultural College

The Kwadaso Agricultural College, which was the oldest unit of the Training and Manpower Division of the Ministry of Agriculture, was responsible for training junior technical officers for all the Divisions of the Ministry of Agriculture, as well as scientific assistants for the research institutes engaged in agricultural and related research. During vacation periods the College conducted other phases of training, such as refresher and promotion courses for junior field staff.

The output of the Kwadaso Agricultural College had averaged 40 trained students per year, but facilities were expanded in 1959-60, and after that, recruitment was stepped up, resulting in an average yearly output of 120 graduates.

The course of training was three years long, and successful students were appointed Agricultural Assistants in any of the Divisions of the Ministry of Agriculture or Scientific Assistants in the Crop and Soil Research Institutes of the Council for Industrial and Agricultural Research. The first two of the three years were devoted to classroom and laboratory study of the basic and applied sciences relating to agriculture: Crop Production, Animal Production, Crop Protection, Economics, Extension Education, Farm Management, Farm Mechanization, Field Experimentation, Home Economics (for the girls), Meteorology, Report Writing, Soils, and Surveying. In the third and final year, the students were sent to the various agricultural regions of the country to field-train-on-the-job under the supervision of Senior Officers in the Divisions to which the

students were subsequently posted. To qualify for admission into the College, candidates were to have completed secondary school, and be less than 25 years of age.

Statement of Purpose

The purpose of this study was (1) to survey by questionnaire the opinions of the Kwadaso Agricultural College graduates and their supervising senior officers regarding the relevance of the subjects, taught at the Kwadaso Agricultural College, to the work which the graduates were assigned; (2) to apply the findings of the study to a suggested curriculum guide which would be presented to the Chief Agricultural Training Officer for his consideration and adaptation for the Kwadaso Agricultural College.

Importance of the Study

The graduates from the Kwadaso Agricultural College, who were appointed Agricultural Assistants in the several divisions of the Ministry of Agriculture, were members of a middle-level manpower in the total education and training efforts to acquire the needed manpower, in quality as well as quantity, for agricultural development. They were regarded as the link between university trained agriculturists (so-called agricultural graduates) and the farmers, acting as practical-technical assistants to the graduates, helpers and demonstrators to farmers.

The Agricultural Assistants were called upon to perform a great variety of activities in several jobs with agricultural services. They included activities in agricultural research, vocational teaching and extension; in major production branches and for individual crops; in special service institutions; in irrigation and settlement projects; for production

statistics and other surveys; in co-operatives and farm machinery stations; in marketing and storage organizations. In each of these sectors, jobs could range from practical-technical fieldwork to advisory-supervisory activities, and from administrative-technical to technical-operational and educational functions.

The great number of different activities the Agricultural Assistant was called upon to perform underscored his role in the organizational structure of the Ministry of Agriculture, and the importance of the content of his training. The general objective of his training was to equip him with the knowledge and skills that would enable him to carry out efficiently and effectively the duties and responsibilities of his post.

Against this backdrop, it was clear that there was an outstanding need -- alongside the planning and execution of the training programme -- to re-examine the curriculum at the Kwadaso Agricultural College, and to evaluate the performance of the Agricultural Assistant to determine if the general objectives were being realized. The greatest need for re-examination of the curriculum arose from the constant changes in his duties; from the demands of the expanding agricultural industry on intelligent manpower; and, in the words of the Rockefeller Report, "the constant pressure of an ever more complex society against the total creative capacity of its people."⁵

Limitations of the Study

The general objective of the Kwadaso Agricultural College (stated

⁵Rockerfeller Brothers Fund, Inc., The Pursuit of Excellence, (Doubleday, 1958) p.10.

earlier) was to equip the students with the knowledge and skills that would enable them to carry out efficiently and effectively the duties and responsibilities of their posts, and the technical duties to which they were assigned. These objectives meant changes in the behaviour of the students.

While these changes included a mastery of course content, they also included the reactions of the students to this content, such as the "ways of thinking, or the skills in knowing how."⁶

Sabrosky and others, in Evaluation in Extension, observed that evaluation is the process of determining the changes in behaviour and appraising them against objectives to find out how far the objectives were being met. The process involved essentially three steps. First, some observations were made or some information collected. Then some standards or criteria were applied to the observation. Finally, some judgment was formed, some conclusion was drawn, or some decision was made. These three elements were involved in all evaluation, and could be done so casually as to be hardly noticeable, such as looking out of the window to decide whether or not to carry an umbrella. At the other end was scientific research in complicated problems to get information which people could use.⁷

Somewhere in between the two was placed this study which was limited to the reactions of some graduates of the Kwadaso Agricultural College (now Agricultural Assistants) about the subjects they were taught at the

⁶Ryle, G., The Concept of Mind, (Barnes & Noble, 1960) Ch. 2.

⁷Laurel K. Sabrosky, et al., Evaluation in Extension. (H. M. Ives & Sons, Inc., Topeka, Kansas:1954), p.2. (Out of Print)

College, vis-a-vis the jobs they were doing at the time of the study, and the opinions of 18 Senior Officers in the Ministry of Agriculture regarding the performance of those Agricultural Assistants.

Two limitations inherent in this study were recognized. The first limitation was the nature of the method used to gather the data, namely, a questionnaire in which the respondents registered their own feelings and opinions. The reliability of the information given by the respondents could not be objectively verified. The second limitation was the opinions which were considered in the study. The opinions were limited to five areas: the importance of courses; adequacy of material covered in courses; difficulty of courses; interest generated for courses, and their over-all rating of the Kwadaso training programme.

The results of this study were generalizable to only the population polled because physical difficulties prevented the sampling procedure to be controlled by this investigator. (See section on design and procedure, Section III) However, it was thought to be highly probable that the results had implications for a broader population of similar characteristics.

Definition of Terms Used

Throughout the study the following terminology were used:

Adequate. The term "adequate," as used in the questionnaire, meant as much as was needed for application.

Difficulty. "Difficulty" as used in Questionnaire A, referred to subjects in the Kwadaso Agricultural College Curriculum, and meant hard to understand or learn.

Important. The term "important," and "valuable," were both used in the questionnaires, and meant useful for the work at hand. The two terms

were used interchangeably.

Interest. "Interest" as used in Questionnaire A, described the feeling of wanting to know or take part usually due to concern or curiosity.

SECTION II

REVIEW OF SELECTED LITERATURE

Schwab, in examining the structure of the curriculum, recognized three different sets of problems:

First there is the problem of organization of the disciplines: how many there are; what they are; and how they relate to one another. Second, there is the problem of the substantive conceptual structure of the disciplines examined. Third, there is the problem of the syntax of each discipline: what canons of evidence and proof are and how well they can be applied.¹

These three different sets of problems were thought to be applicable to the purpose at hand, namely, studying the opinions of some of the Kwadaso Agricultural College graduates and applying the findings to a suggested curriculum guide for the College. As a background for this dual exercise, this investigator found it necessary to review literature selected to concern five aspects of curriculum development: 1) what the curriculum is; 2) confusion in curriculum development; 3) the evolution of the curriculum idea; 4) some curriculum theorists and their theories; and 5) patterns of curriculum organization.

What is the Curriculum

The curriculum movement was considered comparatively new by several educationists, including Goodlad who wrote:

It is only about two or three decades ago that the word curriculum was rather abruptly added to the teacher's vocabulary, and for a

¹Joseph J. Schwab, "Structure of the Disciplines: Meanings and Significances," in G. W. Ford and Lawrence Pugno, eds., The Structure of Knowledge and the Curriculum (Chicago: Rand McNally and Company, 1964), p.14.

long time it seemed to have little if any practical meaning for the average teacher. Even the definition in the standard dictionary was confusion -- and still is.²

Reference to standard dictionaries as an authoritative source of generally accepted meaning and usage confirmed Goodlad's observation. Barclay's Universal Dictionary did not list "curriculum" in the 1822 edition, nor did Webster in his early editions. By 1856 the word had made its dictionary debut with two definitions: "1. a race course; a place for running; a chariot. 2. a course, in general; applied particularly to the course of study in a university."³ Seventy-two years later, in the 1928 edition, slight changes had occurred: the omission of "chariot" from the first edition, and the addition to the second of "specified, fixed course of study as in a university." In 1955, these two meanings were given: "a. A course; esp., a specified fixed course of study, as in a school or college, as one leading to a degree. b. The whole body of course offered in an educational institution, or by a department thereof; -- the usual sense."

It appeared then that "curriculum" had been a technical work in generally recognized use for only about a century. Its meaning had undergone slight change. In 1928, Walter D. Cocking wrote:

A few years ago the term curriculum was generally used as meaning a group of subjects leading toward a particular end During the past few years, however, there has come a new conception of the term curriculum as it is ordinarily used in modern educational parlance. It seems to be a much more inclusive term, as well as a much more general term.⁴

²John I. Goodlad, "Ungrading the Elementary Grades." NEA Journal, 44:5, March, 1955.

³Noah Webster, An American Dictionary of the English Language, (Springfield, Mass., G. & C. Merriam, 1856).

⁴Fred P. Barnes, (ed) School Begins With Kindergarten. (Springfield, Ill., State Superintendent of Public Instruction, Sept. 1957). p.41.

After Cocking, educationists attempted to define, clarify, or express the concept of curriculum. Some definitions, the educators observed, seemed too encompassing and vague to help precision in thinking. When curriculum was defined as "..... really the entire program of the school's work. It is the essential means of education. It is everything the students and their teachers do,"⁵ or "the total effort of the school to bring about desired outcomes in school and out-of-school situations,"⁶ or "a sequence of potential experiences set up in school for the purpose of disciplining children and youth in group ways of thinking and acting,"⁷ Hilda Taba observed that the very breadth might make the definition nonfunctional.⁸

In the literature, three basically different definitions were identified: the first in terms of the experiences of children under the tutelage of the school; the second in terms of social needs and design for institutionalized education, and the third in terms of the psychological changes in children brought about by their school activities.⁹ The three basics were encompassed in the definition of "curriculum" which appeared in the Evaluative Criteria:

The curriculum may be defined as all the experiences which pupils have while under the direction of the school; thus defined it

⁵William H. Emanuel, "College-Entrance Requirements Ten Years After the Eight-Year Study," School Review, 61:18, December, 1953.

⁶J. G. Saylor, and W. M. Alexander, Curriculum Planning for Better Teaching and Learning. (Rinehart, 1954) p.3.

⁷B. O. Smith; W. O. Stanley and H. J. Shores, Fundamentals of Curriculum Development. (World Book, 1957) p.3.

⁸Hilda Taba, Curriculum Development, Theory and Practice. (Harcourt, Brace and World, Inc., 1962) p.9.

⁹Wilford M. Aikin, "The Eight-Year Study. If We Were to Do it Again.", Progressive Education, 31:11-24, October, 1953.

includes both classroom and extra-classroom activities Courses of study may be defined as that part of the curriculum which is organized for classroom use. They suggest content, procedures, aids and materials for the use and guidance of teachers, pupils, and administrators. Thus considered they contain only part of the individual pupil's curriculum. The curriculum and courses of study should be chiefly concerned with the orientation, guidance, instruction, and participation of youth in those significant areas of living for which education should supplement the work of other social institutions.

The result of learning process should include (1) factual information or knowledge; (2) meaning and understanding; (3) abilities to do -- knowledge and understanding combined with skill; (4) desirable attitudes -- scientific, social, moral, and others; (5) worthy ideals, purposes, appreciations, and interests; and (6) resultant intelligent participation in general life activities.¹⁰

Hilda Taba preferred to describe "curriculum" rather than define it. All curriculum, she indicated, no matter what their particular design, was composed of certain elements: usually a statement of aims and a specific objectives; it indicated some selection and organization of content; it either implied or manifested certain patterns of learning and teaching, whether because the objectives demanded them or because the content organization required them; and finally, it included a programme of evaluation and outcomes.¹¹

Confusion in Curriculum Planning

The Review of Educational Research (June, 1957) identified the significant changes in the curriculum that had taken place through the years. The first significant change was from emphasis on memorization and mental discipline to emphasis on purpose, meaning, and goal seeking in the learning

¹⁰Cooperative Study of Secondary School Standards, Evaluative Criteria (Washington, D.C.: American Council of Education, 1940), p.31.

¹¹Taba, op. cit., p.10.